SIGN FINISHES

AkzoNobel
Tomorrow's Answers Today

TDS MANUAL

2012

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Technical Data Sheet
Surface Cleaners

AUTOCLEAN SURFACE CLEANER

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Autoclean Surface Cleaner is water based cleaner specially formulated to remove water based and petroleum based (where VOC is an issue) surface contaminants and from bare metal, under coats and existing finishes.

Contains isopropyl alcohol, acetic acid and other ingredients. A solvent protecting respirator should be used especially confined areas and always use protective gloves.

. Wash down area to be painted with Autoclean Surface Cleaner. This will neutralize contaminants on the surface.

With clean lint free wiping towel, remove the Autoclean Surface Cleaner before it has time to evaporate.

Always use a clean, fresh towel for washing down and a fresh towel for wiping dry. Replace towels regularly.

NOTE: Never allow the Autoclean Surface Cleaner to evaporate on the surface being cleaned. Immediately wipe the surface completely dry with a clean lint free towel.

Technical Data Sheet
Surface Cleaners

AUTOCLEAN SURFACE CLEANER

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Autoclean Surface Cleaner is water based cleaner specially formulated to remove water based and petroleum based (where VOC is an issue) surface contaminants and from bare metal, under coats and existing finishes.

Suitable substrates

Existing finishes, sanded and un-sanded steel, galvanized steel, aluminum, and sanded undercoats and plastic parts.

Products and additives

PRODUCT: Autoclean Surface Cleaner Item #380016

Basic raw materials

Contains isopropyl alcohol, acetic acid and other ingredients

VOC

Autoclean Surface Cleaner: 0.08 lb/gal. 9 g/liter

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE: Two years if stored unopened at room temperature..

Head Office
Akzo Nobel Signfinishes Inc.
3785 Parkway Lane, Norcross, GA 30092,
USA. 770-662-8464
ON THE WEB AT:www.signfinishes.com

Technical Data Sheet
Surface Cleaners

GRIP-GARD® M600 WAX AND GREASE REMOVER

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

M600 is a solvent based cleaner especially formulated to remove petroleum based contaminates from bare metal and existing finishes

Contains solvents, surfactants and other ingredients. A solvent protecting respirator should be used especially confined areas and always use protective gloves.

Wash down area to be painted with M600 Wax & Grease Remover. This will neutralize any petroleum based contaminants on the surface.

With clean lint free wiping towel, remove the M600 before it has time to evaporate.

Always use a clean, fresh towel for washing down and a fresh towel for wiping dry. Replace towels regularly.

NOTE: Never allow the M600 to evaporate on the surface being cleaned. Immediately wipe the surface completely dry with a clean lint free towel.

Technical Data Sheet
Surface Cleaners

GRIP-GARD® M600 WAX AND GREASE REMOVER

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

M600 is a solvent based cleaner especially formulated to remove petroleum based contaminates from bare metal and existing finishes

Suitable substrates

Existing finishes, sanded and un-sanded steel, galvanized steel, aluminum, and sanded undercoats and plastic parts.

Products and additives

PRODUCT: M600 Wax And Grease Remover Item #386324

Basic raw materials

Contains solvents, surfactants and other ingredients

VOC

M600 Wax And Grease Remover: 6.29 lb/gal. 755 g/liter

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE: Four years if stored unopened at room temperature..

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Technical Data Sheet
Surface Cleaners

GRIP-FLEX® T4000 SURFACE CLEANER

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

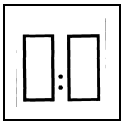
T4000 is a mild solvent based cleaner for use on most plastic substrates. T4000 can also be used as a paint remover for polycarbonate.

Contains a blend of alcohol solvents. A solvent protecting respirator should be used especially when working in confined areas and always wear protective gloves.

SUITABLE SURFACES: Polycarbonate, acrylic, ABS, styrene, PVC, flexible membrane and most plastic surfaces.

SUBSTRATE PRE-CLEANING METHOD

With a clean lint free rag, degrease plastic with T4000 to remove solvent soluble contaminants. Wipe dry with clean lint free rags.



TO REMOVE STATIC ELECTRICITY

Blend equal parts of T4000 and clean distilled water at a mix ratio of 1:1 by volume.

Mist on this blend with a pump sprayer

Wipe dry with clean soft cotton or soft paper towels

NOTE: Never allow the T4000 to evaporate on the surface being cleaned. Immediately wipe the surface completely dry with a clean lint free towel.

Technical Data Sheet
Surface Cleaners

GRIP-FLEX® T4000 SURFACE CLEANER

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

T4000 is a mild solvent based cleaner for use on most plastic substrates. T4000 can also be used as a paint remover for polycarbonate.

Suitable substrates

Polycarbonate, acrylic, ABS, styrene, PVC, flexible membrane and most plastic surfaces..

Products and additives

PRODUCT: T4000 Surface Cleaner Item #386623

Basic raw materials

Contains solvents, surfactants and other ingredients

VOC

T4000 Surface Cleaner	6.75 lb/gal. 811 g/liter

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE: Four years if stored unopened at room temperature..

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Technical Data Sheet
Surface Cleaners/Maintenance

SIGN MAINTENANCE PROCESS HIGH GLOSS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Professional Sign Maintenance Process For High Gloss Finishes.

Pressure Wash the entire sign to remove large debris such as sand and dirt. This should be done at a distance of at least 10 – 12 inches. Using high pressure at a short distance can inject water in to areas and start premature degradation.

Wash down areas which may have heavier dirt, grease or calcium water spotting with Autoclean Surface Cleaner. This will neutralize and remove contaminants on the surface.

Wash the entire sign with high grade car wash detergent. The surface tension agents in premium car wash detergent will allow the majority of the rinse water to sheet off the sign keeping water spotting to a minimum.

Lightly polish and surface scratches from the finish using a fine grit polishing compound such as Meguiar's Scratch X 2.0.

Apply a premium synthetic wax to the sign. Synthetic waxes are clear in color and will not leave a white residue in tight joints or around vinyl lettering. Examples are Meguiar's NXT2.0 Tech Wax, Armor All Armor Plate and ICE.

Final polishing should be completed with Micro fiber polishing cloth.

Technical Data Sheet
Surface Cleaners/Maintenance

SIGN MAINTENANCE PROCESS SATIN

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Professional Sign Maintenance Process For Satin Finishes.

Pressure Wash the entire sign to remove large debris such as sand and dirt. This should be done at a distance of at least 10 – 12 inches. Using high pressure at a short distance can inject water in to areas and start premature degradation.

Wash down areas which may have heavier dirt, grease or calcium water spotting with Autoclean Surface Cleaner. This will neutralize and remove contaminants on the surface.

Wash the entire sign with high grade car wash detergent. The surface tension agents in premium car wash detergent will allow the majority of the rinse water to sheet off the sign keeping water spotting to a minimum.

Apply a premium synthetic wax to the sign. Synthetic waxes are clear in color and will not leave a white residue in tight joints or around vinyl lettering. Examples are Meguiar's NXT2.0 Tech Wax, Armor All Armor Plate and ICE.

Final polishing should be completed with Micro fiber polishing cloth.

GRIP-GARD PRIMER SUBSTRATE CHART

SUBSTRATES	Grip-Gard Washprimer White, Light Enhancing	Grip-Gard Washprimer IK CF	Grip Gard Epoxy Sealer Gray or White	Autoprep Pre-Treatment Wipes	Grip Gard Sealer White and Gray	Grip-Gard Epoxy 4.6, 3.5, 2.8	Grip-Gard HF WB Primer	Grip-Gard VPS-1 Base Clear	Grip-Gard Sign Filler HB	CLEAN WITH	PREPERATION
Autoprep Pre-Treatment Wiped Metals	X	X	X	X	X	X	X	X	X		
ALUMINUM	X	X	X	X			X			1	S
STEEL	X	X	X	X		X	X			1	S
GALVANEAL	X	X	X	X		X	X			1	S
GALVANIZED STEEL	X	X	X	X		X	X			1	S
ZINC	X	X	X	X				X		1	RO
BRASS								X		1	RO
BRONZE								X		1	RO
ABS								X		2	
ACRYLIC								X		2	
ENAMELS*	X	X	X		X	X	X		X	1	S
FIBERGLASS	X	X	X		X	X	X		X	1	S
FLEXIBLE VINYL								X		2	
URETHANE FOAM			X		X	X	X		X	2	
HARDWOOD	X	X	X		X	X	X		X		S
PLYWOOD	X	X	X		X	X	X		X		S
MDF	X	X	X		X	X	X		X		S
POLYCARBONATE								X		2	
EXPANDED PVC					X			X		2	
RIGID PVC					X			X		2	

***ENAMELS must be fully cured and not softened by a solvent soaked rag.**

CLEAN WITH: 1 GRIP-GARD M600 2 GRIP-FLEX T-4000

PREPARATION: S= SAND (see T.D.S. for grit recommendations) RO= Remove Oxidation

Technical Data Sheet
Undercoats

AutoPrep™ Pre-Treatment Wipes

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

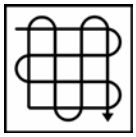
Chromium free pre-treatment solution packaged in ready-to-use, pre-saturated wipes. AutoPrep Pre-Treatment Wipes produce a conversion coating forming chemical bonds with metal surfaces enhancing adhesion and corrosion resistance of applied paint systems.

Clean and dry all surfaces to be pre-treated with M-600 or a low VOC surface cleaner prior to application.

Suitable Substrates

Aluminum	Galvanized Steel
Cold Rolled Steel	Stainless Steel
Hot Rolled Steel	Armor Plate

Sanding
Sanding is not required for paint system adhesion. However, sanding is required to remove loose scale or corrosion. Sanding can also be used to remove defects and to smooth the surface to be painted.



Application
Use even pressured, slightly overlapping vertical and horizontal strokes. Make sure to completely wet the entire bare metal surface. The surface should remain wet for one minute for the chemical reaction to be completed.

Always reseal the wipe package immediately after removing wipes.

Allow the wetted surface to completely dry at ambient temperature. Drying can be accelerated with low velocity, clean, warm air. (Do not disturb film.)

Tack off thoroughly prior to primer application (do not sand conversion coating). AutoPrep Pre-Treatment should be recoated after 30 minutes at 70°F (20°C) with Grip-Gard HB Surfacer, Grip-Gard Epoxy Primers, or Grip-Gard Sealers.

Use suitable personal protection. Use with adequate ventilation. Wear chemical goggles, rubber gloves and protective clothing. Refer to Henkel Material Safety Data Sheet for all HSE related information.

Wipes should be protected from freezing. If the chemical is frozen, it will be irreversibly damaged and should not be used.

Technical Data Sheet
Undercoats

AutoPrep™ Pre-Treatment Wipes

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Chromium free pre-treatment solution packaged in ready-to-use, pre-saturated wipes. AutoPrep Pre-Treatment Wipes produce a conversion coating forming chemical bonds with metal surfaces enhancing adhesion and corrosion resistance of applied paint systems.

Suitable substrates

— Cold Rolled Steel
— Hot Rolled Steel
— Aluminum
— Galvanized Steel
— Stainless Steel
— Armor Plate

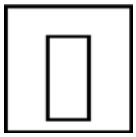
Products and additives

PRODUCT: AutoPrep Pre-Treatment Wipes Item #1014570

Basic raw materials

Fluoride compounds and additional reactive ingredients.

Mixing



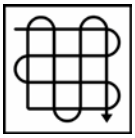
Material packaged ready for use. No further preparation is required.

Recoatability

AutoPrep Pre-Treatment should be recoated after 30 minutes at 70°F (20°C) with Grip-Gard HB Surfacer, Grip-Gard Epoxy Primers, or Grip-Gard Sealers.

NOTE: Never apply polyester products directly over AutoPrep Pre-Treatment Wipes.

Application Process



1) Thoroughly clean the metal surface using M600 or a suitable low VOC surface cleaner. All metal to be treated with AutoPrep Pre-Treatment Wipes must be dry and free from grease, oil and other foreign matter before treatment. Abrasive cleaning is an acceptable method of surface preparation where scale or corrosion exists. Remove all loose material from the surface by cleaning or re-cleaning with M600 or a suitable low VOC surface cleaner.

2) Wipe the clean surface with AutoPrep Pre-Treatment Wipes. Use even pressured, slightly overlapping vertical and horizontal strokes. Make sure to completely wet the entire bare metal surface. The surface should remain wet for one minute for the chemical reaction to be completed.

3) Allow the wetted surface to completely dry at ambient temperature. Drying can be accelerated with low velocity, clean, warm air. (Do not disturb film.).

4) If handling of the dried, treated work is necessary, operators should wear clean gloves so that the treated surface is not contaminated.

5) A slight substrate color change indicates a proper coating application once drying has completed.

6) Apply primer over the dry conversion coating and process as necessary to complete the painting operation.

Technical Data Sheet
Undercoats

AutoPrep™ Pre-Treatment Wipes

JUNE 2012

FOR PROFESSIONAL USE ONLY

Health and Safety

Before using AutoPrep Pre-Treatment Wipes, the first aid and handling recommendations on the Henkel Material Safety Data Sheet should be read, understood and followed. The saturating fluid in AutoPrep Pre-Treatment Wipes is acidic and may be irritating to skin and may cause burns to eyes. Avoid contact with skin and eyes. In case of contact follow the recommendations given on the Henkel Material Safety Data Sheet.

VOC

AutoPrep Pre-Treatment Wipes: 7.7 gm/ltr

Theoretical coverage

One AutoPrep Pre-Treatment Wipe: 9 to 12 sq. feet (0.8 to 1.1 sq. meter)

Product storage

Store both open and unopened containers with closed lids preferably between 70°F-95°F (20°C-35°C). Avoid too much temperature fluctuation. Optimal storage temperature is approximately 70°F (20°C). Wipes should be protected from freezing. If the chemical is frozen, it will be irreversibly damaged and should not be used.

Always reseal the wipe package immediately after removing AutoPrep Pre-Treatment Wipes. Wipes must be stored between 40° and 100°F. Wipes that are accidentally allowed to dry out completely should not be re-moistened by adding water to the package. Dried out wipes should be discarded. Store wipe container in a vertical position to maintain an equal level of saturation from wipe to wipe. If free fluid accumulates in the bottom of the wipe package, vertically rotate the package 180° so the free fluid is re-absorbed equally throughout the container.

SHELF LIFE: AutoPrep Pre-Treatment Wipes: 6 Months if stored unopened at room temperature.

Waste Disposal

Consult the Henkel MSDS for the proper disposal information. Although AutoPrep Pre-Treatment Wipes are not considered to be hazardous waste under the Resource, Conservation and Recovery Act (RCRA), it is the ultimate responsibility of the end user to follow Federal, State and Local regulations regarding both the use and disposal of this product.

Head Office
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3785 Parkway Lane, Norcross, GA 30092, USA. 770-662-8464
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Technical Data Sheet
Undercoats

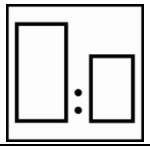
GRIP-GARD® WHITE WASHPRIMER LIGHT ENHANCING

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard White Washprimer Light Enhancing is a chrome free one-component self-etching primer for metal surfaces used in the sign industry. Suitable for most substrates especially aluminum, steel and galvanized steel. It provides excellent long term adhesion and corrosion resistance properties. The light enhancing capabilities of this new primer make it ideal for use in the sign industry.



3 Grip Gard Grip-Gard White Washprimer Light Enhancing

1 Grip-Gard Basecoat Reducer Fast, Medium, Slow or Extra Slow

Use the Measuring Stick #106

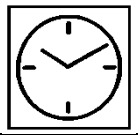
Spray gun set-up:
Gravity: 1.4 – 1.6 mm
Siphon: 1.6 – 1.8 mm

Application pressure:
30–40 psi (2-3 bar) at the air inlet
HVLP max 10 psi (0.7 bar) at the air cap

Application

Apply 1 flowing wet coat

0.5 - 0.7 mil dry film required



Recoatable non-sanding after 15 minutes at 70°F (20°C).
Maximum Recoatability non-sanding 24 hours at 70°F (20°C).

Use suitable respiratory protection
AkzoNobel Sign Refinishes recommends the use of a fresh air supply respirator

Technical Data Sheet
Undercoats

GRIP-GARD® WHITE WASHPRIMER LIGHT ENHANCING

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard White Washprimer Light Enhancing is a chrome free one-component self-etching primer for metal surfaces used in the sign industry. Suitable for most substrates especially aluminum, steel and galvanized steel. It provides excellent long term adhesion and corrosion resistance properties. The light enhancing capabilities of this new primer make it ideal for use in the sign industry.

Suitable substrates

— Autoprep Pretreatment Wiped surfaces
— Degreased and sanded steel with #80 grit paper dry
— Degreased and sanded aluminum with #120 - #180 grit paper dry
— Degreased and sanded galvanized steel with #180 grit paper dry
— Degreasing may be done with M-600 Wax & Grease Remover (Item # 386324)

Change cleaning and degreasing cloths often to ensure contaminants are not reapplied to the surface to be painted.

Products and additives

PRODUCT:	Grip-Gard White Washprimer Light Enhancing	Item # 483593
REDUCERS:	- Grip-Gard BC Fast Reducer: Temperature range: 60°F – 75°F (16°C – 24°C)	Item # 391264
	- Grip-Gard BC Medium Reducer: Temperature range: 70°F – 85°F (20°C – 30°C)	Item # 391265
	- Grip-Gard BC Slow Reducer: Temperature range: 80°F–95°F (27°C–35°C)	Item # 391266
	- Grip-Gard BC Extra Slow Reducer: Temperature range: above 95°F (35°C)	Item # 391267

Basic raw materials

- Grip-Gard White Washprimer Light Enhancing: Polyvinyl butyral resin, pigments and solvent
- Grip-Gard Basecoat Reducers: Special solvent blends

Mixing

3 parts by volume Grip-Gard White Washprimer Light Enhancing
1 parts Grip-Gard Basecoat Reducer Fast, Medium, Slow or Extra Slow
Use Mixing Stick #106

Stir after mixing
Grip-Gard White Washprimer Light Enhancing must be stirred thoroughly immediately after mixing the components.

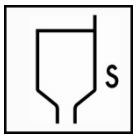
Technical Data Sheet
Undercoats

GRIP-GARD® WHITE WASHPRIMER LIGHT ENHANCING

JUNE 2012

FOR PROFESSIONAL USE ONLY

Viscosity



17 – 18 sec DIN Cup #4 at 70°F (20°C)
Achieved by using measuring stick #103 or #101

Spray gun set-up / application pressure

Spray gun	Fluid tipset-up	Application pressure
T.E. Siphon Feed (Sata RP or like)	0.063”–0.071” (1.6–1.8 mm)	30–35 psi (2–2.4 bar)	
T.E. Gravity Feed (Sata RP or like)	0.055"–0.063" (1.4–1.6 mm)	30–35 psi (2–2.4 bar)	
Pressure Feed HVLP	0.039"–0.047" (1.0–1.2 mm)	max 10 psi (max 0.8 bar)	8–10 psi (0.6–0.8 bar)
HVLP Siphon	0.071"–0.087" (1.8–2.62 mm)	max 10 psi (max 0.8 bar)	
HVLP Gravity	0.055"–0.067" (1.4–1.7 mm)	max 10 psi (max 0.8 bar)	

Pot-life

After the components have been mixed, the pot life is 6 months

Application process

Spray 1 flowing wet coat

Film thickness

Grip-Gard White Washprimer Light Enhancing: Approximately 0.5 - 0.7 dry mil per single coat

Recoat time

When Grip-Gard White Washprimer Light Enhancing is used as a non-sanding material, the maximum recoat time of a subsequent material is 24 hours at 70°F (20°C). After 24 hours, sand and reapply.

NOTE:

Never apply polyester or epoxy base products directly over Grip-Gard White Washprimer Light Enhancing.

RECOATABILITY: Grip-Gard White Washprimer Light Enhancing can be recoated (non-sanding) after 15 minutes at 70°F (20°C) with:

- Grip-Gard Plus
- Grip-Gard BC Topcoats
- Grip-Gard BC with Interior Sign Converter
- Grip-Gard HB Surfacer
- Grip-Gard Brite White HF
- Grip-Gard Sealer

Technical Data Sheet
Undercoats

GRIP-GARD® WHITE WASHPRIMER LIGHT ENHANCING

JUNE 2012

FOR PROFESSIONAL USE ONLY

Curing time

Dry to apply subsequent GRIP-GARD materials after 15 minutes at 70°F (20°C).
Dry to sand after 45 minutes at 70°F (20°C).

Material usage

Approximate square foot coverage per gallon at 0.5 dry mil:

Transfer Efficiency	Unmixed Paint	Ready-to-Spray
100% (Theoretical)	584	438
65% (HVLP)	380	285
35% (Conventional)	204	153

Cleaning of equipment

Clean equipment with Cleaning Solvent 790, Cleaning Solvent LV or lacquer thinner.

VOC

Grip-Gard White Washprimer Light Enhancing mixed 3:1 (RTS): 6.04 lb/gal. 725 g/liter

Product storage

Store products unopened and used products with closed lids preferably between 70°F-95°F (10°C-35°C).
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C).

SHELF LIFE: Grip-Gard White Washprimer Light Enhancing: One year if stored unopened at room temperature.
Grip-Gard BC Reducers: Four years if stored unopened at room temperature.

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Technical Data Sheet
Undercoats

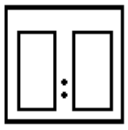
GRIP-GARD® WASHPRIMER 1KCF

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard Wash Primer 1K CF is a chrome free one-component self-etching primer for metal surfaces used in the sign industry. Suitable for most substrates especially aluminum, steel and galvanized steel. It provides excellent long term adhesion and corrosion resistance properties.



100 Grip Gard Washprimer 1K CF

50 Grip-Gard Basecoat Reducer Fast, Medium, Slow or Extra Slow

Use the Measuring Stick #103 or 101

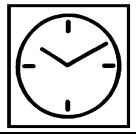
Spray gun set-up:
Gravity: 1.4 – 1.6 mm
Siphon: 1.6 – 1.8 mm

Application pressure:
30–40 psi (2-3 bar) at the air inlet
HVLP max 10 psi (0.7 bar) at the air cap

Application

Apply 1 flowing coats

0.3 - 0.4 mil dry film required



Recoatable non-sanding after 15 minutes at 70°F (20°C).
Maximum Recoatability non sanding 24 hours at 70°F (20°C).

Use suitable respiratory protection
Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator

Technical Data Sheet
Undercoats

GRIP-GARD® WASHPRIMER 1KCF

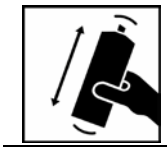
JUNE 2012

FOR PROFESSIONAL USE ONLY

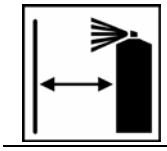
Description

Grip-Gard Wash Primer 1K CF is a chrome free one-component self-etching primer for metal surfaces used in the sign industry. Suitable for most substrates especially aluminum, steel and galvanized steel. It provides excellent long term adhesion and corrosion resistance properties.

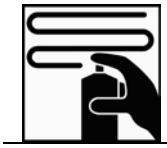
AEROSOL APPLICATION



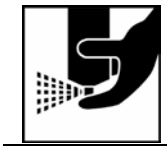
Shake thoroughly before use
Several minutes after ball is loosened



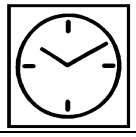
Application distance 5” – 7” (12 – 18cm)



Application: Apply 1 flowing coat
0.3 – 0.5 mil dry film required



After Application:
Invert aerosol and depress nozzle.
This allows the propellant to clean the nozzle



Recoatable non-sanding after 15 minutes at 70°F (20°C).
Maximum Recoatability non sanding 24 hours at 70°F (20°C).

Use suitable respiratory protection
Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator

Technical Data Sheet
Undercoats

GRIP-GARD® WASHPRIMER 1KCF

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard Wash Primer 1K CF is a chrome free one-component self-etching primer for metal surfaces used in the sign industry. Suitable for most substrates especially aluminum, steel and galvanized steel. It provides excellent long term adhesion and corrosion resistance properties.

Suitable substrates

— Degrease and sand steel with #80 grit paper dry.
— Degrease aluminum and sand with #120-#180 grit paper dry.
— Degrease galvanized steel and sand with #180 grit paper dry
— Degreasing may be done with Wax & Grease Remover M-600 #386324

Change cleaning and degreasing cloths often to insure contaminants are not reapplied to the surface to be painted.

Products and additives

PRODUCT:	Grip-Gard Washprimer 1K CF	Item #480848
REDUCERS:	— Grip-Gard BC Fast Reducer: Temperature range: 60°F–75°F (16°C – 24°C).	Item # 391264
	— Grip-Gard BC Medium Reducer: Temperature range: 70°F–85°F (20°C - 30°C).	Item # 391265
	— Grip-Gard BC Slow Reducer: Temperature range: 80°F–95°F (27°C–35°C)	Item # 391266
	— Grip-Gard BC Extra Slow Reducer: Temperature range: above 95°F (35°C).	Item # 391267

Basic raw materials

- Grip-Gard Washprimer 1K CF: Polyvinyl butyral resin, pigments and solvent
- Grip-Gard Basecoat Reducers: Special solvent blends

Mixing

100 parts by volume Grip-Gard Wash Primer 1KCF
50 parts Grip-Gard Basecoat Reducer Fast, Medium, Slow or Extra Slow
Use Mixing Stick #103 or 101

Stir after mixing
Grip-Gard Wash Primer 1K CF must be stirred thoroughly immediately after mixing the components.

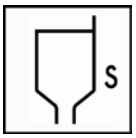
Technical Data Sheet
Undercoats

GRIP-GARD® WASHPRIMER 1KCF

JUNE 2012

FOR PROFESSIONAL USE ONLY

Viscosity



17 – 18 sec DIN Cup #4 at 70°F (20°C).
Achieved by using measuring stick #103 or 101

Spray gun set-up / application pressure

Spray gun	Fluid tipset-up	Application pressure
T.E. Siphon Feed (Sata RP or like)	0.063”–0.071” (1.6–1.8 mm)	30–35 psi (2–2.4 bar)	
T.E. Gravity Feed (Sata RP or like)	0.055"–0.063" (1.4–1.6 mm)	30–35 psi (2–2.4 bar)	
Pressure Feed HVLP	0.039"–0.047" (1.0–1.2 mm)	max 10 psi (max 0.8 bar)	8–10 psi (0.6–0.8 bar)
HVLP Siphon	0.071"–0.087" (1.8–2.62 mm)	max 10 psi (max 0.8 bar)	
HVLP Gravity	0.055"–0.067" (1.4–1.7 mm)	max 10 psi (max 0.8 bar)	

Pot-life

After the components have been mixed, the pot life is 6 months

Application process

Spray 1 wet coat

Film thickness

Grip-Gard Washprimer 1K CF — Approximately 0.3 - 0.5 dry mil per single coat.

Recoat time

When Grip-Gard Washprimer 1K CF is used as a non-sanding material, the maximum recoat time of a subsequent material is 24 hours at 70°F (20°C). After 24 hour’s sand and reapply.

NOTE: Never apply polyester or epoxy base products directly over Grip-Gard Washprimer 1K CF.

RECOATABILITY: Grip-Gard Wash Primer 1K CF can be recoated (non-sanding) after 15 minutes at 70°F (20°C) with:

- Grip-Gard Plus
- Grip-Gard BC Single Stage
- Grip-Gard BC with Interior Sign Converter
- Grip-Gard HB Surfacer
- Grip-Gard Brite White HF
- Grip-Gard Sealer.

Technical Data Sheet
Undercoats

GRIP-GARD® WASHPRIMER 1KCF

JUNE 2012

FOR PROFESSIONAL USE ONLY

Curing time

Dry to apply subsequent GRIP-GARD materials after 15 minutes at 70°F (20°C).
Dry to sand after 45 minutes at 70°F (20°C).

Material usage

Approximate square foot coverage per gallon at 0.4 dry mil:

Transfer Efficiency	Unmixed Paint	Ready-to-Spray
100% (Theoretical)	204	210
65% (HVLP)	220	140
35% (Conventional)	120	75

Cleaning of equipment

Clean equipment with Cleaning Solvent 790, Cleaning Solvent LV or lacquer thinner.

VOC

Grip-Gard Wash Primer 1K CF mixed 100:50 (RTS):	6.28 lb/gal. 754 g/liter
Grip-Gard Wash Primer 1K CF Aerosol:	6.60 lb/gal. 799 g/liter

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE:
Grip-Gard Washprimer 1K CF: One year if stored unopened at room temperature.
Grip-Gard Plus Reducers: Four years if stored unopened at room temperature.

Head Office
Akzo Nobel Signfinishes Inc.
3785 Parkway Lane, Norcross, GA 30092, USA. 770-662-8464
ON THE WEB AT: www.signfinishes.com

Technical Data Sheet
Undercoats

GRIP-GARD® EPOXY SEALER GRAY and WHITE

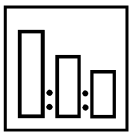
JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

A two-component high solids, low VOC, HAPs free epoxy primer. Grip-Gard Epoxy Sealers White and Gray are fast drying primers with excellent corrosion protection over multiple substrates. The ready to spray VOC is less than 3.5 lbs/gal. Grip-Gard Epoxy Sealers White and Gray are versatile products that can be applied for great corrosion resistance and adhesion to multiple substrates.

MIXED AS A SEALER



3	GRIP-GARD Epoxy Sealer White or Gray
1	GRIP-GARD Epoxy Sealer Hardener or Epoxy Sealer Fast Hardener
1	GRIP-GARD Epoxy Sealer Reducer

Use the Measuring Stick #106 (Purple)

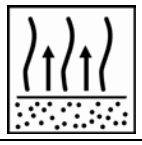
Spray gun set-up:
Gravity: 1.4 – 1.7 mm
Siphon: 1.6 – 1.8 mm

Application pressure:
Refer to spray gun manufacturer

Application

Apply 1 even coat.

1 mil dry film thickness required

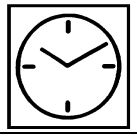


Flash for Wet on Wet

30 minutes at 70°F (20°C) Normal Hardener
20 minutes at 70°F (20°C) Fast Hardener

Maximum

72 hours at 70°F (20°C) before sanding is required



30 Minutes at 70°F (20°C) Dry to touch
1 ½ Hrs at 70°F (20°C) Dry to Handle

Use suitable respiratory protection
Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator.

Technical Data Sheet
Undercoats

GRIP-GARD® EPOXY SEALER GRAY and WHITE

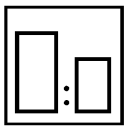
JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

A two-component high solids, low VOC, HAPs free epoxy primer. Grip-Gard Epoxy Sealers White and Gray are fast drying primers with excellent corrosion protection over multiple substrates. The ready to spray VOC is less than 3.5 lbs/gal. Grip-Gard Epoxy Sealers White and Gray are versatile products that can be applied for great corrosion resistance and adhesion to multiple substrates.

MIXED AS A SURFACER



3 GRIP-GARD Epoxy Sealer White or Gray
1 GRIP-GARD Epoxy Sealer Fast Hardener

Use the Measuring Stick #106 (Purple)

Spray gun set-up:

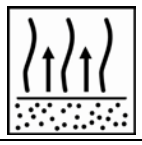
Gravity: 1.6 – 1.8 mm
Siphon: 1.8 – 2.0 mm

Application pressure:

Refer to spray gun manufacturer

Application

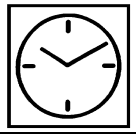
Apply 1 – 3 even coats.



Flash between coats

10 – 15 minutes at 70°F (20°C)

On Urethane foam allow 20 – 30 minutes at 70°F (20°C)



Dry to Sand
8 hours at 70°F (20°C)
6 hours at 70°F (20°C) with Hardener Fast
30 minutes at 140°F (60°C)

Use suitable respiratory protection

Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator.

Technical Data Sheet
Undercoats

GRIP-GARD® EPOXY SEALER GRAY and WHITE

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

A two-component high solids, low VOC, HAPs free epoxy primer. Grip-Gard Epoxy Sealers White and Gray are fast drying primers with excellent corrosion protection over multiple substrates. The ready to spray VOC is less than 3.5 lbs/gal. Grip-Gard Epoxy Sealers White and Gray are versatile products that can be applied for great corrosion resistance and adhesion to multiple substrates.

Suitable substrates

SEALER:

— Autoprep Pretreatment Wiped surfaces
— Aluminum, degrease and sand with #120 to #180 grit paper dry.
— Steel, degrease and sand #80 to #120 grit paper dry. Remove any millscale by sandblasting if necessary.
— Galvanized steel, degrease and sand with #120 to #180 grit paper dry.
— Most existing finishes, with the exception of thermoplastic acrylic lacquers, degrease and sand with #320 to #360 grit paper dry, or #500 to #600 (3M P600 to P800) grit paper wet.
— Many expanded polyurethane foam boards.
— Polyester Body Fillers, final sanded with P180 to P220 grit paper dry.
— Wood, sanded with P120 grit dry.

NOTES: **Never apply Epoxy over any Washprimer**

Products and additives

MAIN PRODUCT:	Grip-Gard Epoxy Sealer White	Item #483099
	Grip-Gard Epoxy Sealer Gray	Item #480744
HARDENER:	Grip-Gard Epoxy Sealer Hardener	Item #480745
	Grip-Gard Epoxy Sealer Fast Hardener	Item #483100
REDUCER:	Grip-Gard Epoxy Sealer Reducer	Item #480746

Basic raw materials

- Grip-Gard Epoxy Sealer Gray and White: Epoxy resins and pigments
- Grip-Gard Epoxy Sealer Hardener and Fast Hardener: polyamine resin.
- Grip-Gard Epoxy Sealer Gray Reducer: special solvent blends

Mixing

MIXED AS A SEALER

3 parts by volume Grip-Gard Epoxy Sealer White or Gray
1 part by volume Grip-Gard Epoxy Sealer Hardener or Fast Hardener
1 part by volume Grip-Gard Epoxy Sealer Reducer
Use Mixing Stick #106 (Purple)

MIXED AS A SURFACER

3 parts by volume Grip-Gard Epoxy Sealer White or Gray
1 part by volume Grip-Gard Epoxy Sealer Fast Hardener
Use Mixing Stick #106 (Purple)

NOTE: No induction period is required

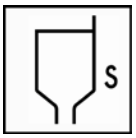
Technical Data Sheet
Undercoats

GRIP-GARD® EPOXY SEALER GRAY and WHITE

JUNE 2012

FOR PROFESSIONAL USE ONLY

Viscosity



The proper spraying viscosity is achieved by using the recommended mixing ratio of
3:1:1 Sealer Viscosity is 14–17 sec. Zahn Cup #2 (13-15 DIN 4) at 70°F (20°C).
3:1 Surfacer Viscosity is 15–19 sec. Zahn Cup #2 (15-16 DIN 4) at 70°F (20°C

Spray gun set-up / application pressure

GUN TYPE	TIP SIZE	PRESSURE	FLUID RATE
HVLP – Pressure Feed	1.0 – 1.2mm	Max 10psi	10 – 14 oz/min
HVLP – Gravity Feed	1.5 – 1.7mm	Max 10psi	
HVLP – Siphon Feed	1.8 – 2.2mm	Max 10psi	
Pressure Feed	1.0 – 1.4mm	50 – 60psi	12 – 16 oz/min
Gravity Feed	1.3 – 1.5mm	50 – 60psi	
Siphon Feed	1.4 – 1.7mm	50 – 60psi	
RP - Gravity Feed	1.3 – 1.5mm	30 – 35psi	
RP - Siphon Feed	1.4 – 1.7mm	30 – 35psi	
RP – Pressure Feed	0.8 – 1.1mm	30 – 35psi	12 – 16 oz/min
Electrostatic	1.2 – 1.7mm	60 – 70psi	12 – 14 oz/min
Airless Spray	0.011 – 0.015in	1500 – 3000psi	
Air Assisted Airless	0.011 – 0.015in	700 – 900psi	

Pot-life

SEALER	Grip-Gard Epoxy Sealer Gray or White: 4 Hours at 70°F (20°C).
SURFACER	Grip-Gard Epoxy Sealer Gray or White: 4 Hours at 70°F (20°C).
NOTE!	**The material may seem sprayable well after the 4 hour pot life however the performance is not acceptable.**

Application process

SEALER	Spray 1 single coat. If additional coats are desired, flash for 5 – 10 minutes before applying second coat.
SURFACER	Spray 1 – 3 single coats until desired film thickness is achieved. Allow 5 – 10 minutes flash off between coats @ 70°F or until completely dull in appearance.

Film thickness

By recommended application;

Sealer	Approximately 1 mil per coat.
Surfacer	Approximately 1.2 – 1.5 mils per coat.

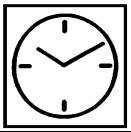
Technical Data Sheet
Undercoats

GRIP-GARD® EPOXY SEALER GRAY and WHITE

JUNE 2012

FOR PROFESSIONAL USE ONLY

Recoat time



Grip-Gard Epoxy Sealers Gray and White used as a wet-on-wet sealer. Topcoat can be applied 30 minutes after Sealer is applied with normal hardener or 20 minutes with Fast Maximum 72 hours at 70°F (20°C) with out sanding

Curing time

SEALER:
After Grip-Gard Epoxy Sealers Gray and White are applied, it must be topcoated within 72 hours, or sanding will become necessary. Do not sand until 8 hours after Sealer application.

SURFACER:
Dry to sand after 8 hours @ 70°F
Dry to sand after 6 hours @ 70°F with Fast Hardener
Dry to sand after 30 minutes @ 140°F

Material usage and materials data

Approximate square foot coverage per gallon at 1 dry mil:

Transfer Efficiency	Unmixed Paint	Sealer Mixed Paint (Ready-to-Spray)	Surfacer Mixed Paint (Ready-to-Spray)
100% (Theoretical)	945	643	801
65% (HVLP)	614	418	521
35% (Conventional)	330	225	280

WPG 14.7 +/- 0.2 lbs/gal **Volume Solids** 48% +/- 1%

COLOR Gray or White **Gloss** Low

Cleaning of equipment

Clean equipment with Cleaning Solvent 790, Cleaning Solvent LV or lacquer thinner.

VOC

Grip-Gard Epoxy Sealer Gray and White

Sealer (RTS): 3.35 lb/gal. 401 g/liter

Surfacer (RTS): 3.35 lb/gal. 401 g/liter

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C) Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE:

Grip-Gard Epoxy Sealer Gray:	One year if stored unopened at room temperature.
Grip-Gard Epoxy Sealer White:	One year if stored unopened at room temperature.
Grip-Gard Epoxy Sealer Hardener:	One year if stored unopened at room temperature.
Grip-Gard Epoxy Sealer Fast Hardener:	One year if stored unopened at room temperature.
Grip-Gard Epoxy Sealer Reducer:	Two years if stored unopened at room temperature.

GRIP-GARD® EPOXY SEALER GRAY and WHITE

JUNE 2012

FOR PROFESSIONAL USE ONLY

Head Office
Akzo Nobel Signfinishes Inc.
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ON THE WEB AT: www.signfinishes.com

Technical Data Sheet
Undercoats

GRIP-GARD® SURFACER/SEALER WHITE AND GRAY

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard Sealer/Surfacer is a two component polyurethane product designed as a fast application wet on wet sealer or as a sanding primer surfacer. It is available in white or gray. Grip-Gard Sealer provides excellent leveling over Grip-Gard primers and improves adhesion and application properties for Grip-Gard BC Basecoat. As a sand able surfacer it provides high film builds with fast drying to provide filling of rough areas such as polyester fillers or grinding marks.

MIXED AS A SEALER

100 Grip Gard Sealer
50 Grip-Gard Sealer Hardener
30 Grip-Gard BC Reducer

Use the Measuring Stick #103 (Blue)

Spray gun set-up:
Gravity: 1.3 – 1.5 mm
Siphon: 1.6 – 1.8 mm

Application pressure:
30–40 psi (2-3 bar) at the air inlet
HVLP max 10 psi (0.7 bar) at the air cap

Application

Apply 1 even coat.

Flash

15 – 20 minutes at 70°F (20°C)

(Wet-on-Wet)
15 – 20 Minutes at 70°F (20°C)
Maximum 1 ½ Hrs at 70°F (20°C)
before sanding is required.

Use suitable respiratory protection
Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator.

GRIP-GARD® SURFACER/SEALER WHITE AND GRAY

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard Sealer/Surfacer is a two component polyurethane product designed as a fast application wet on wet sealer or as a sanding primer surfacer. It is available in white or gray. Grip-Gard Sealer provides excellent leveling over Grip-Gard primers and improves adhesion and application properties for Grip-Gard BC Basecoat. As a sand able surfacer it provides high film builds with fast drying to provide filling of rough areas such as polyester fillers or grinding marks.

MIXED AS A SURFACER

3 Grip Gard Sealer
1 Grip-Gard Sealer Hardener
1 Grip-Gard BC Reducer

Use the Measuring Stick #106

Spray gun set-up:
Gravity: 1.6 – 1.8 mm
Siphon: 1.8 – 2.0 mm

Application pressure:
30–40 psi (2-3 bar) at the air inlet
HVLP max 10 psi (0.7 bar) at the air cap

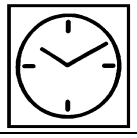
Application

Apply 1 – 3 even coats.

Flash between coats

10 – 15 minutes at 70°F (20°C)

On Urethane foam allow 20 – 30 minutes at 70°F (20°C)



Dry to Sand
3 hours at 70°F (20°C)
30 minutes at 140°F (60°C)

Use suitable respiratory protection
Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator.

Technical Data Sheet
Undercoats

GRIP-GARD® SURFACER/SEALER WHITE AND GRAY

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard Sealer/Surfacer is a two component polyurethane product designed as a fast application wet on wet sealer or as a sanding primer surfacer. It is available in white or gray. Grip-Gard Sealer provides excellent leveling over Grip-Gard primers and improves adhesion and application properties for Grip-Gard BC Basecoat. As a sand able surfacer it provides high film builds with fast drying to provide filling of rough areas such as polyester fillers or grinding marks.

Suitable substrates

SEALER:

- Autoprep Pretreatment Wiped surfaces
- Grip-Gard Washprimer White Light Enhancing wet on wet after a 15 minute flash
- Grip-Gard Washprimer 1K CF wet on wet after a 15 minute flash
- Existing finishes sanded with P360 to P400
- Grip-Gard Sealer applied as a surfacer sanded with P360 to P400
- Grip-Gard HB Surfacer sanded with P360 to P400
- Grip-Gard Brite-White HF Primer sanded with P360 to P400
- Grip-Gard Epoxy Sealer White or Gray wet on wet after a 30 minute flash

SURFACER:

- Autoprep Pretreatment Wiped surfaces
- Grip-Gard Washprimer White Light Enhancing wet on wet after a 15 minute flash
- Grip-Gard Washprimer 1K CF wet on wet after a 15 minute flash
- GRIP-GARD Epoxy primer, sanded with P220-P240 grit dry or P600 grit wet
- GRIP-GARD HF primer, sanded with P220-P240 grit dry or P600 grit wet.
- Wood, sanded with P120 grit dry.
- Most existing Finishes degreased and sanded with P220-P240 grit dry.
- Polyester Body Fillers, final sanded with P180 to P220 grit paper dry.
- Many expanded polyurethane foam boards.
- HDU Urethane Foam

NOTES: Grip-Gard White Sealer can be used as a foundation coat in Grip-Gard BC three-stage white pearl colors.

Products and additives

MAIN PRODUCTS:	–	Grip-Gard Sealer (Gray)	Item #391272
	–	Grip-Gard White Sealer	Item #397882
HARDENER:	–	Grip-Gard Sealer Hardener	Item #391269

REDUCERS:

Grip-Gard BC Fast Reducer: Temp range: 60°F–75°F (16°C–24°C).	Item #391264
Grip-Gard BC Medium Reducer: Temp range: 70°F–85°F (20°C–30°C	Item #391265
Grip-Gard BC Slow Reducer: Temp range: 80°F–95°F (27°C–35°C	Item #391266
Grip-Gard BC Extra Slow Reducer: Temp range: above 95°F (35°C).	Item #391267

Technical Data Sheet
Undercoats

GRIP-GARD® SURFACER/SEALER WHITE AND GRAY

JUNE 2012

FOR PROFESSIONAL USE ONLY

Basic raw materials

- Grip-Gard Sealer: acrylic resin.
- Grip-Gard Sealer Hardener: polyisocyanate resin.
- Grip-Gard BC Reducers: special solvent blends

Mixing

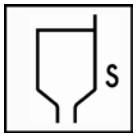
MIXED AS A SEALER

100 parts by volume Grip-Gard Sealer
50 parts Grip-Gard Sealer Hardener
30 parts Grip-Gard BC Reducer
Use Mixing Stick #103 (Blue)

MIXED AS A SURFACER

3 parts by volume Grip-Gard Sealer
1 parts Grip-Gard Sealer Hardener
1 parts Grip-Gard BC Reducer
Use Mixing Stick #106

Viscosity



The proper spraying viscosity is achieved by using the recommended mixing ratio of 100:50:30. Sealer Viscosity is 14–17 sec. Zahn Cup #2 (13-15 DIN 4) at 70°F (20°C).
3:1:1. Surfacer Viscosity is 15–19 sec. Zahn Cup #2 (15-16 DIN 4) at 70°F (20°C

Spray gun set-up / application pressure

	Sealer	Surfacer
High Transfer Gravity	1.3 – 1.5 mm	1.6 – 1.8 mm
High Transfer Pressure Feed	1.0 – 1.2 mm	1.2 – 1.4 mm
HVLP Pressure Feed	0.8 – 1.0 mm	1.2 – 1.4 mm
HVLP Siphon	1.8 – 2.2 mm	1.8 – 2.2 mm
HVLP Gravity	1.3 – 1.5 mm	1.6 – 1.8 mm

Pot-life

SEALER	Grip-Gard Sealer: 1.5 Hours at 70°F (20°C).
SURFACER	Grip-Gard Sealer: 1.0 Hours at 70°F (20°C).

Application process

SEALER	Spray 1 single coat. If additional coats are desired, flash for 5 – 10 minutes before applying second coat.
SURFACER	Spray 1 – 3 single coats until desired film thickness is achieved. Allow 5 – 10 minutes flash off between coats @ 70°F or until completely dull in appearance.

Film thickness

By recommended application;

Grip-Gard Surfacer	Approximately 2.0 – 2.5 mils per coat.
Grip-Gard Sealer:	Approximately 0.75 – 1.0 mils per coat.

Technical Data Sheet
Undercoats

GRIP-GARD® SURFACER/SEALER WHITE AND GRAY

JUNE 2012

FOR PROFESSIONAL USE ONLY

Recoat time

Grip-Gard Sealer is used wet-on-wet. Topcoat can be applied 15 – 20 minutes after Grip-Gard Sealer is applied.

Curing time

SEALER:
After Grip-Gard Sealer is applied, it must be topcoated within 1 ½ hours, or sanding will become necessary. Do not sand until 12 hours after Sealer application.

SURFACER:
Dry to sand after 3 hours @ 70°F
Dry to sand after 30 minutes @ 140°F

Material usage

Approximate square foot coverage per gallon at 1 dry mil:

Transfer Efficiency	Unmixed Paint	Sealer Mixed Paint (Ready-to-Spray)	Surfacer Mixed Paint (Ready-to-Spray)
100% (Theoretical)	1032	573	566
65% (HVLP)	671	373	368
35% (Conventional)	361	201	198

Cleaning of equipment

Clean equipment with Cleaning Solvent 790, Cleaning Solvent LV or lacquer thinner.

VOC

Grip-Gard Sealer (RTS): 4.32 lb/gal. 518 g/liter
Grip-Gard Surfacer (RTS): 4.63 lb/gal. 555 g/liter

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE: Grip-Gard Sealer: Two years if stored unopened at room temperature.
Grip-Gard Sealer Hardener: One year if stored unopened at room temperature.
Grip-Gard BC Reducers: Four years if stored unopened at room temperature.

GRIP-GARD® SURFACER/SEALER WHITE AND GRAY

JUNE 2012

FOR PROFESSIONAL USE ONLY

Head Office
Akzo Nobel Signfinishes Inc.
3785 Parkway Lane, Norcross, GA 30092, USA. 770-662-8464
ON THE WEB AT: www.signfinishes.com

Technical Data Sheet
Undercoats

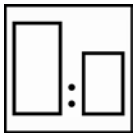
GRIP-GARD® HB SURFACER

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

GRIP-GARD HB Surfacer is a two-component urethane sanding surfacer with exceptionally high film build properties. GRIP-GARD HB Surfacer exhibits easy sanding characteristics (wet or dry) after short drying times. Minimal film shrinkage of GRIP-GARD HB Surfacer results in maximum enamel holdout when the topcoat is applied



4 Grip Gard HB Surfacer
1 Grip-Gard Surfacer Hardener

Use the Measuring Stick #109 (Blue)

Spray gun set-up:
Gravity:1.8 mm
Siphon: 1.8 – 2.0 mm

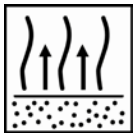
Application pressure:
30–40 psi (2-3 bar) at the air inlet

HVLP max 10 psi (0.7 bar) at the air cap

Application

Apply 1 – 3 even coats.

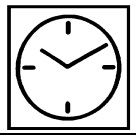
***Note**: Can also be applied by brush or roller.*



Flash between coats

10 – 15 minutes at 70°F (20°C)

On Urethane foam allow 20 – 30 minutes at 70°F (20°C)



Dry to Sand
4 hours at 70°F (20°C)
30 minutes at 140°F (60°C)

Use suitable respiratory protection
Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator.

Technical Data Sheet
Undercoats

GRIP-GARD® HB SURFACER

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

GRIP-GARD HB Surfacer is a two-component urethane sanding surfacer with exceptionally high film build properties. GRIP-GARD HB Surfacer exhibits easy sanding characteristics (wet or dry) after short drying times. Minimal film shrinkage of GRIP-GARD HB Surfacer results in maximum enamel holdout when the topcoat is applied

Suitable substrates

- Autoprep Pretreatment Wiped surfaces
- Grip-Gard Washprimer White Light Enhancing wet on wet after a 15 minute flash
- Grip-Gard Washprimer 1K CF wet on wet after a 15 minute flash
- GRIP-GARD Epoxy primer, sanded with P220-P240 grit dry or P600 grit wet
- GRIP-GARD HF primer, sanded with P220-P240 grit dry or P600 grit wet.
- Wood, sanded with P120 grit dry.
- Most existing Finishes degreased and sanded with P220-P240 grit dry.
- Polyester Body Fillers, final sanded with P180 to P220 grit paper dry.
- Many expanded polyurethane foam boards.
- HDU Urethane Foam

Products and additives

MAIN PRODUCTS:	Grip-Gard HB Surfacer	Item #390208
HARDENER:	Grip-Gard HB Surfacer Hardener	Item #393697

REDUCERS:

Grip-Gard BC Fast Reducer: Temp range: 60°F–75°F (16°C–24°C).	Item #391264
Grip-Gard BC Medium Reducer: Temp range: 70°F–85°F (20°C–30°C	Item #391265
Grip-Gard BC Slow Reducer: Temp range: 80°F–95°F (27°C–35°C	Item #391266
Grip-Gard BC Extra Slow Reducer: Temp range: above 95°F (35°C).	Item #391267
GRIP-GARD Plus Reducer	Item #398318

Autocryl Elast-O-Actif can be added to increase flexibility, particularly with very heavy builds.

Basic raw materials

- Grip-Gard HB Surfacer: acrylic resin.
- Grip-Gard HB Surfacer Hardener: polyisocyanate resin.
- Grip-Gard BC Reducers: special solvent blends

Technical Data Sheet
Undercoats

GRIP-GARD® HB SURFACER

JUNE 2012

FOR PROFESSIONAL USE ONLY

Mixing

MIXED High Build

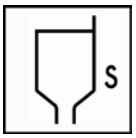
4 parts by volume Grip-Gard HB Surfacer
1 parts Grip-Gard Sealer Hardener
Use Mixing Stick #109 (Blue)

MIXED AS Medium build

4 parts by volume Grip-Gard Sealer
1 parts Grip-Gard HB Surfacer Hardener
1 parts Grip-Gard BC Reducer or GG Plus Reducer
Use Mixing Stick #109 (Blue)

NOTE: Autocryl Elast-O-Actif can be added at 10 – 20% of Grip-Gard HB Surfacer (part A) before mixing with Grip-Gard HB Surfacer Hardener to help prevent cracking in particularly heavy film builds

Viscosity



The proper spraying viscosity is achieved by using the recommended mixing ratio
4:1:1 Viscosity is 14–17 sec. Zahn Cup #2 (15-18 DIN 4) at 70°F (20°C).
4:1: Viscosity is 17–21 sec. Zahn Cup #2 (17-22 DIN 4) at 70°F (20°C

Spray gun set-up / application pressure

	Surfacer
High Transfer Gravity	1.8 – 2.0mm
High Transfer Pressure Feed	1.2 – 1.4 mm
HVLP Pressure Feed	1.2 – 1.4 mm
HVLP Siphon	1.8 – 2.2 mm
HVLP Gravity	1.8 – 1.8 mm

Pot-life

At 70° F	45 minutes at 70°F (20°C).
At 80° F	30 minutes at 80°F (20°C).

Application process

SURFACER Spray 1 – 3 single coats until desired film thickness is achieved. Allow 5 – 10 minutes flash off between coats @ 70°F or until completely dull in appearance.

Film thickness

By recommended application;
Grip-Gard HB Surfacer Approximately 2.0 – 2.5 mils per coat.

Technical Data Sheet
Undercoats

GRIP-GARD® HB SURFACER

JUNE 2012

FOR PROFESSIONAL USE ONLY

Curing time

SURFACER:
Dry to sand after 4 hours @ 70°F
Dry to sand after 30 minutes @ 140°F

Material usage

Transfer Efficiency	At 1 mil dry	At 2 mil's dry
100% (Theoretical)	777	388
65% (HVLP)	505	252
35% (Conventional)	272	136

Cleaning of equipment

Clean equipment with Cleaning Solvent 790, Cleaning Solvent LV or lacquer thinner.

VOC

Grip-Gard HB Surfacer
(RTS): 4.0 lb/gal. 480 g/liter

Product storage

Store products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE:
Grip-Gard HB Surfacer: Two years if stored unopened at room temperature.
Grip-Gard HB Surfacer Hardener: Six months if stored unopened at room temperature.
Grip-Gard BC Reducers: Four years if stored unopened at room temperature.

Head Office
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Technical Data Sheet
Undercoats

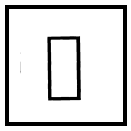
GRIP- GARD® BRITE WHITE HF PRIMER

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard Brite White HF Primer is a high performance spray-applied water-based one-component primer surfacer. As a primer, this product has excellent filling and sanding characteristics. And with its extremely high light reflectivity, it can also be used as a stand alone, direct to metal coating for sign cabinet interiors. The VOC level of Grip-Gard Brite White HF Primer is 1.7 lbs. per gallon ready to spray.



Ready to Spray. Thoroughly stir this material only. Do Not Shake.

Spray gun set-up:

Siphon (1.6–1.8 mm)
Gravity (1.4–1.6 mm)

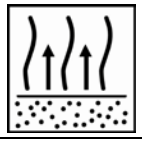
Application pressure:

30–40 psi (2-3 bar) at the air inlet

NOTE: YOU MUST rinse your spray gun with clean water or Autowave gun cleaner prior to putting Grip-Gard Brite White filler in the gun. Failure will cause extreme gelled material in the gun.

Application

On raw aluminum; apply 1 or 2 single coats depending on desired film build.
On steel; apply 1 mist coat; allow dulling, and then following with 1 single coat.



Flash between coats

15 – 20 minutes at 70°F (20°C)

(Wet-on-Wet)
30 Minutes at 70°F (20°C)
Maximum 1 ½ Hrs at 70°F (20°C) before sanding is required.

Store free from frost.

Use suitable respiratory protection

Akzo Nobel Sign Finishes recommends the use of a fresh air supply respirator.

Technical Data Sheet
Undercoats

GRIP- GARD® BRITE WHITE HF PRIMER

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard Brite White HF Primer is a high performance spray-applied water-based one-component primer surfacer. As a primer, this product has excellent filling and sanding characteristics. And with its extremely high light reflectivity, it can also be used as a stand alone, direct to metal coating for sign cabinet interiors. The VOC level of Grip-Gard Brite White HF Primer is 1.7 lbs. per gallon ready to spray.

Suitable substrates

- Autoprep Pretreatment Wiped surfaces
- Grip-Gard Washprimer wet on wet after a 30 minute flash
- Existing finishes sanded with P360 to P400
- Grip Gard HB Surfacer sanded with P360 to P400
- Steel sanded with P80 to P120
- Aluminum Sanded with P180

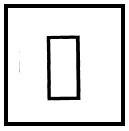
Products and additives

MAIN PRODUCT	–	Grip-Gard Brite White HF Primer 1 gallon	Item #390651
	–	Grip-Gard Brite White HF Primer 5 gallons	Item #390650
	–	Autowave Gun Cleaner LV	Item #391311

Basic raw materials

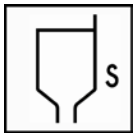
- Grip-Gard Brite White HF; High-performance water soluble acrylic binder

Mixing



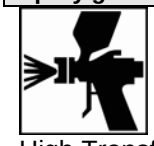
None. Material is supplied ready to spray.

Viscosity



The proper spraying viscosity is achieved by using the recommended mixing ratio.
23–28 sec. ZAHN cup #2 (20–25 sec. DIN cup #4) at 70°F (20°C).

Spray gun set-up / application pressure



Spray gun	Fluid tipset-up	Application pressure
High Transfer Gravity	1.4 – 1.6 mm	35 psi	30 – 40 psi
High Transfer Siphon	1.6 – 1.8 mm	35 psi	30 – 40 psi
HVLP Pressure Feed	1.0 – 1.2 mm	Max 10 psi (air cap)	10 – 15 psi
HVLP Siphon	1.8 – 2.2 mm	Max 10 psi (air cap)	
HVLP Gravity	1.4 – 1.7 mm	Max 10 psi (air cap)	

Technical Data Sheet
Undercoats

GRIP- GARD® BRITE WHITE HF PRIMER

JUNE 2012

FOR PROFESSIONAL USE ONLY

Pot-life

3 Months at 70°F (20°C)

Application process

Apply 2 single coats. Allow adequate (10–15 minutes) flash off between coats, or until coat goes dull. Flash-off and drying times will vary with relative humidity.

Film thickness

By recommended application;

Grip-Gard Brite White HF Primer — Approximately 1.0 – 1.2 mils per coat.

Recoat time

Grip-Gard Brite White HF Primer is used wet-on-wet. Topcoat can be applied 30 minutes after Grip-Gard Brite White HF Primer is applied.

Curing time

At 50% Relative Humidity				
	60°F (15°C)	70°F (20°C)	80°F (27°C)	140°F (60°C)
To Sand	4 hours	2-1/2 hours	2 hours	45 minutes
At 75% Relative Humidity				
	60°F (15°C)	70°F (20°C)	80°F (27°C)	140°F (60°C)
To Sand	5 hours	3-1/2 hours	2-1/2 hours	1 hour

Material usage

Approximate square foot coverage per gallon at 1 dry mil:

Transfer Efficiency	Unmixed Paint
100% (Theoretical)	1032
65% (HVLP)	395
35% (Conventional)	245

Cleaning of equipment

FOR BEST RESULTS: Immediately after application, do not allow product to stay in application equipment. Rinse with Autowave gun cleaner immediately then rinse with clean water.

NOTE: **DO NOT** use lacquer thinner as a first cleaning. After cleaning with water cleaners, Sikkens gun cleaning solvent or lacquer thinner may be used.

VOC

Grip-Gard Brite White HF Primer (RTS): 1.7 lb/gal. 204 g/liter.

GRIP- GARD® BRITE WHITE HF PRIMER

JUNE 2012

FOR PROFESSIONAL USE ONLY

Product storage

PROTECT FROM FREEZING
Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE: One year minimum when stored in original unopened container.

Head Office
Akzo Nobel Signfinishes Inc.
3785 Parkway Lane, Norcross, GA 30092, USA. 770-662-8464
ON THE WEB AT: www.signfinishes.com

Technical Data Sheet
Undercoats

GRIP-GARD VPS-1 CLEAR PRIMER FOR PLASTIC

JUNE 2012

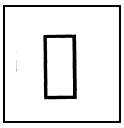
FOR PROFESSIONAL USE ONLY

Description

Grip-Gard VPS-1 is a clear acrylic, ready to spray primer used for two purposes. One to promote adhesion of Grip-Gard topcoats to certain plastic substrates and some metals. Second as an insulating primer for sensitive plastics such as Poly carbonate.

Remove any existing surface contaminates

Remove static electricity.



Ready to use.

Spray gun set-up:
Gravity: 1.3 – 1.5 mm
Siphon: 1.6 – 1.8 mm

Application pressure:

30–40 psi (2-3 bar) at the air inlet

HVLP max 10 psi (0.7 bar) at the air cap

Application for adhesion	**Application as an insulator for sensitive plastics such as polycarbonate**
Apply 1 even wet coat	Apply 2 even wet coats with a 10 minute flash off between coats

Dry to topcoat with Grip-Gard topcoats in 30 minutes at 70°F (20°C)

Use suitable respiratory protection
Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator

Technical Data Sheet
Undercoats

GRIP-GARD VPS-1 CLEAR PRIMER FOR PLASTIC

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard VPS-1 is a clear acrylic, ready to spray primer used for two purposes. One to promote adhesion of Grip-Gard topcoats to certain plastic substrates and some metals. Second as an insulating primer for sensitive plastics such as Poly carbonate.

Suitable substrates

- Acrylic, including most impact modified versions, ABS, Sintra,
- Trovicel and other rigid PVC materials
- Non-Thermoformed polycarbonates
- Fiberglass Gelcoat degreased and sanded with P320 to P500 grit dry.
- Red metals including brass, copper & bronze

NOTE: Some polycarbonates are supplied with a Solar Grade Treatment on one side. Do not apply VPS1 onto the solar treated side of this type of polycarbonate.

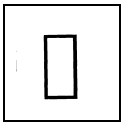
Products and additives

PRODUCTS: — VPS 1 Clear Adhesion Promoter Item #386315

Basic raw materials

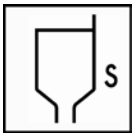
VPS 1 Acrylic Resin, solvents and other ingredients.

Mixing



NONE; Ready to use.

Viscosity



16–18 sec. ZAHN cup #2 (13–15 sec. DIN cup #4) at 70°F (20°C)

Spray gun set-up / application pressure

	Spray gun	Fluid tipset-up	Application pressure
High Transfer Gravity	1.3 – 1.5 mm	35 psi	
High Transfer Pressure Feed	1.0 – 1.2 mm	35 psi	10 – 15 psi
HVLP Pressure Feed	0.8 – 1.0 mm	Max 10 psi (air cap)	10 – 15 psi
HVLP Siphon	1.8 – 2.2 mm	Max 10 psi (air cap)	
HVLP Gravity	1.3 – 1.5 mm	Max 10 psi (air cap)	

Technical Data Sheet
Undercoats

GRIP-GARD VPS-1 CLEAR PRIMER FOR PLASTIC

JUNE 2012

FOR PROFESSIONAL USE ONLY

Pot-life

NONE

Application process

For Adhesion: Apply 1 wet coat VPS-1 Base Clear.
As Insulator: Apply 2 coats VPS-1 Base Clear allowing 10 minutes flash between coats.

Film thickness

By recommended application;
VPS-1 Base Clear 0.5 - 0.6 mils per single coat.

Curing time

At 70° F (20°C):
Allow 30 minutes air-drying. Apply topcoats

Cleaning of equipment

Clean equipment with Cleaning Solvent LV, Item# 391000

VOC

(RTS) VPS1 Clear: 6.56 lb/gal. 788 g/liter

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE: Clear: Three years if stored unopened at room temperature.

Head Office
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ON THE WEB AT: www.signfinishes.com

Grip Gard BC VPS1 Useage Chart

Grip-Gard System	Extruded Acrylic	Trim Cap	PVC	High Performance Vinyl	Calendared Vinyl	Poly Carbonate	Cell Cast Acrylic	ABS	Styrene
Grip-Gard Basecoat with #10 BC Binder	NO	NO	NO	NO	NO	YES P	YES A	YES P	YES P
Grip-Gard Basecoat with #90 BC Satin	NO	NO	NO	NO	NO	YES P	NO	YES P	YES P
Grip-Gard Basecoat with #91 BC Flat	NO	NO	NO	NO	NO	YES P	NO	YES P	YES P
Grip-Gard Basecoat with #80 BC Single Stage Gloss Urethane Binder	YES A	YES A	YES A	YES A	YES A	YES P	YES A	YES P	YES P
Grip-Gard Basecoat with #85 BC Single Stage Satin Urethane Binder	YES A	YES A	YES A	YES A	YES A	YES P	YES A	YES P	YES P
Grip-Gard Basecoat with #50 BC Flex	NO	NO	NO	NO	NO	NO	YES A	NO	NO
Grip-Gard Plus Colored Topcoats	YES A	YES A	YES A	YES A	YES A	YES P	YES A	YES P	YES P
Grip-Gard Clearocats	YES A	YES A	YES A	YES A	YES A	YES P	YES A	YES P	YES P

VPS1 can be used in two ways. As an insulator to protect sensitive plastics or as an adhesion promoter for plastics. Above is a chart that shows when to use and below is a breif description of the process

NO	Clean the plastic with a mixture of Grip-Gard T4000 (Item #386623) and distilled water mixed 1 to 1. Mix and apply coating according to TDS
YES A = As adhesion promoter	Clean the plastic with a mixture of Grip-Gard T4000 (Item #386623) and distilled water mixed 1 to 1. Apply 2 coats of Grip-Gard VPS-1 Primer (Item #386315). Allow 5 - 10 minutes between coats. Allow final coat 30 minutes to dry and apply topcoat.
YES P = As an protective insulator	Clean the plastic with a mixture of Grip-Gard T4000 (Item #386623) and distilled water mixed 1 to 1. Apply 2 coats of Grip-Gard VPS-1 Primer (Item #386315). Allow 5 - 10 minutes between coats. Allow final coat 30 minutes to dry and apply topcoat.

Technical Data Sheet
Undercoats

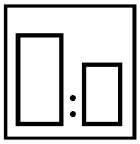
GRIP-GARD® EPOXY PRIMER 4.6

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

GRIP-GARD Epoxy Primer 4.6 is a conventional solid, white epoxy primer that exhibits fast air dry and sanding properties, as well as excellent adhesion and corrosion resistance.



4.6 VOC MIX RATIO

3 — 3 parts volume GRIP-GARD Epoxy Primer 4.6

1 — 1 part volume GRIP-GARD Epoxy Hardener 3.5 / 4.6

Use the Measuring Stick #106 (Purple)

Spray gun set-up:

Gravity: 1.4 – 1.7 mm
Siphon: 1.6 – 1.8 mm

Application pressure:

Refer to spray gun manufacturer

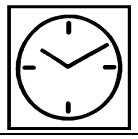
Application

Apply 1 – 2 even coats.

1 mil dry film thickness required

Flash for Between coats

5 minutes at 70°F (20°C)



45 Minutes at 70°F (20°C) Dry to topcoat
2 Hours at 70°F (20°C) Dry to Sand
Maximum; 72 hours at 70°F (20°C) before sanding is required

Use suitable respiratory protection

Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator.

Technical Data Sheet
Undercoats

GRIP-GARD® EPOXY PRIMER 4.6

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

GRIP-GARD Epoxy Primer 4.6 is a conventional solid, white epoxy primer that exhibits fast air dry and sanding properties, as well as excellent adhesion and corrosion resistance.

Suitable substrates

SEALER:

— Autoprep Pretreatment Wiped surfaces
— Aluminum, degrease and sand with #120 to #180 grit paper dry.
— Steel, degrease/sand #80 to #120 grit paper dry. Remove mill scale by sandblasting if necessary.
— Galvanized steel, degrease and sand with #120 to #180 grit paper dry.
— Most existing finishes, with the exception of thermoplastic acrylic lacquers, degrease and sand with #320 to #360 grit paper dry, or #500 to #600 (3M P600 to P800) grit paper wet.

NOTES: **Never apply Epoxy over any Washprimer**

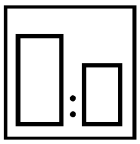
Products and additives

MAIN PRODUCT:	Grip-Gard Epoxy 4.6	Item #390694
HARDENER:	Grip-Gard Epoxy Hardener 3.5 / 4.6	Item #390689

Basic raw materials

- Grip-Gard Epoxy Primer: Epoxy resins and pigments
- Grip-Gard Epoxy Hardener: polyamine resin.

Mixing



4.6 VOC MIX RATIO

3 parts volume GRIP-GARD Epoxy Primer 4.6
1 part volume GRIP-GARD Epoxy Hardener 3.5 / 4.6

Use the Measuring Stick #106 (Purple)

NOTE: No induction period is required

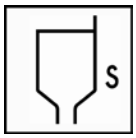
Technical Data Sheet
Undercoats

GRIP-GARD® EPOXY PRIMER 4.6

JUNE 2012

FOR PROFESSIONAL USE ONLY

Viscosity



The proper spraying viscosity is achieved by using the recommended mixing ratio of 3:1 Surfacer Viscosity is 17 – 19 sec. Zahn Cup #2 (15-16 DIN 4) at 70°F (20°C

Spray gun set-up / application pressure

GUN TYPE	TIP SIZE	PRESSURE	FLUID RATE
HVLP – Pressure Feed	1.0 – 1.2mm	Max 10psi	10 – 14 oz/min
HVLP – Gravity Feed	1.5 – 1.7mm	Max 10psi	
HVLP – Siphon Feed	1.8 – 2.2mm	Max 10psi	
Pressure Feed	1.0 – 1.4mm	50 – 60psi	12 – 16 oz/min
Gravity Feed	1.3 – 1.5mm	50 – 60psi	
Siphon Feed	1.4 – 1.7mm	50 – 60psi	
RP - Gravity Feed	1.5 – 1.7mm	30 – 35psi	
RP - Siphon Feed	1.6 – 1.8mm	30 – 35psi	
RP – Pressure Feed	1.0 – 1.2mm	30 – 35psi	12 – 16 oz/min
Electrostatic	1.2 – 1.7mm	60 – 70psi	12 – 14 oz/min
Airless Spray	0.011 – 0.015in	1500 – 3000psi	
Air Assisted Airless	0.011 – 0.015in	700 – 900psi	

Pot-life

SEALER Grip-Gard Epoxy 4.6: 8 Hours at 70°F (20°C).

NOTE! **The material may seem sprayable well after the 8 hour pot life however the performance is not acceptable.**

Application process

Spray 1 – 2 single coats until desired film thickness is achieved. Allow 10 minutes flash off between coats @ 70°F or until completely dull in appearance.

Film thickness

By recommended application; Approximately 1 mil per coat.

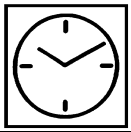
Technical Data Sheet
Undercoats

GRIP-GARD® EPOXY PRIMER 4.6

JUNE 2012

FOR PROFESSIONAL USE ONLY

Recoat time



Grip-Gard Epoxy Primer used as a wet-on-wet sealer. Topcoat can be applied 45 minutes after Application
Maximum 72 hours at 70°F (20°C) with out sanding

Curing time

After Grip-Gard Epoxy is applied, it must be topcoated within 72 hours, or sanding will become necessary.
For best sanding wait until 8 hours after application.

Dry to sand lightly after 2 hours @ 70°F

	50°F (10°C)	70°F (20°C)	100°F (38°C)	140°F (60°C)
Topcoat without sanding	1-1/2 hours	45 minutes	20 minutes	10 minutes
To sand	4 hours	2 hours	1 hour	30 minutes

Cleaning of equipment

Clean equipment with Cleaning Solvent 790, Cleaning Solvent LV or lacquer thinner.

VOC

Ready to Spray 4.6 lb/gal. 552 g/liter

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C) Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE:
Grip-Gard Epoxy Primer 4.6: One year unopened at room temperature.
Grip-Gard Epoxy Hardener 3.5/4.6: One year unopened at room temperature.

Head Office
Akzo Nobel Signfinishes Inc.
3785 Parkway Lane Norcross, GA 30092,
USA 1-800-618-1010 ON THE WEB AT: www.signfinishes.com

Technical Data Sheet
Undercoats

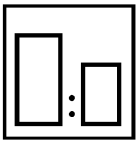
GRIP-GARD® EPOXY PRIMER 2.8/3.5

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

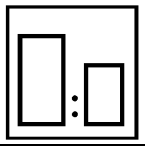
GRIP-GARD Epoxy Primer 2.8/3.5 is a low VOC White Epoxy Primer that exhibits fast air dry and sanding properties, as well as excellent adhesion and corrosion resistance. The sprayable VOC of GRIP-GARD Epoxy Primer 2.8/3.5 is convertible from 2.8 to 3.5 pounds per gallon depending upon hardener selection.



3.5 VOC MIX RATIO

3 parts volume GRIP-GARD Epoxy Primer 2.8 / 3.5

1 part volume GRIP-GARD Epoxy Hardener 3.5 / 4.6



2.8 VOC MIX RATIO

3 parts volume GRIP-GARD Epoxy Primer 2.8 / 3.5

1 part volume GRIP-GARD Epoxy Hardener 2.8

Use the Measuring Stick #106 (Purple)

Spray gun set-up:

Gravity: 1.4 – 1.7 mm
Siphon: 1.6 – 1.8 mm

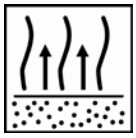
Application pressure:

Refer to spray gun manufacturer

Application

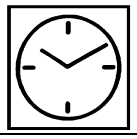
Apply 1 – 2 even coats.

1 mil dry film thickness required



Flash between coats

10 minutes at 70°F (20°C)



45 Minutes at 70°F (20°C) Dry to topcoat
2 Hours at 70°F (20°C) Dry to Sand
Maximum; 72 hours at 70°F (20°C) before sanding is required

Use suitable respiratory protection

Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator.

Technical Data Sheet
Undercoats

GRIP-GARD® EPOXY PRIMER 2.8/3.5

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

GRIP-GARD Epoxy Primer 2.8/3.5 is a low VOC White Epoxy Primer that exhibits fast air dry and sanding properties, as well as excellent adhesion and corrosion resistance. The sprayable VOC of GRIP-GARD Epoxy Primer 2.8/3.5 is convertible from 2.8 to 3.5 pounds per gallon depending upon hardener selection.

Suitable substrates

SEALER:

— Autoprep Pretreatment Wiped surfaces
— Aluminum, degrease and sand with #120 to #180 grit paper dry.
— Steel, degrease/sand #80 to #120 grit paper dry. Remove mill scale by sandblasting if necessary.
— Galvanized steel, degrease and sand with #120 to #180 grit paper dry.
— Most existing finishes, with the exception of thermoplastic acrylic lacquers, degrease and sand with #320 to #360 grit paper dry, or #500 to #600 (3M P600 to P800) grit paper wet.

NOTES: **Never apply Epoxy over any Washprimer**

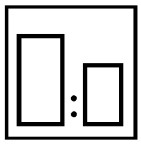
Products and additives

MAIN PRODUCT:	Grip-Gard Epoxy 2.8/3.5	Item #390695
HARDENER:	Grip-Gard Epoxy Hardener 2.8	Item #390690
	Grip-Gard Epoxy Hardener 3.5 / 4.6	Item #390689

Basic raw materials

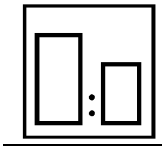
- Grip-Gard Epoxy Primer: Epoxy resins and pigments
- Grip-Gard Epoxy Hardener: polyamine resin.

Mixing



3.5 VOC MIX RATIO

3 parts volume GRIP-GARD Epoxy Primer 2.8 / 3.5
1 part volume GRIP-GARD Epoxy Hardener 3.5 / 4.6



2.8 VOC MIX RATIO

3 parts volume GRIP-GARD Epoxy Primer 2.8 / 3.5
1 part volume GRIP-GARD Epoxy Hardener 2.8

Use the Measuring Stick #106 (Purple)

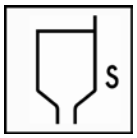
NOTE: No induction period is required

GRIP-GARD® EPOXY PRIMER 2.8/3.5

JUNE 2012

FOR PROFESSIONAL USE ONLY

Viscosity



The proper spraying viscosity is achieved by using the recommended mixing ratio of 3:1 Surfacer Viscosity is 17 – 19 sec. Zahn Cup #2 (15-16 DIN 4) at 70°F (20°C

Spray gun set-up / application pressure

GUN TYPE	TIP SIZE	PRESSURE	FLUID RATE
HVLP – Pressure Feed	1.0 – 1.2mm	Max 10psi	10 – 14 oz/min
HVLP – Gravity Feed	1.5 – 1.7mm	Max 10psi	
HVLP – Siphon Feed	1.8 – 2.2mm	Max 10psi	
Pressure Feed	1.0 – 1.4mm	50 – 60psi	12 – 16 oz/min
Gravity Feed	1.3 – 1.5mm	50 – 60psi	
Siphon Feed	1.4 – 1.7mm	50 – 60psi	
RP - Gravity Feed	1.5 – 1.7mm	30 – 35psi	
RP - Siphon Feed	1.6 – 1.8mm	30 – 35psi	
RP – Pressure Feed	1.0 – 1.2mm	30 – 35psi	12 – 16 oz/min
Electrostatic	1.2 – 1.7mm	60 – 70psi	12 – 14 oz/min
Airless Spray	0.011 – 0.015in	1500 – 3000psi	
Air Assisted Airless	0.011 – 0.015in	700 – 900psi	

Pot-life

SEALER	Grip-Gard Epoxy 2.8 / 3.5: 8 Hours at 70°F (20°C).
NOTE!	**The material may seem sprayable well after the 8 hour pot life however the performance is not acceptable.**

Application process

Spray 1 – 2 single coats until desired film thickness is achieved. Allow 10 minutes flash off between coats @ 70°F or until completely dull in appearance.

Film thickness

By recommended application; Approximately 1 mil per coat.

Technical Data Sheet
Undercoats

GRIP-GARD® EPOXY PRIMER 2.8/3.5

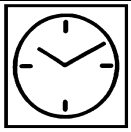
JUNE 2012

FOR PROFESSIONAL USE ONLY

Recoat time

Grip-Gard Epoxy Primer used as a wet-on-wet sealer. Topcoat can be applied 45 minutes after Application
Maximum 72 hours at 70°F (20°C) with out sanding

Curing time



After Grip-Gard Epoxy is applied, it must be topcoated within 72 hours, or sanding will become necessary.
For best sanding wait until 8 hours after application.

Dry to sand lightly after 2 hours @ 70°F

	50°F (10°C)	70°F (20°C)	100°F (38°C)	140°F (60°C)
Topcoat without sanding	1-1/2 hours	45 minutes	20 minutes	10 minutes
To sand	4 hours	2 hours	1 hour	30 minutes

Cleaning of equipment

Clean equipment with Cleaning Solvent 790, Cleaning Solvent LV or lacquer thinner.

VOC

With 2.8 Hardener (RTS): 2.8 lb/gal. 340 g/liter

With 3.5 / 4.6 Hardener (RTS): 3.5 lb/gal. 420 g/liter

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C) Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE:

Grip-Gard Epoxy Primer: One year unopened at room temperature.
Grip-Gard Epoxy Hardener 2.8: One year unopened at room temperature.
Grip-Gard Epoxy Hardener 3.5/4.6: One year unopened at room temperature.

Head Office
Akzo Nobel Signfinishes Inc.
3785 Parkway Lane, Norcross, GA 30092, USA. 770-662-8464
ON THE WEB AT: www.signfinishes.com

Technical Data Sheet
Topcoats

GRIP-GARD® BC BASECOAT SOLID, METALLIC AND PEARL COLORS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard BC Basecoat is designed specifically to meet the color, application and quality demands of the Sign and Exhibit Manufacturer. With extremely fast tape times and a tremendous range of solid, metallic and pearl colors, Grip-Gard BC Basecoat is ideal for fast production, particularly on multi-color signs. Grip-Gard BC Basecoat must be used in conjunction with Grip-Gard BC Clearcoat in order to provide protection from the environment.

90	Grip Gard BC Basecoat
10	Grip-Gard BC Clear Hardener Slow
50	Grip-Gard BC Reducer

Use the Measuring Stick #111 (Green)

NOTE: **Note**: When making “Own Colors”, it is essential to include Grip-Gard BC 10 Binder to the paint before mixing with hardener and reducer.

Spray gun set-up:

Gravity: 1.3 – 1.5 mm
Siphon: 1.6 – 1.8 mm

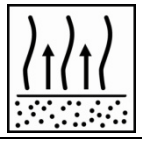
Application pressure:

30–40 psi (2-3 bar) at the air inlet

HVLP max 10 psi (0.7 bar) at the air cap

Application

Apply 2 – 3 even coats or until Covered.



Flash between coats

1-2 minutes at 70°F (20°C)

Grip-Gard BC Metallics and Pearls
1 additional coat at an increased distance as a metallic orientation coat if necessary...

Allow to dry 15 minutes at 70°F (20°C) prior to clear coat application.

Use suitable respiratory protection

Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator

Technical Data Sheet
Topcoats

GRIP-GARD® BC BASECOAT SOLID, METALLIC AND PEARL COLORS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard BC Basecoat is designed specifically to meet the color, application and quality demands of the Sign and Exhibit Manufacturer. With extremely fast tape times and a tremendous range of solid, metallic and pearl colors, Grip-Gard BC Basecoat is ideal for fast production, particularly on multi-color signs. Grip-Gard BC Basecoat must be used in conjunction with Grip-Gard BC Clearcoat in order to provide protection from the environment.

Suitable substrates

Grip-Gard BC Basecoat can be applied directly over:

- Grip-Gard Washprimer White, Light Enhancing
- Grip-Gard Washprimer 1K CF
- Grip-Gard Sealer
- Grip-Gard Brite-White HF Primer
- Grip-Gard Epoxy Sealer Gray or White
- Grip-Gard HB Surfacer after sanding
- Grip Gard VPS1 Primer
- Vinyl, Photopolymer, Flexible Membrane, PVC, Trim Cap and Extruded Acrylic plastics without adhesion promoters.
- Cell Cast Acrylic requires the use of VPS1 Primer or the use of 90 or 91 Interior Binders.
- Most existing finishes; degreased and sanded with #P500 to #P600 grit paper dry or #P600 to #P800 grit wet but not over thermoplastic acrylic lacquers. In that case, the entire surface must be sealed with a Surfacer or Sealer.

Products and additives

PRODUCTS:	— Grip-Gard BC Basecoat Toners	
REDUCERS:	— Grip-Gard BC Fast Reducer: Temperatures: 60°F–75°F (16°C – 24°C).	Item # 391264
	— Grip-Gard BC Med Reducer: Temperatures: 70°F–85°F (20°C - 30°C).	Item # 391265
	— Grip-Gard BC Slow Reducer: Temperatures: 80°F–95°F (27°C–35°C)	Item # 391266
	— Grip-Gard BC Extra Slow Reducer: Temperatures: above 95°F (35°C).	Item # 391267
ADDITIVES:	— Grip-Gard BC Clear Hardener	Item # 391268
	— Grip-Gard BC Clear Hardener Slow: (Preferred)	Item #481146
CLEARCOATS:	— Grip-Gard BC Clear:	Item #391270
	— Grip-Gard BC Satin Clear:	Item #481048
	— Grip-Gard BC Low Gloss Clear	Item #391271

Basic raw materials

- Grip-Gard BC Basecoat: physical drying binders.
- Grip-Gard BC Reducers: special solvent blends.
- Grip-Gard BC Clear Hardeners: polyisocyanate resins.
- Grip-Gard BC Clearcoats: acrylic resin

Surface preparation

—All products that are to be sanded: you may have to initial sand, but final sanding with #P500 to #P600 grit paper dry or #P600 to #P800 grit wet is recommended.
—Wet-on-wet products: please follow recommendation for product in use by consulting the relevant Technical Data Sheet.

GRIP-GARD® BC BASECOAT SOLID, METALLIC AND PEARL COLORS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Mixing

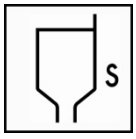
Mixing Machine
Stir Grip-Gard BC Basecoat MM colors on mixing machine every 4 hours for 15 minutes

Stir after mixing
Grip-Gard BC Basecoat MM colors must be stirred thoroughly directly after mixing the color formula

Color mixing by hand:

Own formulated colors: When developing your own color, it is essential that you add Grip-Gard BC Basecoat 10 Binder into the paint mixture. To do this, mix 1 part mixed color by weight to 1 part Binder 10 by weight (equal amounts by weight of mixed color and # 10 Binder), **or** use Measuring Stick #104 to mix 1 part mixed color by volume to 1 part Binder 10 by volume. Stir thoroughly. Then reduce as normal as described in the mix ratio section of page 2. Failure to include the binder into the paint mixture will cause poor product performance.

Viscosity



The proper spraying viscosity is achieved by using the recommended mixing ratio.
Grip-Gard BC Basecoat Solid, Metallic and Pearl colors: 20 - 24 sec. EZ Zahn Cup #2 at 70°F (20°C).

Spray gun set-up / application pressure

	Spray gun	Fluid tipset-up	Application pressure
High Transfer Gravity	1.3 – 1.5 mm	35 psi	
High Transfer Pressure Feed	1.0 – 1.2 mm	35 psi	10 – 15 psi
HVLP Pressure Feed	0.8 – 1.0 mm	Max 10 psi (air cap)	10 – 15 psi
HVLP Siphon	1.8 – 2.2 mm	Max 10 psi (air cap)	
HVLP Gravity	1.3 – 1.5 mm	Max 10 psi (air cap)	

Pot-life

Grip-Gard BC Basecoat solid and metallic colors with hardener: 4 – 6 hours.
Grip-Gard BC Basecoat pearl colors (three stage) with hardener: 4 hours.

Application process

SOLID COLORS: Spray 2 single coats; allow approximately 3–5 minutes flash-off between each coat.

METALLIC COLORS: Spray 3 single coats, at approximately 6 inches from the panel allowing 3–5 minutes flash off between each coat. Even out the metallic pattern with a metallic orientation coat after the final coat has flashed off completely. This is achieved by extending the distance between the gun and panel, and applying a lighter coat. Do not make this coat too wet. With HVLP equipment, it is not necessary to lower the pressure, although this may be done in order to control the color.

THREE STAGE PEARL COLORS: **Grip-Gard BC Basecoat Foundation Color:** Spray 2 single coats, allowing approximately 5-7 minutes

GRIP-GARD® BC BASECOAT SOLID, METALLIC AND PEARL COLORS

JUNE 2012

FOR PROFESSIONAL USE ONLY

flash-off between each coat. Allow the foundation coat to dry for 15–20 minutes.

Grip-Gard BC Basecoat Pearl Mid Coat: Spray three to four thin coats, allowing 3–5 minutes flash-off between coats at 70°F (20°C). Do not lower the air pressure for pearl coats.

TWO-TONE APPLICATION

Grip-Gard BC Basecoat Solid, Metallic and Pearl colors can be taped off with fine line masking tape after 10 - 30 minutes flash-off at 70°F (20°C) for normal applications and a second color of Grip-Gard BC Basecoat can then be applied.

Film thickness

By recommended application;
Grip-Gard BC Basecoat, Solid, Metallic and Pearl: 0.3–0.4 mils per single coat.

Recoat time

Allow Grip-Gard BC Basecoat (mixed with 10% hardener) to dry for 15 minutes at 70°F (20°C) before applying the clearcoat.

/

The maximum time Grip-Gard BC Basecoat may be left before Grip-Gard BC Clear is applied is 2 days

NOTE:

It is always recommended that Grip-Gard BC Clear Hardener is added to Grip-Gard BC Basecoat. However, if the hardener is omitted, the maximum time allowed to apply Grip-Gard BC Clear is 5 hours.

Material usage

Approximate square foot coverage per gallon at 1 dry mil:

Transfer Efficiency	Unmixed Paint	Ready to Spray
100% (Theoretical)	480	320
65% (HVLP)	310	210
35% (Conventional)	170	110

Cleaning of equipment

Clean equipment with Cleaning Solvent 790, Cleaning Solvent LV or lacquer thinner.

VOC

Grip-Gard BC Basecoat (RTS): 6.25 lb/gal. 750 g/liter

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

GRIP-GARD® BC BASECOAT SOLID, METALLIC AND PEARL COLORS

JUNE 2012

FOR PROFESSIONAL USE ONLY

SHELF LIFE:

Grip-Gard BC Basecoat Toners: Four years if stored unmixed at room temperature.
Grip-Gard BC Clear Hardeners: One year if stored unopened at room temperature.
Grip-Gard BC Reducers: Four years if stored unopened at room temperature.

STOCK AVAILABILITY:

Grip-Gard BC Basecoat Solid, Metallic and Pearls are available supplied as ready-mixed colors or can be mixed by means of the Akzo Nobel Mixing System.

Head Office
Akzo Nobel Signfinishes Inc.
3785 Parkway Lane, Norcross, GA 30092, USA
1-800-618-1010
ON THE WEB AT:
www.signfinishes.com

Technical Data Sheet
Topcoats

GRIP-GARD® BC INTERIOR SIGN APPLICATION

JUNE 2012

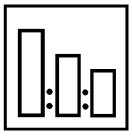
FOR PROFESSIONAL USE ONLY

Description
When mixed according to the Interior Signage Application procedures, Grip-Gard BC Basecoat can be used to produce interior signage that conforms to ADA (Americans with Disabilities Act) requirements, as well as for other interior signage, without the need for a clearcoat.

Choose the color required in Mixit.
When mixing the Grip-Gard BC chosen color, do not add the volume of 10 Binder.
After mixing the color, add the Grip-Gard BC Interior Binders as described below for the gloss level desired.

	STEP 1: Choose the appropriate GG BC Interior Binder(s) for desired gloss level	
SATIN	100 parts GG BC toner formula	50 parts GG BC 90 Interior Satin Binder
LOW	100 parts GG BC toner formula	50 parts GG BC 90/91 Binder blend
FLAT	100 parts GG BC toner formula	50 parts GG BC 91 Interior Satin Binder

STEP 2: Take above mixture and reduce as follows for Ready-To-Spray



90	Grip-Gard BC Basecoat
10	Grip-Gard BC Clear Hardener Slow
50	Grip-Gard BC Reducer

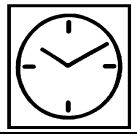
Use the AKZO NOBEL Measuring Stick #111.

Application Solid Color — Apply 2 light coats or until covered.

Application Metallic Color — Apply 2 light coats followed by an orientation coat.

Flash between coats

3 – 5 minutes at 70°F (20°C) or until no wet gloss is apparent



30 – 45 minutes at 70°F (20°C)

Use suitable respiratory protection

Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator

NOTE: As with all paints, when adjusting the gloss level there can be variations in final gloss level depending on the color chosen. When a specific gloss level is required, sprayouts of the color with balanced levels of 90 and 91 binders is recommended prior to the final application.

Technical Data Sheet
Topcoats

GRIP-GARD® BC INTERIOR SIGN APPLICATION

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

When mixed according to the Interior Signage Application procedures, Grip-Gard BC Basecoat can be used to produce interior signage that conforms to ADA (Americans with Disabilities Act) requirements, as well as for other interior signage, without the need for a clearcoat. With extremely fast tape and dry times and a tremendous range of solid, metallic and pearl colors, Grip-Gard BC Basecoat for Interior Signage is ideal for fast production and high quality. Grip-Gard BC Basecoat for Interior Signage is designed to be used directly on ADA compliant photopolymer, most common plastics, and on any properly primed metal surface. Grip-Gard BC Basecoat for Interior Signage has excellent color fastness and mar resistance, and provides excellent resistance to household cleaners such as Windex®, Formula 409® and Clorox® Kitchen Cleaner.

Suitable substrates

Grip-Gard BC Indoor Sign Colors can be applied directly over:
- Grip-Gard Brite-White HF Primer
-Grip-Gard Washprimer 1K CF
- Grip-Gard Sealer
- Grip-Gard HB Surfacer
- Photopolymer
- Most common plastics with the exception PP, PPEPDM, PE and Poly Carbonate*(See Note below)
- Grip-Gard Epoxy Sealer Gray or White
-Most existing finishes; degreased and sanded with #P500 to #P600 grit paper dry or #P600 to #P800 grit wet but not over thermoplastic acrylic lacquers. In that case, the entire surface must be sealed with a Surfacer or Sealer.
- Grip-Gard BC Indoor Sign Color can be directly applied on top of the following primed surfaces: Aluminum, steel, galvanized steel, rigid plastics, flexible plastics and expanded urethane foam when primed with the appropriate Grip-Gard primer system. Consult relevant primer Technical Data Sheet for substrate recommendations.

***NOTE: Poly Carbonate:** If the system is to be applied over a poly carbonate plastic 2 coats of VPS1 primer must be applied to protect the plastic from solvent crazing of the plastic.

Products and additives

PRODUCTS:	Grip-Gard BC Basecoat Toner	Assortment
	Grip-Gard BC Indoor Sign Satin Binder 90	Item #39761
	Grip-Gard BC Indoor Sign Matt Binder 91	Item #397617
HARDENER:	Grip-Gard BC Clear Hardener	Item #391268
	Grip-Gard BC Clear Hardener Slow	Item #481146
REDUCERS:	Grip-Gard BC Fast Reducer: Temperature range: 60°F–75°F (16°C–24°C)	Item #391264
	Grip-Gard BC Medium Reducer: Temperature range: 70°F–85°F (20°C–30°C)	Item #391265
	Grip-Gard BC Slow Reducer: Temperature range: 80°F–95°F (27°C–35°C).	Item #391266
	Grip-Gard BC Extra Slow Reducer: Temperature range: above 95°F (35°C).	Item #391267

Basic raw materials

- Grip-Gard BC 90 and 91 Binder: Vinyl/polyester resins and pigments
- Grip-Gard BC Reducers: special solvent blends.
- Grip-Gard BC Clear Hardeners: polyisocyanate resin.

Technical Data Sheet
Topcoats

GRIP-GARD® BC INTERIOR SIGN APPLICATION

JUNE 2012

FOR PROFESSIONAL USE ONLY

Surface preparation

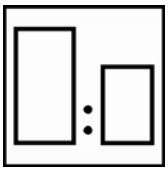
New raw plastics	- Degrease parts then blow and tack off the parts to be painted.
Other	—All products that are to be sanded: you may have to initial sand, but final sanding with #P500 to #P600 grit paper dry or #P600 to #P800 grit wet is recommended. — Wet-on-wet products: please follow recommendation for product in use by consulting the relevant Technical Data Sheet

Mixing

Mixing Machine
Stir Grip-Gard BC Basecoat MM colors on mixing machine every 4 hours for 15 minutes

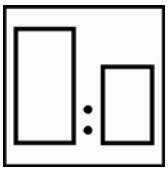
Stir after mixing
Grip-Gard BC Basecoat MM colors must be stirred thoroughly immediately after mixing the color formula

STEP 1: Choose the appropriate Grip-Gard BC Interior Binder(s) for desired gloss level



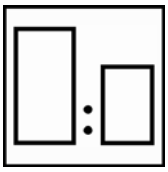
SATIN GLOSS FINISH (25 – 35 GU @60° angle)

100	Grip-Gard BC Basecoat toner formula
50	Grip-Gard BC 90 Interior Satin Binder



LOW GLOSS FINISH (15 – 25 U @60° angle)

100	Grip-Gard BC Basecoat toner formula
50	Grip-Gard BC 90 Interior Satin Binder/ Grip-Gard BC 91 Interior Matte Binder
*	Mix 90 and 91 Binder 1:1 then mix 100:50 with the color



MATTE GLOSS FINISH (5 – 15 GU @60° angle)

100	Grip-Gard BC Basecoat toner formula
50	Grip-Gard BC 91 Interior Matte Binder

STEP 2: Take above mixture and reduce as follows for Ready-To-Spray

90	Grip-Gard BC Basecoat
10	Grip-Gard BC Clear Hardener or Hardener Slow
50	Grip-Gard BC Reducer

NOTE: As with all paints, when adjusting the gloss level there can be variations in final gloss level depending on the color chosen. When a specific gloss level is required, sprayouts of the color with balanced levels of 90 and 91 binders is recommended prior to the final application.

Technical Data Sheet
Topcoats

GRIP-GARD® BC INTERIOR SIGN APPLICATION

JUNE 2012

FOR PROFESSIONAL USE ONLY

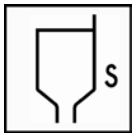
Color mixing by hand:

Own formulated colors: When developing your own color, it is essential that you add Grip-Gard BC Interior Binder 90 or 91into the paint mixture. To do this, mix 2 parts mixed color by weight to 1 part Binder 90 or 91 by weight, **or** use a measuring Stick to mix 2 parts mixed color by volume to 1 part Binder 90 or 91 by volume. Stir thoroughly. Then harden and reduce as described in the mix ratio section. Failure to include the binder into the paint mixture will cause poor product performance.

Mixing Note:

Grip-Gard BC Interior Binder is designed to be used in Grip-Gard BC solid colors for best color accuracy. If used in metallic or pearl colors the color match will be slightly varied depending on the color chosen.

Viscosity



The proper spraying viscosity is achieved by using the recommended mixing ratio.
Grip-Gard BC Basecoat Solid, Metallic and Pearl colors: 13 – 15 sec. DIN Cup #4 at 70°F (20°C).

Spray gun set-up / application pressure

	Spray gun	Fluid tipset-up	Application pressure
High Transfer Gravity	1.3 – 1.5 mm	35 psi	
High Transfer Pressure Feed	1.0 – 1.2 mm	35 psi	10 – 15 psi
HVLP Pressure Feed	0.8 – 1.0 mm	Max 10 psi (air cap)	10 – 15 psi
HVLP Siphon	1.8 – 2.2 mm	Max 10 psi (air cap)	
HVLP Gravity	1.3 – 1.5 mm	Max 10 psi (air cap)	

Pot-life

After Mixing with Hardener and Reducer. - Grip-Gard BC Interior Sign Color: 4 – 6 hours.

Application process

SOLID COLORS: Spray 2 single wet coats; allow approximately 3 – 5 minutes flash-off between each coat

METALLIC COLORS: Spray 2 single coats allowing 3 – 5 minutes between coats. If a third coat for metallic orientation is needed, spray a final coat into the second coat prior to flash off. Increase the gun distance and apply this coat being careful to make the finish even.

TWO-TONE APPLICATION Grip-Gard BC Interior colors can be taped off with fine line masking tape after 45 minutes at 70°F (20°C) and a second color of Grip-Gard BC Interior Sign color can then be applied.

Film thickness

By recommended application;

Grip-Gard BC Basecoat, Solid, Metallic and Pearl: 1.0–1.2 mils per single coat.

Technical Data Sheet
Topcoats

GRIP-GARD® BC INTERIOR SIGN APPLICATION

JUNE 2012

FOR PROFESSIONAL USE ONLY

Recoat time

The interior coating can be recoated with itself at any stage.

Curing time

30 – 45 minutes at 70°F (20°C)

Material usage

Approximate square foot coverage per gallon at 1 dry mil:

Transfer Efficiency	Unmixed Interior Binder	Binder mixed with Color	Ready to Spray
100% (Theoretical)	1490	497	298
65% (HVLP)	965	322	193
35% (Conventional)	520	173	104

Cleaning of equipment

Clean equipment with Cleaning Solvent 790, Cleaning Solvent LV or lacquer thinner.

VOC

Grip-Gard BC 90 Interior Satin Binder (as is):	5.3 lbs/gal (637 g/l)
Grip-Gard BC 91 Interior Matte Binder (as is):	4.8 lbs/gal (575 g/l)
Grip-Gard BC 90 Interior Satin (ready-to-spray):	5.4 – 6.0 lbs/gal (653 – 723 g/l)
Grip-Gard BC 91 Interior Matte (ready-to-spray):	5.3 – 5.9 lbs/gal (639 – 708 g/l)

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE:

Grip-Gard BC Interior Binders: One year if stored unmixed at room temperature.
Grip-Gard BC Basecoat Toners: Four years if stored unmixed at room temperature.
Grip-Gard BC Clear Hardeners: One year if stored unopened at room temperature.
Grip-Gard BC Reducers: Four years if stored unopened at room temperature.

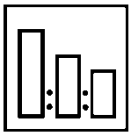
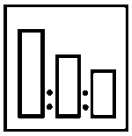
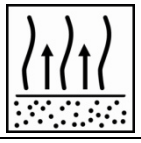
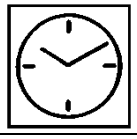
Head Office
Akzo Nobel Coatings Inc.
3785 Parkway Lane, Norcross, GA 30092 USA. 800-618-1010
ON THE WEB AT: www.signfinishes.com

Technical Data Sheet
Topcoats

GRIP-GARD® BC SINGLE STAGE BINDERS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description		
Grip-Gard BC Single Stage Binders are specially blended acrylic resins which converts Grip-Gard Basecoat colors into a fast drying, durable single stage urethane topcoats. With these systems both gloss and satin levels are achievable directly from the can		
	Choose the color required in Mixit. When mixing the chosen Grip-Gard BC color, replace the entire volume of GGBC 10 Binder with Grip-Gard BC 80 or 85 Single Stage Binder. Optional: Mix any toner from the mixing machine 1 to 1 by volume with GGBC 80 or 85 Binder. For HS White use toner #120. For Black use toner #140	
	**SATIN FINISH (20 – 49 GU @60° angle)**	
	100	Grip-Gard BC Basecoat with 85 Single Stage Satin Binder
	50	Grip-Gard BC Clear Hardener or Clear Hardener Slow
	10%	Add 10% Grip-Gard BC Reducer Fast, Med, Slow or X-Slow
Note: For even lower gloss add Grip-Gard Plus B02 Matt Reducer in place of the GGBC Reducer		
	**GLOSS FINISH (>85 GU @60° angle)**	
	100	Grip-Gard BC Basecoat with 80 Single Stage Gloss Binder
	50	Grip-Gard BC Clear Hardener or Clear Hardener Slow
	10%	Add 10% Grip-Gard BC Reducer Fast, Med, Slow or X-Slow
	Use the AKZO NOBEL Measuring Sticks #101or #103	
	Spray gun set-up: Gravity: 1.3 – 1.5 mm Siphon: 1.6 – 1.8 mm	Application pressure: 30–40 psi (2-3 bar) at the air inlet HVLP max 10 psi (0.7 bar) at the air cap
	Application Solid Color	Apply 2 even wet coats or until covered.
	Application Metallic Color	Apply 2 even wet coats followed by an orientation coat.
	Flash between coats	
	5 – 10 minutes at 70°F (20°C)	
	9 hours at 70°F (20°C) With GGBC Clear Hardener 12 hours at 70°F (20°C) With GGBC Clear Hardener Slow 3 hours at 70°F (20°C) with Accelerator 30 minutes at 140°F (60°C)	
	Use suitable respiratory protection Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator	

Technical Data Sheet
Topcoats

GRIP-GARD® BC SINGLE STAGE BINDERS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard BC Single Stage Binders are specially blended acrylic resins which converts Grip-Gard Basecoat colors into a fast drying, durable single stage urethane topcoats. With these systems both gloss and satin levels are achievable directly from the can

Suitable substrates

Grip-Gard BC Single Stage can be applied directly over:

- Grip-Gard Sealer
- Grip-Gard Brite-White HF Primer
- Grip-Gard Epoxy Sealer Gray or White
- Grip-Gard HB Surfacer
- Grip-Gard Washprimer White, Light Enhancing
- Grip-Gard Washprimer 1K CF
- Most existing finishes; degreased and sanded with #P500 to #P600 grit paper dry or #P600 to #P800 grit wet but not over thermoplastic acrylic lacquers. In that case, the entire surface must be sealed with a Surfacer or Sealer.
- Grip-Gard BC Single Stage Satin can be directly applied on top of the following primed surfaces: Aluminum, steel, galvanized steel, rigid plastics and expanded urethane foam when primed with the appropriate Grip-Gard primer system. Consult relevant primer Technical Data Sheet for substrate recommendations.

Products and additives

PRODUCTS:	Grip-Gard BC Basecoat Toners	
	Grip-Gard BC #85 Single Stage Satin Binder:	Item # 483517
	Grip-Gard BC #80 Single Stage Gloss Binder:	Item # 397268
REDUCERS:	Grip-Gard BC Fast Reducer: Temperature range: 60°F–75°F (16°C – 24°C)	Item # 391264
	Grip-Gard BC Medium Reducer: Temperature range: 70°F–85°F (20°C - 30°C)	Item # 391265
	Grip-Gard BC Slow Reducer: Temperature range: 80°F–95°F (27°C–35°C)	Item # 391266
	Grip-Gard BC Extra Slow Reducer: Temperature range: above 95°F (35°C)	Item # 391267
ADDITIVES:	Grip-Gard BC Clear Hardener	Item # 391268
	Grip-Gard BC Clear Hardener Slow	Item # 481146
CLEARCOATS:	Grip-Gard BC Clear	Item # 391270
	Grip-Gard BC Satin Clear	Item # 481048
	Grip-Gard BC Low Gloss Clear	Item # 391271

GRIP-GARD® BC SINGLE STAGE BINDERS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Basic raw materials

- Grip-Gard BC 80 and 85 Single Stage Binders: acrylic resin
- Grip-Gard BC Reducers: special solvent blends
- Grip-Gard BC Clear Hardeners: polyisocyanate resin
- Grip-Gard BC Clearcoats: acrylic resin

Surface preparation

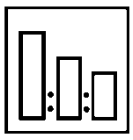
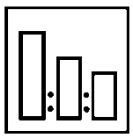
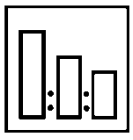
— All products that are to be sanded: you may have to initial sand, but final sanding with #P500 to #P600 grit paper dry or #P600 to #P800 grit wet is recommended.
— Wet-on-wet products: please follow recommendation for product in use by consulting the relevant Technical Data Sheet.

Mixing

Mixing Machine

- Stir Grip-Gard BC Basecoat MM colors on mixing machine every 4 hours for 15 minutes
- Choose the color required in Mixit.
- When mixing the chosen Grip-Gard BC color, replace the entire volume of GGBC 10 Binder with Grip-Gard BC 80 or 85 Single Stage Binder.
- **Optional:** Mix any toner from the mixing machine 1 to 1 by volume with GGBC 80 or 85 Binder. For HS White use toner #120. For Black use toner #140

Stir after mixing
Grip-Gard BC Basecoat MM colors must be stirred thoroughly immediately after mixing the color formula

	**GLOSS FINISH (>85 GU @60° angle)**	
	100	Grip-Gard BC 80 Single Stage Binder
	50	Grip-Gard BC Clear Hardener or Clear Hardener Slow
	10%	Add 10% Grip-Gard BC Reducer Fast, Med, Slow or X-Slow
	**SATIN FINISH (20 – 49 GU @60° angle)**	
	100	Grip-Gard BC 85 Single Stage Satin Binder
	50	Grip-Gard BC Clear Hardener or Clear Hardener Slow
	10%	Add 10% Grip-Gard BC Reducer Fast, Med, Slow or X-Slow
	**MAT FINISH (5 – 19 GU @60° angle)**	
	100	Grip-Gard BC 85 Single Stage Satin Binder
	50	Grip-Gard BC Clear Hardener or Clear Hardener Slow
	10%	Grip-Gard Plus B02 Matte Reducer

Note: Over reduction can cause a loss of gloss and potentially uneven gloss.

GRIP-GARD® BC SINGLE STAGE BINDERS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Color mixing by hand:

Own formulated colors: When developing your own color, it is essential that you add Grip-Gard BC Single Stage Binder into the paint mixture.
To do this, mix 1 part mixed color by weight to 1 part GGBC 80 or 85 Single Stage Binder by weight **Or** use Measuring Stick #104 to mix 1 part mixed color by volume to 1 part GGBC Single Stage Binder by volume. Stir thoroughly.
Then harden and reduce as described in the mix ratio section. Failure to include the binder into the paint mixture will cause poor product performance.

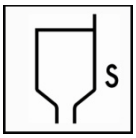
Metallic Mixing Note:

When using Grip-Gard BC Single Stage Binders in metallic or pearl colors, the color match may be slightly varied depending on the color chosen due to a change in metallic orientation. Please test color matches on small panels before final application.

Addition of Grip-Gard BC Clear Accelerator

Grip-Gard BC Clear Accelerator can be added to Grip-Gard BC Single Stage at a level of ½ - 1 ounce per ready-to-spray quart, or 2 - 4 ounces per ready-to-spray gallon

Viscosity



The proper spraying viscosity is achieved by using the recommended mixing ratio.
Grip-Gard BC Single Stage color: 16 – 17 sec. DIN Cup #4, 18 – 22 Zahn cup #2 at 70°F (20°C).

Spray gun set-up / application pressure

	Spray gun	Fluid tip setup	Application pressure
High Transfer Gravity	1.3 – 1.5 mm	35 psi	
High Transfer Pressure Feed	1.0 – 1.2 mm	35 psi	10 – 15 psi
HVLP Pressure Feed	0.8 – 1.0 mm	Max 10 psi (air cap)	10 – 15 psi
HVLP Siphon	1.8 – 2.2 mm	Max 10 psi (air cap)	
HVLP Gravity	1.3 – 1.5 mm	Max 10 psi (air cap)	

Pot-life

- Grip-Gard BC Single Stage: 1.5 hours with BC Clear Hardener
- Grip-Gard BC Single Stage: 4 hours with BC Clear Hardener Slow
- Grip-Gard BC Single Stage with Accelerator: 1 hour

Application process

SOLID COLORS: Spray 2 single wet coats; allow approximately 5 – 10 minutes flash-off between each coat.

METALLIC Spray 2 single coats at approximately 6 – 8 inches from the panel allowing 5–10 minutes flash off between each coat. Even out the metallic pattern with a metallic orientation coat after the final coat

GRIP-GARD® BC SINGLE STAGE BINDERS

JUNE 2012

FOR PROFESSIONAL USE ONLY

COLORS: has flashed off for 1 minute. This is achieved by extending the distance between the gun and panel, and applying a lighter coat. This can be best achieved by using approximately ½ trigger and holding the gun at a 45° angle to the surface being painted. Do not make this coat too wet.

TWO-TONE APPLICATION Grip-Gard BC Single Stage colors can be taped off with fine line masking tape after 9 hours at 70°F (20°C) and a second color of Grip-Gard BC Single Stage can then be applied.

Film thickness

By recommended application; Grip-Gard BC
Single Stage Solid, Metallic and Pearl colors: 1.0–1.2 mils per single coat

Recoat time

Before applying clearcoat, allow Grip-Gard BC Single Stage to dry for:

15 to 20 minutes at 70°F (20°C) for Solid Colors
2 – 3 hours for Metallic Colors

Grip-Gard BC Single Stage can be recoated with itself or with Grip-Gard Clears up to 48 hours without sanding. After 48 hours, sanding will be necessary.

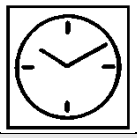
NOTE: Vinyl graphics can be applied after 48 hours at 70°F (20°C). Reflective vinyl graphics require additional time (contact manufacturer for recommendation) before applying to avoid bubbling.

NOTE: Striping or lettering with Grip-Gard BC Single Stage must be applied within 48 hours to obtain good adhesion. After 48 hours, scuff with a gray scuffing pad.

Curing time

Dust Free at 70° F:
30 minutes without Accelerator
20 minutes with Accelerator

Dry to Exposure at 70° F:
9 hours without Accelerator with GGBC Clear Hardener
12 hours without Accelerator and GGBC Clear Hardener Slow
3 hours with Accelerator



Dry to Handle at 140° F:
30 minutes without Accelerator
20 minutes with Accelerator

Material usage

Approximate square foot coverage for high gloss application per gallon at 1 dry mil:

Transfer Efficiency	Unmixed Paint	Ready to Spray
100% (Theoretical)	915	575
65% (HVLP)	595	375
35% (Conventional)	320	200

Cleaning of equipment

Clean equipment with Cleaning Solvent 790, Cleaning Solvent LV or lacquer thinner.

GRIP-GARD® BC SINGLE STAGE BINDERS

JUNE 2012

FOR PROFESSIONAL USE ONLY

VOC

Grip-Gard BC Single Stage: 100:50:10 (Reducer)	4.73 lb/gal. 567 g/liter
Grip-Gard BC Single Stage Satin: 100:50:10 (B02)	4.79 lb/gal. 575 g/liter

Product storage

SHELF LIFE:

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)
Grip-Gard BC 85 Single Stage Satin Binder: Two years if stored unmixed at room temperature
Grip-Gard BC 80 Single Stage Binder: Two years if stored unmixed at room temperature
Grip-Gard BC Basecoat Toners: Four years if stored unmixed at room temperature.
Grip-Gard BC Clear Hardeners: One year if stored unopened at room temperature.
Grip-Gard BC Reducers: Four years if stored unopened at room temperature.

Head Office
AkzoNobel Inc.
3785 Parkway Lane, Norcross, GA 30092
USA 770-662-8464
ON THE WEB AT:
www.signfinishes.com

Technical Data Sheet
Topcoats

GRIP-GARD® BC TRANSLUCENT SYSTEM

JUNE 2012

FOR PROFESSIONAL USE ONLY

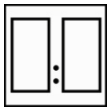
Description

Grip-Gard BC Translucent uses a specially blended binder which converts Grip-Gard BC toners into a fast drying, durable backlit sign coating. With this system, backlit plastic signs can be painted quickly and easily with great results in a vast array of colors.

Remove any existing surface contaminates

Remove static electricity

- In Mixit look up your color then choose GBTR in the product selector.
- **Note:** Further mixing ratios for own colors and opaque color are available on page 3 under Mixing



Reduction Ratio:
100 parts Mixed color (including the GGBC 50 Translucent Binder)
100 parts GGBC Translucent Fast, Medium or Slow Reducer

Spray gun set-up:
Gravity: 1.3 – 1.5 mm
Siphon: 1.6 – 1.8 mm

Application pressure:

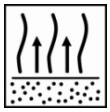
30–40 psi (2-3 bar) at the air inlet

HVLP max 10 psi (0.7 bar) at the air cap

Application

Transparent: Spray 4 – 8 light coats depending on the color and translucency desired.

Opaque: Spray until color level is achieved. Then apply a white backing coat, followed by a black or aluminum block out coat.



Flash between coats

2 - 5 minutes at 70°F (20°C)

Dry to recoat: 10 minutes at 70°F (20°C)
Dry for installation: 24 Hours at 70°F (20°C)

Use suitable respiratory protection.
AkzoNobel Sign Finishes recommends the use of a fresh air supply respirator.

Technical Data Sheet
Topcoats

GRIP-GARD® BC TRANSLUCENT SYSTEM

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard BC Translucent uses a specially blended binder which converts Grip-Gard BC toners into a fast drying, durable backlit sign coating. With this system, backlit plastic signs can be painted quickly and easily with great results in a vast array of colors.

Suitable substrates

Acrylic, impact modified acrylic, ABS, CAB, polycarbonate, styrene, and most rigid and flexible vinyl

NOTE: Some polycarbonates are supplied with a Solar Grade Treatment on one side. Do not apply Grip-Gard BC Translucent or Solar Clear onto the solar treated side of this type of polycarbonate.

Products and additives

PRODUCTS:	Grip-Gard BC Intermix Toners	
	Grip-Gard BC 50 Translucent Binder	483309
1 GL	GGBC Translucent Fast Reducer gallon: A fast reducer suitable for small surface areas and cold climates; use only when temperature is below 70°F (20°C)	483310
5 GL	GGBC Translucent Fast Reducer 5 gallon	483796
53 GL	GGBC Translucent Fast Reducer 53 gallon	483518
1 GL	GGBC Translucent Medium Reducer gallon: A medium temperature reducer suitable for any job size. Temperature range 70°F - 85°F (20°C - 29°C)	483311
5 GL	GGBC Translucent Medium Reducer 5 gallon	483797
53 GL	GGBC Translucent Medium Reducer 53 gallon	483519
1 GL	GGBC Translucent Slow Reducer g: A high temperature slow reducer for any job size and especially large surface areas. Temperature range above 85°F (29°C)	483312
5 GL	GGBC Translucent Slow Reducer	483798
53 GL	GGBC Translucent Slow Reducer	483799
1 GL	Grip-Gard BC Translucent RM 110 White	483943
5 GL	Grip-Gard BC Translucent RM 110 White	483944
1 GL	Grip-Gard BC Translucent RM 120 White	483945
5 GL	Grip-Gard BC Translucent RM 120 White	483946
1 GL	Grip-Gard BC Translucent RM 140 Black	483947
5 GL	Grip-Gard BC Translucent RM 140 Black	483948
1 GL	Grip-Gard BC Translucent RM 160 Black	483949
1 GL	Grip-Gard BC Translucent RM 325 Golden Yellow	483952
1 GL	Grip-Gard BC Translucent RM 326 Lemon Yellow	483953
1 GL	Grip-Gard BC Translucent RM 470 Regal Blue	483954
1 GL	Grip-Gard BC Translucent RM 535 Unique Red	483955
1 GL	Grip-Gard BC Translucent RM 585 Flame Red	483956
1 GL	Grip-Gard BC Translucent RM 595 Bright Scarlet	483957
1 GL	Grip-Gard BC Translucent RM 700 Erin Green	483958

NOTE: USE ONLY GRIP-GARD BC TRANSLUCENT REDUCERS WHEN SPRAYING PLASTIC. DO NOT USE AROMATIC SOLVENTS SUCH AS XYLENE, TOLUENE, T-2001, T-2002 OR LACQUER THINNER. THESE SOLVENTS CAN CAUSE SEVERE DAMAGE TO SOME PLASTICS

GRIP-GARD® BC TRANSLUCENT SYSTEM

JUNE 2012

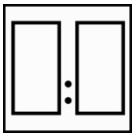
FOR PROFESSIONAL USE ONLY

Basic raw materials

Grip-Gard BC Translucent Intermix: Acrylic resins, solvents and other ingredients.

Mixing

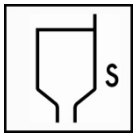
- **In Mixit**; look up your color then choose GBTR in the product selector.
- **To create your "Own Color";** choose GBTR in the product line and add your toners. Mixit will automatically determine the correct amount of Grip-Gard BC 50 Translucent Binder to use.
- **Note:** If you are choosing a Grip-Gard BC formula to convert to a GGBC Translucent color, mix the toner formula but do not add the GGBC 10 Basecoat Binder. Then mix 1 part of the GGBC toners with 3 parts GGBC 50 Translucent Binder.
- **To mix a Black out or to mix an opaque color;** mix toner to binder 50 one to one. Then mix this color 1 to 1 with Grip-Gard Translucent Reducer Fast Medium or Slow.
    - For Jet Black use toner 140
    - For White use toner 120
    - For Aluminum use toner 811B or 811E



– **Note: To increase translucency**, add GGBC 70 Transparency Enhancer to the color portion of the formula. Mixit will adjust the level of GGBC 50 Translucent Binder needed.

Reduction Ratio:
100 parts Mixed color (including the GGBC 50 Translucent Binder)
100 parts GGBC Translucent Fast, Medium or Slow Reducer

Viscosity



18–20 sec. ZAHN cup #2 (13–15 sec. DIN cup #4) at 70°F (20°C)

Spray gun set-up / application pressure

Spray gun	Fluid tip set-up	Application pressure
High Transfer Gravity	1.3 – 1.5 mm	35 psi	
High Transfer Pressure Feed	1.0 – 1.2 mm	35 psi	10 – 15 psi
HVLP Pressure Feed	0.8 – 1.0 mm	Max 10 psi (air cap)	10 – 15 psi
HVLP Siphon	1.8 – 2.2 mm	Max 10 psi (air cap)	
HVLP Gravity	1.3 – 1.5 mm	Max 10 psi (air cap)	

Pot-life

7 Days after mixing

GRIP-GARD® BC TRANSLUCENT SYSTEM

JUNE 2012

FOR PROFESSIONAL USE ONLY

Application process

TRANSPARENT APPLICATION:

- Spray 4 – 8 light coats depending on the color and translucency desired.
- Spray in double light coats first in horizontal then vertical applications. Continue this application until a damp appearance is achieved and then allow flashing. Allow 2 – 5 minutes flash off between coats.
- When spray painting a backlit sign, it is essential that some type of back lighting be utilized. This will allow the spray painter to apply the paint evenly, avoiding a mottled or "blotchy" appearance while obtaining the desired reflected and transmitted color.
- When painting translucent colors on plastic, you will be required to build up the paint film slowly. Use many light coats. If one or two heavy coats are used, undesirable light and dark spots, known as mottling, will appear. Usually 4 – 8 light coats are required. Allow 3 to 5 minutes flash between coats when a wet film is noted. Note: 4 - 8 coats is a guideline. The spray pattern, equipment, viscosity, temperature, and operator experience will play an important role in achieving the desired result.
- **Note**: To increase translucency, add GGBC 70 Transparency Enhancer to the color portion of the formula. Mixit will adjust the level of GGBC 50 Translucent Binder needed. Then use the normal reduction ratio.

OPAQUE APPLICATION:

- Spray until color level is achieved. Then apply a black or aluminum block out coat followed by a white light enhancing coat.

Weathering properties

Grip-Gard BC Translucent Coatings are not recommended for direct exposure to the elements without the protection of a UV clearcoat or in the case of back-lighted signs, a quality solar grade plastic. Failure to use a topcoat when used in first surface applications on clear plastic will result in the degradation of the paint film.

Film thickness

By recommended application;
Grip-Gard BC Translucent 0.2 – 0.3 mils per single coat.

Curing time

At 70° F (20°C):
Recoatable with a second color or back spray white:
MIN: 10 minutes
MAX: 7 Days

At 70° F (20°C):
30 – 45 minutes to tape with fine line or masking tape
30 – 45 minutes to apply Grip-Mask sprayable maskant

At 70° F (20°C):
Dry for installation: 24 Hours

GRIP-GARD® BC TRANSLUCENT SYSTEM

JUNE 2012

FOR PROFESSIONAL USE ONLY

Material usage

Square Foot Coverage at 0.6 dry mils:	Transfer Efficiency	RTS Gallon	Unmixed Gallon
	35%	80 - 85	170 – 175
	65%	160 - 165	320 – 325
	100%	245 - 250	490 - 495

Note: Coverage values vary greatly due to the nature of the translucency of the coating.

Cleaning of equipment

Clean equipment with cleaning solvent or lacquer thinner.

VOC

Grip-Gard BC 50 Translucent Binder	6.1 lb/gal.	732 g/liter
RTS Grip-Gard BC Translucent Coating	6.7 lb/gal.	807 g/liter

Product storage

- Store products open and unopened with closed lids preferably between 70°F-95°F (10°C-35°C)
- Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)
- Minimum storage temperature 40°F (5°C)
- Maximum storage temperature 95°F (35°C)

SHELF LIFE:

- Grip-Gard BC Intermix Toners: 4 years if stored unopened at room temperature.
- Grip-Gard BC 50 Translucent Binder: 2 years if stored unopened at room temperature.
- Grip-Gard BC Translucent Reducers: 2 years if stored unopened at room temperature.

Head Office
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Technical Data Sheet
Topcoats

GRIP-GARD® BC TRANSPARENCY ENHANCER

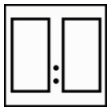
JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard BC Transparency enhancer is a mix recommendation for a ready to spray clear additive to increase the transparency and reduce the potential for mottling of dirty colors such as browns and greens.

- Mix
  - o 1 part GGBC 70 Binder to
  - o 3 parts GGBC 50 Binder



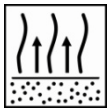
Reduction Ratio:
100 parts Mixed color (including the GGBC 50 Translucent Binder)
100 parts GGBC Translucent Fast, Medium or Slow Reducer

If during the color mixing process it is noticed that the color may be high in hiding and could then be hard to spray mottle free, add the ready to spray mixture to the ready to spray color to increase the transparency.

Application

Transparent: Spray 4 – 8 light coats depending on the color and translucency desired.

Opaque: Spray until color level is achieved. Then apply a white backing coat, followed by a black or aluminum block out coat.



Flash between coats

2 - 5 minutes at 70°F (20°C)

Dry to recoat: 10 minutes at 70°F (20°C)
Dry for installation: 24 Hours at 70°F (20°C)

Use suitable respiratory protection.
AkzoNobel Sign Finishes recommends the use of a fresh air supply respirator.

Technical Data Sheet
Topcoats

GRIP-GARD® BC TRANSPARENCY ENHANCER

JUNE 2012

FOR PROFESSIONAL USE ONLY

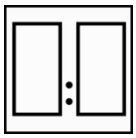
Products and additives		
PRODUCTS:	Grip-Gard BC Intermix Toners	
	Grip-Gard BC 50 Translucent Binder	483309
1 GL	GGBC Translucent Fast Reducer gallon: A fast reducer suitable for small surface areas and cold climates; use only when temperature is below 70°F (20°C)	483310
5 GL	GGBC Translucent Fast Reducer 5 gallon	483796
	GGBC Translucent Fast Reducer 53 gallon	483518
1 GL	GGBC Translucent Medium Reducer gallon: A medium temperature reducer suitable for any job size. Temperature range 70°F - 85°F (20°C - 29°C)	483311
5 GL	GGBC Translucent Medium Reducer 5 gallon	483797
53 GL	GGBC Translucent Medium Reducer 53 gallon	483519
1 GL	GGBC Translucent Slow Reducer g: A high temperature slow reducer for any job size and especially large surface areas. Temperature range above 85°F (29°C)	483312
5 GL	GGBC Translucent Slow Reducer	483798
53 GL	GGBC Translucent Slow Reducer	483799

Basic raw materials

Grip-Gard BC Translucent Intermix: Acrylic resins, solvents and other ingredients.

Mixing

Mix
1 part GGBC 70 Binder to
3 parts GGBC 50 Binder



Reduction Ratio:
100 parts Mixed color (including the GGBC 50 Translucent Binder)
100 parts GGBC Translucent Fast, Medium or Slow Reducer

Pot-life

None

Cleaning of equipment

Clean equipment with cleaning solvent or lacquer thinner.

Product storage

- Store products open and unopened with closed lids preferably between 70°F-95°F (10°C-35°C)
- Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)
- Minimum storage temperature 40°F (5°C)
- Maximum storage temperature 95°F (35°C)

GRIP-GARD® BC TRANSPARENCY ENHANCER

JUNE 2012

FOR PROFESSIONAL USE ONLY

SHELF LIFE:

- Grip-Gard BC Intermix Toners: 4 years if stored unopened at room temperature.
- Grip-Gard BC 50 Translucent Binder: 2 years if stored unopened at room temperature.
- Grip-Gard BC Translucent Reducers: 2 years if stored unopened at room temperature.

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Technical Data Sheet
Topcoats

GRIP-GARD® BC SIGN Touch Up PROCESS

JUNE 2012

FOR PROFESSIONAL USE ONLY

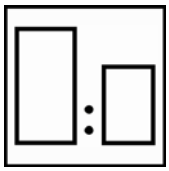
Description
Grip-Gard Basecoat colors can be used as a single component coating that can be applied by brush, spray gun or aerosol to installed signs for field touch up. When used without hardener, it provides unlimited pot life, quick air dry and consistency in gloss and color compared to the original finish. It is intended to be used for minor touch up purposes only as it will not have the durability of the original material mixed with hardener although suitable this application.

- First clean the area with Soap and Water
- Then clean with M600 Wax and grease remover and dry with a clean towel

Existing finish should be sanded or scuffed to eliminate surface roughness in the scratch. Avoid sanding to bare metal when possible.

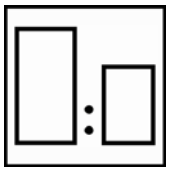
Choose the color required in Mixit.
When mixing the Grip-Gard BC chosen color, do not add the volume of 10 Binder. After mixing the color, add the Grip-Gard BC Binders as described below for the gloss level desired.

STEP 1: Choose the appropriate Grip-Gard BC Interior Binder(s) for desired gloss level



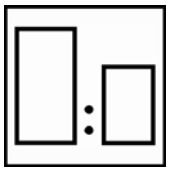
SATIN GLOSS FINISH (25 – 35 GU @60° angle)

100	Grip-Gard BC Basecoat toner formula
50	Grip-Gard BC 90 Interior Satin Binder



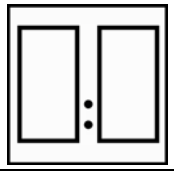
LOW GLOSS FINISH (15 – 25 U @60° angle)

100	Grip-Gard BC Basecoat toner formula
50	Grip-Gard BC 90 Interior Satin Binder/ Grip-Gard BC 91 Interior Matte Binder
*	Mix 90 and 91 Binder 1:1 then mix 100:50 with the color



MATTE GLOSS FINISH (5 – 15 GU @60° angle)

100	Grip-Gard BC Basecoat toner formula
50	Grip-Gard BC 91 Interior Matte Binder



HIGH GLOSS FINISH (< 85 GU @60° angle)

100	Grip-Gard BC Basecoat
100	Grip-Gard BC #80 Single Stage Binder

MIXING: For minor touch up areas in the field, no further mixing or reduction is required

	STEP 2: Choose the appropriate application method
 	Apply Solid Colors with a small brush or a small foam roller as needed to obtain opacity. Use appropriate solvent resistant brush.
 	Apply Metallic colors with a spray gun or an aerosol can as needed to obtain opacity. Brush application with metallic colors will not produce the desired appearance.

NOTE: For Spray applications the addition of any Grip-Gard BC Reducer is recomended. Add reducer until the proper application properties are achieved.

20 – 30 minutes at 70°F (20°C)

Use suitable respiratory protection
Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator

GRIP-GARD® BC SIGN Touch Up PROCESS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard Basecoat colors can be used as a single component coating that can be applied by brush, spray gun or aerosol to installed signs for field touch up. When used without hardener, it provides unlimited pot life, quick air dry and consistency in gloss and color compared to the original finish. It is intended to be used for minor touch up purposes only as it will not have the durability of the original material mixed with hardener although suitable this application.

Suitable substrates

All Grip-Gard primers and surfacers.
Grip-Gard BC coated substrates that have been scratched or damaged in a minor way.

For touch up only

Products and additives

PRODUCTS:	—Grip-Gard BC Basecoat Toners	-	See assortment
	—Grip-Gard BC Indoor Sign Satin Binder #90	-	Item #397616
	—Grip-Gard BC Indoor Sign Matt Binder #91	-	Item #397617
	—Grip-Gard BC Single stage Binder #80	-	Item #397268
REDUCERS:	— Grip-Gard BC Fast Reducer: Temperature range: 60°F–75°F (16°C–24°C).	-	Item #391264
	— Grip-Gard BC Medium Reducer: Temperature range: 70°F–85°F (20°C–30°C).	-	Item #391265
	— Grip-Gard BC Slow Reducer: Temperature range: 80°F–95°F (27°C–35°C).	-	Item #391266
	— Grip-Gard BC Extra Slow Reducer: Temperature range: above 95°F (35°C).	-	Item #391267

Mixing

Mixing Machine
Stir Grip-Gard BC Basecoat MM colors on mixing machine every 4 hours for 15 minutes

Stir after mixing
Grip-Gard BC Basecoat MM colors must be stirred thoroughly after mixing the color formula

Color mixing by hand:

Own formulated colors: When developing your own color, it is essential that you add Grip-Gard BC Binder into the paint mixture.
Failure to include the binder into the paint mixture will cause poor product performance.

Technical Data Sheet
Topcoats

GRIP-GARD® BC SIGN Touch Up PROCESS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Basic raw materials

- Grip-Gard BC 90 and 91 Binder: Vinyl/polyester resins and pigments
- Grip-Gard BC Reducers: special solvent blends.
- Grip-Gard BC Single Stage Converter: Acrylic Resin

Surface preparation

Existing or Old finishes:

- Wash with lanolin free detergent and rinse well with clean water.
- Degrease with M600 Wax & Grease Remover to prevent sanding any contaminants into finish.
- Sand with # P320 - # P400 grit paper dry or # P500 - # 600 grit paper wet.
- Blow off residue with air hose if available.
- Re-apply M600 wax and grease remover. Wipe dry with a clean cloth.

FERROUS METALS AND NON FERROUS METALS:
All bare metals should be primed with a suitable corrosion resistant primer. Following preparation procedures above to remove any rust or contamination before priming. Recommend Akzo Nobel Sign Finishes Autoprep™ Etching Pen CF Item # 398576 or Washprimer 1K CF Aerosol item # 390992 for touch up field application.

Note: Some old alkyd based finishes may lift or wrinkle due to the strong solvent used in GRIP-GARD BC. Test a small area before starting a project. If the old finish is not secure and wrinkles, remove it and start from base metal.

Application process

- Apply 1 coat followed by a second coat after 10-15 minutes flash time. A third coat may be necessary for bright colors where full hiding is not achieved.
- It is not recommended to apply GRIP-GARD BC touch up if the ambient temperature is below 50°F. Application below 50 °F may cause excessive dry times and paint failure.
- GRIP-GARD BC colors have excellent hiding and should cover with minimal coats. Bright colors may require more coats to achieve sufficient hiding power for brushing and rolling application

METALLIC COLORS: Brushing and or rolling of metallic colors can affect the color compared to the original spray application.

Curing time

20 – 30 minutes at 70°F (20°C)

Pot-life

After Mixing - 12 months

Film thickness

By recommended application;
Grip-Gard BC Basecoat, Solid, Metallic and Pearl: 1.0–1.2 mils per single coat.

Cleaning of equipment

Clean equipment with Cleaning Solvent 790, Cleaning Solvent LV or lacquer thinner.

GRIP-GARD® BC SIGN Touch Up PROCESS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE:

Grip-Gard BC Interior Binders:	One year if stored unmixed at room temperature.
Grip-Gard BC Basecoat Toners:	Four years if stored unmixed at room temperature.
Grip-Gard BC Single Stage Binder:	Two years if stored unopened at room temperature.
Grip-Gard BC Reducers:	Four years if stored unopened at room temperature.

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Technical Data Sheet
Topcoats

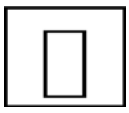
GRIP-GARD® BC BASECOAT CHROME

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard BC Basecoat Chrome is designed specifically to meet the color, application and quality demands of the Sign and Exhibit Manufacturer. Grip-Gard BC Basecoat Chrome is ideal for fast production giving a final appearance on second surface application of a true chrome look.



100 Grip-Gard BC Basecoat Chrome

Ready to Spray. No reduction required.

Stir or shake material thoroughly prior to filling spray equipment. Shaking or stirring may be required if the material is left in the spray equipment for an extended period.

Spray gun set-up:
1.1-1.2 mm

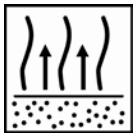
Application pressure:
30–40 psi (2-3 bar) at the air inlet

HVLP max 10 psi (0.7 bar) at the air cap

Application

Apply 2 – 4 even light coats until the desired opacity is achieved.

Make sure to apply all needed coats during one session. Leaving the material and returning later to add additional coats can cause poor chrome appearance.



Between coats

1-2 minutes at 70°F (20°C)

Back spray application

- After 15 – 20 minutes at 70°F (20°C), apply transparent GG BC Flex colors as desired for illumination.
- If a clear backing is preferred, apply 1 – 2 single coats of Sikkens Autowave 666. Autowave 666 will go on with a white appearance. It will become completely transparent as drying occurs.
- Do not apply the back spray material extremely wet as this could “float” the chrome on the surface and lessen the chrome appearance.

Use suitable respiratory protection

Akzo Nobel Sign Finishes recommends the use of a fresh air supply respirator

Technical Data Sheet
Topcoats

GRIP-GARD® BC BASECOAT CHROME

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard BC Basecoat Chrome is designed specifically to meet the color, application and quality demands of the Sign and Exhibit Manufacturer. Grip-Gard BC Basecoat Chrome is ideal for fast production giving a final appearance on second surface application of a true chrome look.

Suitable substrates

Acrylic, impact modified acrylic, polycarbonate

NOTE: Some polycarbonates are supplied with a Solar Grade Treatment on one side. Do not apply Grip-Gard Chrome or any other coating to the solar treated side of this type of polycarbonate.

NOTE: Please refer to the manufacturers UV ratings of the plastic when using in normal second surface backlit situations.

Products and additives

- Grip-Gard Basecoat Chrome RTS
- GG BC Flex Colors
- Sikkens Autowave 666 RTS

Basic raw materials

Grip-Gard Basecoat Chrome: Physical drying binders and alcohols

Surface preparation

Clean the surface to be sprayed with a 1 to 1 mixture of T-4000 cleaner and Distilled water. Make certain all water spots are removed. Follow this cleaning by wiping with clean and clear water using soft clean cloth or paper towels. Dry the panel completely with the same type of towel. Akzo Nobel Premium Wipes work very well for this cleaning.

Blow all lint or dust from the panels prior to the application of chrome.

NOTE: Due to the extremely high reflectance of a chrome coating, it is very important to have a perfectly clean surface. Any dust, debris, water spots or wipe marks will be reflected in the finished surface.

Mixing

Mixing
Stir Grip-Gard Basecoat Chrome prior to pouring into the spray equipment

Stir after mixing
If the material is allowed to sit for an extended period such as overnight, stirring is required to ensure proper mixing of the materials. When a gravity feed gun is used, do not allow the material to sit for extended periods as the paint pigment can settle in the gun neck making it difficult to re-incorporate.

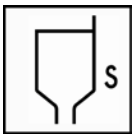
Technical Data Sheet
Topcoats

GRIP-GARD® BC BASECOAT CHROME

JUNE 2012

FOR PROFESSIONAL USE ONLY

Viscosity



Water thin.

Spray gun set-up / application pressure

Spray gun	Fluid tip – set-up	Application pressure
Gravity	1.1-1.3 mm	30–40 psi (2-3 bar) at the spray gun air inlet
Suction	1.2-1.4 mm	30–40 psi (2-3 bar) at the spray gun air inlet
		HVLP max 10 psi (0.7 bar) at the air cap

Pot-life

12 Months when stored in a closed can at 70°F (20°C)

Application process

Chrome color:
During the painting process of chrome to a backlit sign, it is essential that some type of back lighting be utilized. This will allow the painter to apply the paint evenly, obtaining the desired reflected and transmitted color.
When painting the chrome on plastic, it is best to build up the paint film slowly. Use light coats. If one or two heavy coats are used, undesirable light and dark spots, known as mottling, will appear. The spray pattern, equipment, viscosity, temperature, and operator experience will play an important role in achieving the desired result.

Note: Make sure to apply all needed coats during one session. Leaving the material and returning later to add additional coats can cause poor chrome appearance.

Humidity: Do not apply GG BC Chrome in high humidity conditions. Application in high humidity will cause a lowering of the brightness due to blushing. Adhesion issues may also occur.

- Apply two to four single light coats until the desired opacity has been reached. Please make certain the coats are evenly applied to prevent mottling or striping of the chrome effect.
- Allow for a 1 - 2 minutes flash off time at 70°F (20°C).
- Allow for a minimum of 15 - 20 minutes final flash off time at 70°F (20°C) before back spray application.

Colored back spray
- Prepare GG BC Flex color as desired for the coverage.
- Apply single coats until the desired opacity has been achieved.
- **Do not** apply the back spray coating extremely wet as a diminished chrome affect can occur.

Clear back spray:
- Sikkens Autowave 666 ready to spray
- Apply one to two coats allowing the material to flash dry until the milky appearance goes away between coats
- **Do not** apply the clear coating extremely wet as a diminished chrome affect can occur.

TAPING: If taping the chrome to apply a second color is needed. It is mandatory that the chrome color be back sprayed prior to taping with either clear Autowave 666 or white Grip-Flex. Allow either of these materials to dry thoroughly before taping. Adhesives from the tape can show if this is not done.

GRIP-GARD® BC BASECOAT CHROME

JUNE 2012

FOR PROFESSIONAL USE ONLY

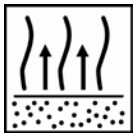
Chrome Appearance

- It is not necessary to apply GripGard BC Chrome to full opacity to achieve a chrome appearance.
- GripGard BC Chrome is a reflective coating. In order to maintain the chrome appearance at night, minimal lighting from the front of the sign is needed. If the chrome is applied in a transparent application and back lit with no light on the face, the affect at night may be a grey or silver.
- If a complete opaque finish is desired, GG BC Flex color may be applied as a back spray until full coverage is obtained. When this application is used, allow full flash off between layers to ensure the chrome appearance is maintained.

Film thickness by recommended application

Grip Gard Basecoat Chrome Solid Colors	0.1-0.2 mils (2.5-5 microns)

Recoat time



Grip-Gard Basecoat Chrome: 15 – 20 minutes at 70°F (20°C)

Maximum Recoat Time

- **With itself 20 minutes**
- **With Back spray material 24 hours**

Theoretical Material usage

17.1 sq/ft per liter. This can vary dramatically based on the opacity required per application.

Cleaning of equipment

Clean equipment with Cleaning Solvent 790, Cleaning Solvent LV or lacquer thinner.

VOC

6.01lb/gal. (722 g/l) RTS mixture

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

GRIP-GARD® BC BASECOAT CHROME

JUNE 2012

FOR PROFESSIONAL USE ONLY

FOR PROFESSIONAL USE ONLY

IMPORTANT NOTE: The information in this data sheet is not intended to be exhaustive and is based on the present state of our knowledge and on current laws: any person using the product for any purpose other than that specifically recommended in the technical data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. Always read the Material Data Sheet and the Technical Data Sheet for this product if available. All advice we give or any statement made about the product by us (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing otherwise, we do not accept any liability whatsoever for the performance of the product or for any loss or damage arising out of the use of the product. All products supplied and technical advices given are subject to our standard terms and conditions of sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is subject to modification from time to time in the light of experience and our policy of continuous development. It is the user's responsibility to verify that this data sheet is current prior to using the product.

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Technical Data Sheet
Topcoats

GRIP-GARD® BC SINGLE STAGE TEXTURE APPLICATION WITH PROPYLTEX WAXES

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard Basecoat Single Stage can be modified with PROPYLTEX waxes (Micro Powders, Inc.) to obtain a texture finish or a suede appearance. The three grades currently recommended are PROPYLTEX 20 (840 micron particle size) and PROPYLTEX 50 (300 micron particle size) and PROPYLTEX 100S (149 micron particle size). PROPYLTEX 20 is the coarsest of the three waxes. The PROPYLTEX wax can be stirred in with a mixing blade.

Please contact TH Hilson Company at 1.800.665.3087 to get further information or to place an order.

ADDING PROPYLTEX:

TEXTURE BLENDING RATIO FOR GRIP-GARD BC SINGLE STAGE WITH PROPYLTEX 20 & 50:

Amount to be entered in the MIXIT 2000 formula Amount Box	Amount of PROPYLTEX 20 or 50 to weigh and stir into GGBC SS	Amount of GGBC SS obtained before adding Hardener and Reducer
0.80	100 grams	1 quart
1.60	200 grams	2 quarts
2.40	300 grams	3 quarts
3.20	400 grams	1 gallon

SUEDE TEXTURE BLENDING RATIO FOR GG BC SINGLE STAGE WITH PROPYLTEX 100S:

Amount to be entered in the MIXIT 2000 formula Amount Box	Amount of PROPYLTEX 100S to weigh and stir into GGBC SS	Amount of GGBC SS obtained before adding Hardener and Reducer
0.75	150 grams	1 quart
1.50	300 grams	2 quarts
2.25	450 grams	3 quarts
3.0	600 grams	1 gallon

Stir thoroughly with mixing blade

Use suitable respiratory protection

Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator. Wear an approved respirator for organic solvents and dust particulates

TDS:

For further application data, please refer to the normal Grip-Gard Basecoat Single Stage TDS Sheets.

Technical Data Sheet
Topcoats

GRIP-GARD® BC SINGLE STAGE TEXTURE APPLICATION WITH PROPYLTEX WAXES

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Please contact TH Hilson Company at 1.800.665.3087 to get further information or to place an order.

NOTES:

- Wear approved protective respirator when adding PROPYLTEX wax to Grip-Gard Basecoat Single Stage.
- The Red Devil® company makes available low cost effective mixing blades. See website

http://www.reddevil.com/index.php?main_page=product_info&cPath=144_234_236&products_id=1169 for mixing blades and availability.

- Do not strain Grip-Gard Basecoat Single Stage after adding the PROPYLTEX wax. If a PPS system is being used make sure the filter is removed from the cup.
- See appropriate TDS for mixing instruction with Hardener and selected Reducers.
- The number of coats applied will ultimately determine the Texture appearance.

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Technical Data Sheet
Topcoats

GRIP-GARD® BC Single Stage Stucco Process Using PROPYTEX Powder

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard Basecoat Single Stage can be modified with PROPYLTEX wax (Micro Powders, Inc.) to obtain a Stucco Finish. The grade currently recommended is PROPYLTEX 20 (840 micron particle size) The PROPYLTEX wax can be stirred in with a mixing blade.

Please contact TH Hilson Company at 1.800.665.3087 to get further information or to place an order.

Choose the color required in Mixit.
When mixing the chosen Grip-Gard BC color, replace the entire volume of GGBC 10 Binder with Grip-Gard BC 80 Single Stage Converter.

FIRST; Mix the desired Color and apply 2 coats

100	Grip-Gard BC Basecoat with 80 Converter
50	Grip-Gard BC Clear Hardener
10	Grip-Gard BC Reducer

Spray gun set-up:
Gravity: 1.3 – 1.5 mm
Siphon: 1.6 – 1.8 mm

Application pressure:
30–40 psi (2-3 bar) at the air inlet
HVLP max 10 psi (0.7 bar) at the air cap

Application Solid Color

Apply 2 even wet coats or until covered.

Flash before Stucco Application

5 – 10 minutes at 70°F (20°C)

Add Propyltex powder by weight to the <u>Ready To Spray</u> remaining paint

1 QT	RTS Paint from application
400 – 600 grams	PROPYLTEX 20 (840 micron particle size)

Thoroughly mix the material using a mixing blade and air drill.

●The Red Devil® company makes available low cost effective mixing blades. See website

http://www.reddevil.com/index.php?main_page=product_info&cPath=144_234_236&products_id=1169
for mixing blades and availability.

GRIP-GARD® BC Single Stage Stucco Process Using PROPYTEX Powder

JUNE 2012

FOR PROFESSIONAL USE ONLY

Spray gun set-up:
Stucco finish Hopper Gun

Application pressure:
Adjust Pressure for desired affect

Application

Apply 1 – 2 even wet coats or until desired finish is achieved

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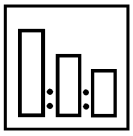
Flash before Clearcoat

5 – 10 minutes at 70°F (20°C)



Mix Grip-Gard Basecoat Clear	
3	Grip-Gard BC Basecoat Clear
1	Grip-Gard BC Clear Hardener
1	Grip-Gard BC Reducer

Spray gun set-up:
Gravity: 1.3 – 1.5 mm
Siphon: 1.6 – 1.8 mm

Application pressure:
30–40 psi (2-3 bar) at the air inlet

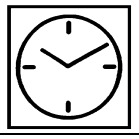
HVLP max 10 psi (0.7 bar) at the air cap

Application Clearcoat

Apply 2 even wet coats

Flash between coats

1 – 3 minutes at 70°F (20°C)



9 hours at 70°F (20°C)
3 hours at 70°F (20°C) with Accelerator
30 minutes at 140°F (60°C)

Use suitable respiratory protection

Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator

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Technical Data Sheet
Topcoats

GRIP-GARD® BC Single Stage Stucco Process Using PROPYTEX Powder

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Technical Data Sheet
Topcoats

GRIP-GARD® BC CLEARCOATS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard BC Clearcoats are designed to protect and enhance the appearance of Grip-Gard BC Basecoats. With extremely fast dry times, excellent durability, and a full range of gloss levels, Grip-Gard BC Clearcoats are ideal for the Sign and Exhibit Manufacturer.

3 Grip Gard BC Clear, Satin Clear or Low Gloss Clear
1 Grip-Gard BC Clear Hardener Slow or BC Clear Hardener
1 Grip-Gard BC Reducer

Use the Measuring Stick #106 (Purple)

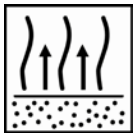
Spray gun set-up:
Gravity: 1.3 – 1.5 mm
Siphon: 1.6 – 1.8 mm

Application pressure:
30–40 psi (2-3 bar) at the air inlet

HVLP max 10 psi (0.7 bar) at the air cap

Application

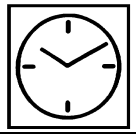
Apply 2 – 3 even coats



Flash between coats

1-2 minutes at 70°F (20°C)

Flash off time if required should be kept as short as possible for enhanced flow out



2 – 3 Hours at 70°F (20°C) Clear Hardener
8 Hours at 70°F (20°C) Clear Hardener Slow
1 – 2 Hours at 70°F (20°C) with GGBC Clear Accelerator

Use suitable respiratory protection
Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator

Technical Data Sheet
Topcoats

GRIP-GARD® BC CLEARCOATS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard BC Clearcoats are designed to protect and enhance the appearance of Grip-Gard BC Basecoats. With extremely fast dry times, excellent durability, and a full range of gloss levels, Grip-Gard BC Clearcoats are ideal for the Sign and Exhibit Manufacturer.

Suitable substrates

- Grip-Gard BC Solid, Metallic and Pearl Basecoats. The maximum time Grip-Gard BC Basecoat may be left before Grip-Gard BC Clear is applied is 2 days.
- Grip-Gard BC Single Stage after 15 – 20 minutes for solid colors or 3 hours for metallic

Note: As stated in Grip-Gard BC Basecoat TDS, it is always recommended that Grip-Gard BC Clear Hardener is added to Grip-Gard BC Basecoat. However, if the hardener is omitted from the basecoat, the maximum time allowed to apply Grip-Gard BC Clear is 5 hours.

Products and additives

PRODUCTS:	— Grip-Gard BC Clear (High Gloss):	Item #391270
	— Grip-Gard BC Satin Clear	Item #48104
	— Grip-Gard BC Low Gloss Clear	Item #391271
REDUCERS:	— Grip-Gard BC Fast Reducer: Temperature range: 60°F–75°F (16°C – 24°C).	Item #391264
	— Grip-Gard BC Medium Reducer: Temperature range: 70°F–85°F (20°C - 30°C).	Item # 391265
	— Grip-Gard BC Slow Reducer: Temperature range: 80°F–95°F (27°C–35°C)	Item # 391266
	— Grip-Gard BC Extra Slow Reducer: Temperature range: above 95°F (35°C).	Item # 391267
ADDITIVES:	— Grip-Gard BC Clear Accelerator: A catalyst providing faster cure of the clearcoat	Item #391273
Hardener:	— Grip-Gard BC Clear Hardener:	Item #391268
	— Grip-Gard BC Clear Hardener Slow:	Item #481146

Basic raw materials

- Grip-Gard BC Basecoat: physical drying binders.
- Grip-Gard BC Reducers: special solvent blends.
- Grip-Gard BC Clear Hardeners: polyisocyanate resin.
- Grip-Gard BC Clearcoats: acrylic resin

Technical Data Sheet
Topcoats

GRIP-GARD® BC CLEARCOATS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Mixing

3 parts by volume Grip-Gard BC Clear Satin Clear or Low Gloss Clear
1 part Grip-Gard BC Clear Hardener or Clear Hardener Slow
1 part Grip-Gard BC Reducer
Use Mixing Stick #106

Stir after mixing
Grip-Gard BC Clear must be stirred thoroughly directly after mixing the components

ACCELERATOR MIXING RATIO:

Grip-Gard BC Clear Accelerator can be added to Grip-Gard BC Clear or Grip-Gard BC Low Gloss Clear at a level of ½ - 1 ounce per ready-to-spray quart, or 2 – 4 ounces per ready-to-spray gallon

GLOSS BLENDS:

Any gloss level can be achieved by using the appropriate blend of Grip-Gard BC Clear and Grip-Gard BC Low Gloss Clear. Then mix blend at 3:1:1 as stated above

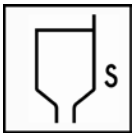
Recommended Mix Ratios for Gloss Levels (by Volume)

Gloss Level at 60º Angle	GGBC Clear	GGBC Low Gloss Clear
High Gloss (85 +)	100	0
Semi Gloss (50-84)	40	60
Satin Gloss (20-49)	25	75
Low Gloss (10-19)	10	90
Flat Gloss (< 10)	0	100

Satin Clear

The pre-mixed Satin clear is equivalent to the satin ratio above in gloss

Viscosity



The proper spraying viscosity is achieved by using the recommended mixing ratio.
Grip-Gard BC Clear 17 - 24 sec. EZ Zahn Cup #2 at 70°F (20°C).

Spray gun set-up / application pressure

	Spray gun	Fluid tipset-up	Application pressure
High Transfer Gravity	1.3 – 1.5 mm	35 psi	
High Transfer Pressure Feed	1.0 – 1.2 mm	35 psi	10 – 15 psi
HVLP Pressure Feed	0.8 – 1.0 mm	Max 10 psi (air cap)	10 – 15 psi
HVLP Siphon	1.8 – 2.2 mm	Max 10 psi (air cap)	
HVLP Gravity	1.3 – 1.5 mm	Max 10 psi (air cap)	

GRIP-GARD® BC CLEARCOATS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Pot-life

- Grip-Gard BC Clear: 3 – 4 hours 70°F (20°C)
- Grip-Gard BC Clear: 3 – 4 hours 70°F (20°C) Clear Hardener Slow
- Grip-Gard BC Clear with Accelerator: 1hour 70°F (20°C)

Application process

Spray 2 wet coats with little or no flash off. For small objects, allow 1-2 minutes between coats

Film thickness

By recommended application;

Grip-Gard BC Clear	1.0 –1.2 mils per single coat.

Recoat time

Grip-Gard BC Clears can be recoated with themselves up to 48 hours without sanding. After 48 hours, sanding will be necessary.

NOTE: Vinyl graphics can be applied after 48 hours at 70^{O}F (20^{O}C). Reflective vinyl graphics require additional time (contact manufacturer for recommendation) before applying to avoid bubbling.

NOTE: Striping or lettering with Grip-Gard BC Clear must be applied within 48 hours to obtain good adhesion. After 48 hours, scuff with a gray scuffing pad.

Curing time

Dust Free at 70° F:
30 – 50 Minutes Without Accelerator
15 – 25 Minutes With Accelerator

Dry to Handle at 70° F:
2 – 3 Hours Without Accelerator Clear Hardener
8 Hours Without Accelerator Clear Hardener Slow
1 – 2 Hours With Accelerator

Material usage

Approximate square foot coverage per gallon at 1 dry mil:

Transfer Efficiency	Gloss Clear RTS	Low Gloss Clear RTS
100% (Theoretical)	475	510
65% (HVLP)	310	330
35% (Conventional)	166	177

GRIP-GARD® BC CLEARCOATS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Cleaning of equipment

Clean equipment with Cleaning Solvent 790, Cleaning Solvent LV or lacquer thinner.

VOC

Grip-Gard BC Clear (RTS):	Grip-Gard BC Clear (RTS):	4.58 lb/gal. 550 g/liter
	Grip-Gard BC Low Gloss Clear (RTS):	4.85 lb/gal. 582 g/liter

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE:

Grip-Gard BC Clearcoats: Two years if stored unopened at room temperature.
Grip-Gard BC Clear Hardeners: One year if stored unopened at room temperature.
Grip-Gard BC Reducers: Four years if stored unopened at room temperature.

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Technical Data Sheet
Topcoats

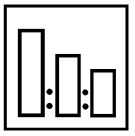
GRIP-GARD® PLUS 2.8 POLYURETHANE CLEARCOATS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard Plus Clearcoats are high solids, two-component, polyurethane clears, designed to enhance the longevity of Grip-Gard Plus solid and metallic topcoats. Grip-Gard Plus Clears can also be used directly over Grip-Gard Basecoat. The use of Grip-Gard Plus Clearcoats can extend the lifetime of the topcoat for up to 3-5 additional years and is particularly useful over metallic finishes where low gloss finishes are needed with minimal effect on the color.



100	Grip Gard Plus Clear, Satin Clear or Low Gloss Clear
50	Grip-Gard Plus 2.8 Hardener
25	Grip-Gard Plus 2.8 Reducer

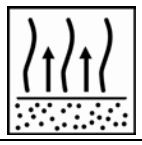
Use the Measuring Stick #101 (Black)

Spray gun set-up:
Gravity: 1.3 – 1.5 mm
Siphon: 1.6 – 1.8 mm

Application pressure:
30–40 psi (2-3 bar) at the air inlet
HVLP max 10 psi (0.7 bar) at the air cap

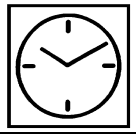
Application

Apply 2 medium wet coats



Flash between coats

2 – 3 minutes at 70°F (20°C)



24 hrs. at 70° F (20° C)
1.5 hrs. at 100° F (38°C)
30 min. at 140° F (60° C)
Accelerated: 1.5-2.5 hrs. at 70° F (20°C)

Use suitable respiratory protection
Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator

GRIP-GARD® PLUS 2.8 POLYURETHANE CLEARCOATS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard Plus Clearcoats are high solids, two-component, polyurethane clears, designed to enhance the longevity of Grip-Gard Plus solid and metallic topcoats. Grip-Gard Plus Clears can also be used directly over Grip-Gard Basecoat. The use of Grip-Gard Plus Clearcoats can extend the lifetime of the topcoat for up to 3-5 additional years and is particularly useful over metallic finishes where low gloss finishes are needed with minimal effect on the color.

Suitable substrates

- Grip-Gard Plus Clearcoats can be applied over Grip-Gard Plus solid topcoats wet-on-wet and up to 24 hours without sanding.
- Grip-Gard Plus Clearcoats can be applied over Grip-Gard Plus Metallic topcoats after 8 hours and up to 24 hours without sanding.
- After 24 hours the surface should be sanded with #P320 to #P400 grit paper dry or #P500 to #P600 grit wet.
- Grip-Gard BC Base coat after 15 – 20 minutes
- Properly prepared existing finishes

Products and additives

PRODUCTS:

CLEARS:	Grip-Gard Plus Gloss Clear	Item # 395707
	Grip-Gard Plus Satin Clear	Item # 398877
	Grip-Gard Plus Low Gloss Clear	Item # 390466
HARDENER:	Grip-Gard Plus 2.8 Hardener	Item # 390471

REDUCERS:

Grip-Gard Plus 2.8 Reducer: A standard reducer for most climate temperatures	Item # 398319
Grip-Gard Plus 2.8 Accelerator Reducer: A standard reducer with catalyst for faster cure times	Item # 398304
Grip-Gard Plus 2.8 Retarder: A slow reducer for use in warmer temperatures	Item # 395705
Grip-Gard Plus Exempt Reducer: A standard reducer with VOC exempt solvents	Item # 395709

ADDITIVES:

SuperTop Plus: An accelerator to speed cure time with minimal impact on pot life	Item #395714
Grip-Gard Plus 1K Touch Up Additive	Item # 390948

Basic raw materials

Grip-Gard Plus Clearcoats:	Acrylic resins, solvents
Grip-Gard Plus 2.8 Hardener:	Polyisocyanate resins
Grip-Gard Plus 2.8 Reducers:	Solvents
Grip-Gard Plus 2.8 Accelerators:	Solvents containing a catalyst

GRIP-GARD® PLUS 2.8 POLYURETHANE CLEARCOATS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Mixing

100 parts by volume Grip-Gard Plus Clear or Low Gloss Clear
50 parts Grip-Gard Plus Hardener
25 parts Grip-Gard Plus Reducer
Use Mixing Stick #101 (Black)

Stir after mixing
Grip-Gard Plus Clear must be stirred thoroughly directly after mixing the components

ACCELERATOR MIXING RATIO:

Supertop Plus Accelerator can be added to Grip-Gard Plus Clear or Grip-Gard Plus Low Gloss Clear at a level of ½ to1 ounce per ready-to-spray quart, or 2 - 4 ounces per ready-to-spray gallon. Accelerator is not recommended above 80° F.

MIXING NOTE:

For additional viscosity reduction while maintaining the required VOC, Grip-Gard Plus Exempt Reducer may be added. In VOC restricted areas, it is required that compliant products be used

MIXING NOTE 2:

In non-VOC restricted areas additional Grip-Gard Plus Reducer, Retarder or Accelerator Reducer can be added for additional viscosity reduction.

GLOSS BLENDS:

Any gloss level can be achieved by using the appropriate blend of Grip-Gard Plus Clear and Grip-Gard Plus Low Gloss Clear. Then mix blend at 100:50:25 as stated above

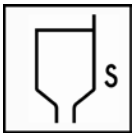
Recommended Mix Ratios for Gloss Levels (by Volume)

%Gloss Range @60° angle	Gloss Clear	Low Gloss Clear
High (90+)	100	0
High / Semi (60-80)	30	70
Semi / Satin (40-59)	20	80
Satin / Low (20-39)	10	90
Low / Matte - (0-19)	0	100

NOTE:

Gloss range may vary according to the amount of film build of clearcoat and cure time of topcoat before applying clear.

Viscosity



The proper viscosity achieved using the recommended mixing ratio.
Grip-Gard Plus Clear 17 - 24 sec. EZ Zahn Cup #2 at 70°F (20°C).

GRIP-GARD® PLUS 2.8 POLYURETHANE CLEARCOATS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Spray gun set-up / application pressure

	Spray gun	Fluid tipset-up	Application pressure
High Transfer Gravity	1.3 – 1.5 mm	35 psi	
High Transfer Pressure Feed	1.0 – 1.2 mm	35 psi	10 – 15 psi
HVLP Pressure Feed	0.8 – 1.0 mm	Max 10 psi (air cap)	10 – 15 psi
HVLP Siphon	1.8 – 2.2 mm	Max 10 psi (air cap)	
HVLP Gravity	1.3 – 1.5 mm	Max 10 psi (air cap)	

Pot-life

Mixture with Grip-Gard Plus 2.8 Hardener & Reducers:	1.5 - 2 hours at 70°F (20°C)
Mixture with Accelerator Reducer or SuperTop Plus:	1.5 hours at 70°F (20°C)

Application process

SPRAY: Spray 2 medium wet coats with 2 – 3 minutes flash off between coats.

TOUCH UP: Grip-Gard Plus 1K Touch up additive can be used with Grip-Gard Plus topcoats to touch up small areas or cover scratches in the field. See 1K Touch up additive TDS

Film thickness

By recommended application;

Grip-Gard Plus Clear 1.0 –1.2 mils per single coat.

Recoatability

Grip-Gard Plus Clear can be recoated with itself up to 48 hours without sanding. After 48 hours, sanding will be necessary.

NOTE: Vinyl graphics can be applied after 48 hours at 70^{O}F (20^{O}C). Or after 24 hours when Supertop Plus has been added. Reflective vinyl graphics require additional time (contact manufacturer for recommendation) before applying to avoid bubbling.

NOTE: Striping or lettering with Grip-Gard Plus Clear must be applied within 24 hours to obtain good adhesion. After 24 hours, scuff with a gray scuffing pad.

Technical Data Sheet
Topcoats

GRIP-GARD® PLUS 2.8 POLYURETHANE CLEARCOATS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Curing time

Curing at 70° F:
Dust Free: 50 Minutes Without Accelerator
Dry to Exposure: 24 Hours

Curing at 70° F With Accelerator:
Dust Free: 30 – 45 Minutes
Dry to Exposure: 1.5 – 2.5 Hours

Curing at 100° F:
Dust Free: 30 Minutes
Dry to Exposure: 1.5 Hours

Curing at 140° F:
Dust Free: 15 Minutes
Dry to Exposure: 30 Minutes

Note: Adding retarder or slower reducers can extend dust free time in cooler temperatures

Material usage

Approximate square foot coverage per gallon at 1 dry mil:

Transfer Efficiency	Gloss Clear RTS	Low Gloss Clear RTS
100% (Theoretical)	844	788
65% (HVLP)	548	512
35% (Conventional)	295	276

NOTE: >2.0 mils dry film thickness is recommended for warranty purposes.

Cleaning of equipment

Clean equipment with Cleaning Solvent LV Item# 391000

VOC

Grip-Gard Plus Clear — Grip-Gard Plus Clear (RTS per this TDS): >2.8 lb/gal. >340 g/liter

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE:
Grip-Gard P Clearcoats: Two years if stored unopened at room temperature.
Grip-Gard Plus 2.8 Hardener: One year if stored unopened at room temperature.
Grip-Gard Plus 2.8 Reducers: Two years if stored unopened at room temperature.

Head Office
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Technical Data Sheet
Topcoats

GRIP-GARD® PLUS 3.5 POLYURETHANE CLEARCOATS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard Plus Clearcoats are high solids, two-component, polyurethane clears, designed to enhance the longevity of Grip-Gard Plus solid and metallic topcoats. Grip-Gard Plus Clears can also be used directly over Grip-Gard Basecoat. The use of Grip-Gard Plus Clearcoats can extend the lifetime of the topcoat for up to 3-5 additional years and is particularly useful over metallic finishes where low gloss finishes are needed with minimal effect on the color.

100 Grip Gard Plus Clear, Satin Clear or Low Gloss Clear
50 Grip-Gard Plus Hardener
25 Grip-Gard Plus Reducer

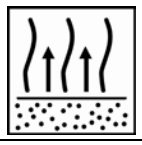
Use the Measuring Stick #101 (Black)

Spray gun set-up:
Gravity: 1.3 – 1.5 mm
Siphon: 1.6 – 1.8 mm

Application pressure:
30–40 psi (2-3 bar) at the air inlet
HVLP max 10 psi (0.7 bar) at the air cap

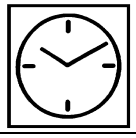
Application

Apply 2 medium wet coats



Flash between coats

2 – 3 minutes at 70°F (20°C)



24 hrs. at 70°F (20°C)
1.5 hrs. at 100°F (38°C)
30 min. at 140°F (60°C)
Accelerated: 1.5-2.5 hrs. at 70°F (20°C)

Use suitable respiratory protection
Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator

Technical Data Sheet
Topcoats

GRIP-GARD® PLUS 3.5 POLYURETHANE CLEARCOATS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard Plus Clearcoats are high solids, two-component, polyurethane clears, designed to enhance the longevity of Grip-Gard Plus solid and metallic topcoats. Grip-Gard Plus Clears can also be used directly over Grip-Gard Basecoat. The use of Grip-Gard Plus Clearcoats can extend the lifetime of the topcoat for up to 3-5 additional years and is particularly useful over metallic finishes where low gloss finishes are needed with minimal effect on the color.

Suitable substrates

- Grip-Gard Plus Clearcoats can be applied over Grip-Gard Plus solid topcoats wet-on-wet and up to 24 hours without sanding.
- Grip-Gard Plus Clearcoats can be applied over Grip-Gard Plus Metallic topcoats after 8 hours and up to 24 hours without sanding.
- After 24 hours the surface should be sanded with #P320 to #P400 grit paper dry or #P500 to #P600 grit wet.
- Grip-Gard BC Base coat after 15 – 20 minutes
- Properly prepared existing finishes

Products and additives

PRODUCTS:

CLEARS:	Grip-Gard Plus Gloss Clear	Item # 395707
	Grip-Gard Plus Satin Clear	Item # 398877
	Grip-Gard Plus Low Gloss Clear	Item # 390466
HARDENER:	Grip-Gard Plus Hardener	Item # 390873

REDUCERS:

Grip-Gard Plus Reducer: A standard reducer for most climate temperatures	Item # 398318
Grip-Gard Plus Accelerator Reducer: A standard reducer with catalyst for faster cure times	Item # 395715
Grip-Gard Plus Retarder: A slow reducer for use in warmer temperatures	Item # 395716
Grip-Gard Plus Extra Slow Retarder: Extra slow reducer for high temperatures	Item # 391219
Grip-Gard Plus Exempt Reducer: A standard reducer with VOC exempt solvents	Item # 395709

ADDITIVES:

SuperTop Plus: An accelerator to speed cure time with minimal impact on pot life	Item #395714
Grip-Gard Plus 1K Touch Up Additive	Item # 390948

Basic raw materials

Grip-Gard Plus Clearcoats:	Acrylic resins, solvents
Grip-Gard Plus Hardener:	Polyisocyanate resins
Grip-Gard Plus Reducers:	Solvents
Grip-Gard Plus Accelerators:	Solvents containing a catalyst

GRIP-GARD® PLUS 3.5 POLYURETHANE CLEARCOATS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Mixing

100 parts by volume Grip-Gard Plus Clear or Low Gloss Clear
50 parts Grip-Gard Plus Hardener
25 parts Grip-Gard Plus Reducer
Use Mixing Stick #101 (Black)

Stir after mixing
Grip-Gard Plus Clear must be stirred thoroughly directly after mixing the components

ACCELERATOR MIXING RATIO:
Supertop Plus Accelerator can be added to Grip-Gard Plus Clear or Grip-Gard Plus Low Gloss Clear at a level of ½ to1 ounce per ready-to-spray quart, or 2 - 4 ounces per ready-to-spray gallon. Accelerator is not recommended above 80° F.

MIXING NOTE:
For additional viscosity reduction while maintaining the required VOC, Grip-Gard Plus Exempt Reducer may be added. In VOC restricted areas, it is required that compliant products be used

MIXING NOTE 2:
In non-VOC restricted areas additional Grip-Gard Plus Reducer, Retarder or Accelerator Reducer can be added for additional viscosity reduction.

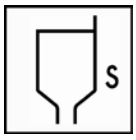
GLOSS BLENDS:
Any gloss level can be achieved by using the appropriate blend of Grip-Gard Plus Clear and Grip-Gard Plus Low Gloss Clear. Then mix blend at 100:50:25 as stated above

Recommended Mix Ratios for Gloss Levels (by Volume)

%Gloss Range @60° angle	Gloss Clear	Low Gloss Clear
High (90+)	100	0
High / Semi (60-80)	30	70
Semi / Satin (40-59)	20	80
Satin / Low (20-39)	10	90
Low / Matte - (0-19)	0	100

NOTE:
Gloss range may vary according to the amount of film build of clearcoat and cure time of topcoat before applying clear.

Viscosity



The proper viscosity achieved using the recommended mixing ratio.
Grip-Gard Plus Clear 17 - 24 sec. EZ Zahn Cup #2 at 70°F (20°C).

Spray gun set-up / application pressure

	Spray gun	Fluid tipset-up	Application pressure
High Transfer Gravity	1.3 – 1.5 mm	35 psi	
High Transfer Pressure Feed	1.0 – 1.2 mm	35 psi	10 – 15 psi
HVLP Pressure Feed	0.8 – 1.0 mm	Max 10 psi (air cap)	10 – 15 psi
HVLP Siphon	1.8 – 2.2 mm	Max 10 psi (air cap)	
HVLP Gravity	1.3 – 1.5 mm	Max 10 psi (air cap)	

Technical Data Sheet
Topcoats

GRIP-GARD® PLUS 3.5 POLYURETHANE CLEARCOATS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Pot-life

Mixture with Grip-Gard Plus 2.8 Hardener & Reducers:	1.5 - 2 hours at 70°F (20°C)
Mixture with Accelerator Reducer or SuperTop Plus:	1.5 hours at 70°F (20°C)

Application process

SPRAY: Spray 2 medium wet coats with 2 – 3 minutes flash off between coats.

TOUCH UP: Grip-Gard Plus 1K Touch up additive can be used with Grip-Gard Plus topcoats to touch up small areas or cover scratches in the field. See 1K Touch up additive TDS

Film thickness

By recommended application;

Grip-Gard Plus Clear	1.0 –1.2 mils per single coat.

Recoatability

Grip-Gard Plus Clear can be recoated with itself up to 48 hours without sanding. After 48 hours, sanding will be necessary.

NOTE: Vinyl graphics can be applied after 48 hours at 70^{O}F (20^{O}C). Or after 24 hours when Supertop Plus has been added. Reflective vinyl graphics require additional time (contact manufacturer for recommendation) before applying to avoid bubbling.

NOTE: Striping or lettering with Grip-Gard Plus Clear must be applied within 24 hours to obtain good adhesion. After 24 hours, scuff with a gray scuffing pad.

Curing time

Curing at 70° F:
Dust Free: 50 Minutes Without Accelerator
Dry to Exposure: 24 Hours

Curing at 70° F With Accelerator:
Dust Free: 30 – 45 Minutes
Dry to Exposure: 1.5 – 2.5 Hours

Curing at 100° F:
Dust Free: 30 Minutes
Dry to Exposure: 1.5 Hours

Curing at 140° F:
Dust Free: 15 Minutes
Dry to Exposure: 30 Minutes

Note: Adding retarder or slower reducers can extend dust free time in cooler temperatures

Technical Data Sheet
Topcoats

GRIP-GARD® PLUS 3.5 POLYURETHANE CLEARCOATS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Material usage

Approximate square foot coverage per gallon at 1 dry mil:

Transfer Efficiency	Gloss Clear RTS	Low Gloss Clear RTS
100% (Theoretical)	844	788
65% (HVLP)	548	512
35% (Conventional)	295	276

NOTE: >2.0 mils dry film thickness is recommended for warranty purposes.

Cleaning of equipment

Clean equipment with Cleaning Solvent LV Item# 391000

VOC

Grip-Gard Plus Clear	Grip-Gard Plus Clear (RTS per this TDS):	>3.5 lb/gal. >420 g/liter

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE:
Grip-Gard P Clearcoats: Two years if stored unopened at room temperature.
Grip-Gard Plus Hardener: One year if stored unopened at room temperature.
Grip-Gard Plus Reducers: Two years if stored unopened at room temperature.

Head Office
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Technical Data Sheet
Topcoats

GRIP-GARD® PLUS 4.0 POLYURETHANE CLEARCOATS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard Plus Clearcoats are high solids, two-component, polyurethane clears, designed to enhance the longevity of Grip-Gard Plus solid and metallic topcoats. Grip-Gard Plus Clears can also be used directly over Grip-Gard Basecoat. The use of Grip-Gard Plus Clearcoats can extend the lifetime of the topcoat for up to 3-5 additional years and is particularly useful over metallic finishes where low gloss finishes are needed with minimal effect on the color.

100 Grip Gard Plus Clear, Satin Clear or Low Gloss Clear
50 Grip-Gard Plus Hardener
30 Grip-Gard Plus Reducer

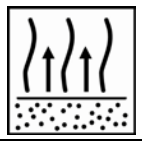
Use the Measuring Stick #103 (Blue)

Spray gun set-up:
Gravity: 1.3 – 1.5 mm
Siphon: 1.6 – 1.8 mm

Application pressure:
30–40 psi (2-3 bar) at the air inlet
HVLP max 10 psi (0.7 bar) at the air cap

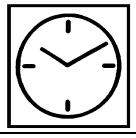
Application

Apply 2 medium wet coats



Flash between coats

2 – 3 minutes at 70°F (20°C)



24 hrs. at 70°F (20°C)
1.5 hrs. at 100°F (38°C)
30 min. at 140°F (60°C)
Accelerated: 1.5-2.5 hrs. at 70°F (20°C)

Use suitable respiratory protection
Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator

GRIP-GARD® PLUS 4.0 POLYURETHANE CLEARCOATS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard Plus Clearcoats are high solids, two-component, polyurethane clears, designed to enhance the longevity of Grip-Gard Plus solid and metallic topcoats. Grip-Gard Plus Clears can also be used directly over Grip-Gard Basecoat. The use of Grip-Gard Plus Clearcoats can extend the lifetime of the topcoat for up to 3-5 additional years and is particularly useful over metallic finishes where low gloss finishes are needed with minimal effect on the color.

Suitable substrates

- Grip-Gard Plus Clearcoats can be applied over Grip-Gard Plus solid topcoats wet-on-wet and up to 24 hours without sanding.
- Grip-Gard Plus Clearcoats can be applied over Grip-Gard Plus Metallic topcoats after 8 hours and up to 24 hours without sanding.
- After 24 hours the surface should be sanded with #P320 to #P400 grit paper dry or #P500 to #P600 grit wet.
- Grip-Gard BC Base coat after 15 – 20 minutes
- Properly prepared existing finishes

Products and additives

PRODUCTS:

CLEARS:	Grip-Gard Plus Gloss Clear	Item # 395707
	Grip-Gard Plus Satin Clear	Item # 398877
	Grip-Gard Plus Low Gloss Clear	Item # 390466
HARDENER:	Grip-Gard Plus Hardener	Item # 390873

REDUCERS:

Grip-Gard Plus Reducer: A standard reducer for most climate temperatures	Item # 398318
Grip-Gard Plus Accelerator Reducer: A standard reducer with catalyst for faster cure times	Item # 395715
Grip-Gard Plus Retarder: A slow reducer for use in warmer temperatures	Item # 395716
Grip-Gard Plus Extra Slow Retarder: Extra slow reducer for high temperatures	Item # 391219
Grip-Gard Plus Exempt Reducer: A standard reducer with VOC exempt solvents	Item # 395709

ADDITIVES:

SuperTop Plus: An accelerator to speed cure time with minimal impact on pot life	Item #395714
Grip-Gard Plus 1K Touch Up Additive	Item # 390948

Basic raw materials

Grip-Gard Plus Clearcoats:	Acrylic resins, solvents
Grip-Gard Plus Hardener:	Polyisocyanate resins
Grip-Gard Plus Reducers:	Solvents
Grip-Gard Plus Accelerators:	Solvents containing a catalyst

Technical Data Sheet
Topcoats

GRIP-GARD® PLUS 4.0 POLYURETHANE CLEARCOATS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Mixing

100 parts by volume Grip-Gard Plus Clear or Low Gloss Clear
50 parts Grip-Gard Plus Hardener
30 parts Grip-Gard Plus Reducer
Use Mixing Stick #103 (Blue)

Stir after mixing
Grip-Gard Plus Clear must be stirred thoroughly directly after mixing the components

ACCELERATOR MIXING RATIO: Supertop Plus Accelerator can be added to Grip-Gard Plus Clear or Grip-Gard Plus Low Gloss Clear at a level of ½ to1 ounce per ready-to-spray quart, or 2 - 4 ounces per ready-to-spray gallon. Accelerator is not recommended above 80° F.

MIXING NOTE: For additional viscosity reduction while maintaining the required VOC, Grip-Gard Plus Exempt Reducer may be added. In VOC restricted areas, it is required that compliant products be used

MIXING NOTE 2: In non-VOC restricted areas additional Grip-Gard Plus Reducer, Retarder or Accelerator Reducer can be added for additional viscosity reduction.

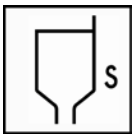
GLOSS BLENDS: Any gloss level can be achieved by using the appropriate blend of Grip-Gard Plus Clear and Grip-Gard Plus Low Gloss Clear. Then mix blend at 100:50:25 as stated above

Recommended Mix Ratios for Gloss Levels (by Volume)

%Gloss Range @60° angle	Gloss Clear	Low Gloss Clear
High (90+)	100	0
High / Semi (60-80)	30	70
Semi / Satin (40-59)	20	80
Satin / Low (20-39)	10	90
Low / Matte - (0-19)	0	100

NOTE: Gloss range may vary according to the amount of film build of clearcoat and cure time of topcoat before applying clear.

Viscosity



The proper viscosity achieved using the recommended mixing ratio.
Grip-Gard Plus Clear 17 - 24 sec. EZ Zahn Cup #2 at 70°F (20°C).

GRIP-GARD® PLUS 4.0 POLYURETHANE CLEARCOATS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Spray gun set-up / application pressure

	Spray gun	Fluid tipset-up	Application pressure
High Transfer Gravity	1.3 – 1.5 mm	35 psi	
High Transfer Pressure Feed	1.0 – 1.2 mm	35 psi	10 – 15 psi
HVLP Pressure Feed	0.8 – 1.0 mm	Max 10 psi (air cap)	10 – 15 psi
HVLP Siphon	1.8 – 2.2 mm	Max 10 psi (air cap)	
HVLP Gravity	1.3 – 1.5 mm	Max 10 psi (air cap)	

Pot-life

Mixture with Grip-Gard Plus 2.8 Hardener & Reducers:	1.5 - 2 hours at 70°F (20°C)
Mixture with Accelerator Reducer or SuperTop Plus:	1.5 hours at 70°F (20°C)

Application process

SPRAY: Spray 2 medium wet coats with 2 – 3 minutes flash off between coats.

TOUCH UP: Grip-Gard Plus 1K Touch up additive can be used with Grip-Gard Plus topcoats to touch up small areas or cover scratches in the field. See 1K Touch up additive TDS

Film thickness

By recommended application;

Grip-Gard Plus Clear 1.0 –1.2 mils per single coat.

Recoatability

Grip-Gard Plus Clear can be recoated with itself up to 48 hours without sanding. After 48 hours, sanding will be necessary.

NOTE: Vinyl graphics can be applied after 48 hours at 70^{O}F (20^{O}C). Or after 24 hours when Supertop Plus has been added. Reflective vinyl graphics require additional time (contact manufacturer for recommendation) before applying to avoid bubbling.

NOTE: Striping or lettering with Grip-Gard Plus Clear must be applied within 24 hours to obtain good adhesion. After 24 hours, scuff with a gray scuffing pad.

Technical Data Sheet
Topcoats

GRIP-GARD® PLUS 4.0 POLYURETHANE CLEARCOATS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Curing time

Curing at 70° F:
Dust Free: 50 Minutes Without Accelerator
Dry to Exposure: 24 Hours

Curing at 70° F With Accelerator:
Dust Free: 30 – 45 Minutes
Dry to Exposure: 1.5 – 2.5 Hours

Curing at 100° F:
Dust Free: 30 Minutes
Dry to Exposure: 1.5 Hours

Curing at 140° F:
Dust Free: 15 Minutes
Dry to Exposure: 30 Minutes

Note: Adding retarder or slower reducers can extend dust free time in cooler temperatures

Material usage

Approximate square foot coverage per gallon at 1 dry mil:

Transfer Efficiency	Gloss Clear RTS	Low Gloss Clear RTS
100% (Theoretical)	844	788
65% (HVLP)	548	512
35% (Conventional)	295	276

NOTE: 1.5 - 2.0 mils dry film thickness is recommended for warranty purposes.

Cleaning of equipment

Clean equipment with Cleaning Solvent LV Item# 391000

VOC

Grip-Gard Plus Clear — Grip-Gard Plus Clear (RTS per this TDS): >4.0 lb/gal. >480 g/liter

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE:
Grip-Gard P Clearcoats: Two years if stored unopened at room temperature.
Grip-Gard Plus Hardener: One year if stored unopened at room temperature.
Grip-Gard Plus Reducers: Two years if stored unopened at room temperature.

Head Office
Akzo Nobel Signfinishes Inc.
3785 Parkway Lane, Norcross, GA 30092, USA. 770-662-8464
ON THE WEB AT: www.signfinishes.com

Technical Data Sheet
Topcoats

AUTOCLEAR HS + LV® FOR GRIP-GARD® BC VOC APPLICATIONS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Autoclear HS + LV is a high-solids acrylic urethane clearcoat that can be used in conjunction with Grip-Gard Brite White HF Primer and Grip-Gard BC Basecoat to achieve a basecoat / clearcoat system that averages less than 3.5 pounds VOC per gallon, allowing the advantages of production speed, appearance and ease of application of a basecoat while adhering to strict VOC laws. Autoclear HS + LV offers a high gloss with excellent durability.

3 Autoclear HS + LV
1 Autoclear HS + LV Hardener
1 Autoclear HS + LV Activators

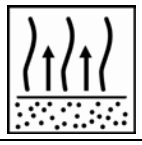
Use the Measuring Stick #106 (Purple)

Spray gun set-up:
Gravity: 1.3 – 1.5 mm
Siphon: 1.6 – 1.8 mm

Application pressure:
30–40 psi (2-3 bar) at the air inlet
HVLP max 10 psi (0.7 bar) at the air cap

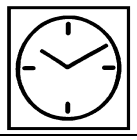
Application

Apply 2 – 3 even coats



Flash between coats

5 - 10 minutes at 70°F (20°C)



8 Hours With Slow Activator
7 Hours With Medium Activator
4 Hours With Spot & Panel Activator

Use suitable respiratory protection
Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator

AUTOCLEAR HS + LV® FOR GRIP-GARD® BC VOC APPLICATIONS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Autoclear HS + LV is a high-solids acrylic urethane clearcoat that can be used in conjunction with Grip-Gard Brite White HF Primer and Grip-Gard BC Basecoat to achieve a basecoat / clearcoat system that averages less than 3.5 pounds VOC per gallon, allowing the advantages of production speed, appearance and ease of application of a basecoat while adhering to strict VOC laws. Autoclear HS + LV offers a high gloss with excellent durability.

Suitable substrates

- Grip-Gard BC Solid, Metallic and Pearl Basecoats. The maximum time Grip-Gard BC Basecoat may be left before Grip-Gard BC Clear is applied is 2 days.
- Grip-Gard BC Single Stage after 15 – 20 minutes for solid colors or 3 hours for metallic
- Autowave® Solid, Metallic and Pearl colors: after a flash-off time of 20 minutes at 70°F (20°C).

Note: As stated in Grip-Gard BC Basecoat TDS, it is always recommended that Grip-Gard BC Clear Hardener is added to Grip-Gard BC Basecoat. However, if the hardener is omitted from the basecoat, the maximum time allowed to apply Grip-Gard BC Clear is 5 hours.

Products and additives

PRODUCTS:	— Autoclear HS + LV:	Item #390836
	— Autoclear HS + LV Activator Spot & Panel LH, 55ºF–85ºF (13ºC–29ºC)	Item #397228
REDUCERS:	— Autoclear HS + LV Activator Medium LH, 65°F–95°F (18°C–35°C)	Item #397232
	— Autoclear HS + LV Activator Slow LH, 80°F–105°F (27°C–41°C.)	Item #397231
	— Supertop Plus Accelerator	Item #395714
ADDITIVES:	— Grip-Gard Plus Exempt Reducer: a reducer that can be added without raising the VOC level	Item #395709
	— LV Elast-O-Actif: an additive designed to increase Clearcoat flexibility for use on flexible plastic parts.	Item #398218
Hardener:	Autoclear HS + LV Hardener:	Item #390837

Basic raw materials

- Autoclear HS + LV: hydroxyl acrylic resins
- Autoclear HS + LV Hardener: polyisocyanate resins.
- Slow Activator LV: special activated solvent blends.
- Medium Activator LV and Spot & Panel Activator LV: activated reducers containing special solvent blends and catalyst.

AUTOCLEAR HS + LV® FOR GRIP-GARD® BC VOC APPLICATIONS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Mixing

3 parts by volume Autoclear HS + LV
1 part Autoclear HS + LV Hardener:
1 part Autoclear HS + LV Activator LH
Use Mixing Stick #106

Note: 10% additional Grip-Gard Plus Exempt Reducer can be added to lower application viscosity if needed

Stir after mixing
Autoclear HS + LV must be stirred thoroughly directly after mixing the components

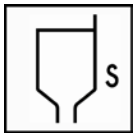
FLEXIBLE NOTE:

When mixing Autoclear HS + LV for flexible plastic parts, mix Autoclear HS + LV with 10% LV Elast-O-Actif (Mixing Stick #111 Light Green). This mixture must then be further mixed 3:1:1 with Autoclear HS + LV Hardener and the appropriate Activator LV.

ACCELERATOR MIXING RATIO:

Grip-Gard Super top Plus Accelerator can be added to Autoclear HS + LV or Autoclear Mat LV at a level of ½ ounce per ready-to-spray quart, or 2 ounces per ready-to-spray gallon

Viscosity



The proper spraying viscosity is achieved by using the recommended mixing ratio.
16–18 sec. ZAHN cup #2 (13–15 sec. DIN cup #4) at 70°F (20°C)

Spray gun set-up / application pressure

Spray gun	Fluid tipset-up	Application pressure
High Transfer Gravity	1.3 – 1.5 mm	35 psi	
High Transfer Pressure Feed	1.0 – 1.2 mm	35 psi	10 – 15 psi
HVLP Pressure Feed	0.8 – 1.0 mm	Max 10 psi (air cap)	10 – 15 psi
HVLP Siphon	1.8 – 2.2 mm	Max 10 psi (air cap)	
HVLP Gravity	1.3 – 1.5 mm	Max 10 psi (air cap)	

Pot-life

When mixed with Autoclear HS+ LV Hardener and Autoclear HS+ LV Spot and Panel Activator LH: 2 hours at 70°F (20°C)

AUTOCLEAR HS + LV® FOR GRIP-GARD® BC VOC APPLICATIONS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Application process

Apply 2 single wet coats. If heavy sanding and polishing is required, a third coat may be applied after the stated flash off time.

Film thickness

By recommended application;
Autoclear HS + LV 1.0 –1.2 mils per single coat.

Recoat time

Autoclear HS + LV can be recoated with itself up to 48 hours without sanding. After 48 hours, sanding will be necessary.

NOTE:

Vinyl graphics can be applied after 48 hours at 70^{O}F (20^{O}C). Reflective vinyl graphics require additional time (contact manufacturer for recommendation) before applying to avoid bubbling.
Vinyl graphics can be applied after 12 hours at 70^{O}F (20^{O}C) with the addition of Supertop Plus

NOTE:

Striping or lettering with Autoclear HS + LV must be applied within 48 hours to obtain good adhesion. After 48 hours, scuff with a gray scuffing pad.

Curing time

Dust Free at 70° F:
60 Minutes With Slow Activator
35 Minutes With Medium Activator
30 Minutes With Spot & Panel Activator
10 Minutes With Supertop Plus

Dry to Handle at 70° F:
8 Hours With Slow Activator
7 Hours With Medium Activator
4 Hours With Spot & Panel Activator
2 Hours With Supertop Plus

Dust Free at140° F:
20 Minutes With Slow Activator
15 Minutes With Medium Activator
7 Minutes With Spot & Panel Activator

Dry to Handle at 140° F:
30 Minutes With Slow Activator
20 Minutes With Medium Activator
10 Minutes With Spot & Panel Activator

AUTOCLEAR HS + LV® FOR GRIP-GARD® BC VOC APPLICATIONS

JUNE 2012

FOR PROFESSIONAL USE ONLY

Material usage

Approximate square foot coverage per gallon at 1 dry mil:

Transfer Efficiency	Gloss Clear RTS
100% (Theoretical)	510
65% (HVLP)	330
35% (Conventional)	177

Cleaning of equipment

Clean equipment with Cleaning Solvent 790, Cleaning Solvent LV or lacquer thinner.

VOC

(RTS)	Autoclear HS + LV:	1.9 lb/gal.	228 g/liter

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE: Autoclear HS + LV: Two years if stored unopened at room temperature.
Autoclear HS + LV Hardener: Six Months if stored unopened at room temperature.
Autoclear HS + LV Activators: Six Months if stored unopened at room temperature.

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Technical Data Sheet
Topcoats

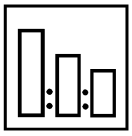
AUTOCLEAR HS + LV and AUTOCLEAR MAT LV®

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Autoclear Mat LV and Autoclear HS + LV are designed to protect and enhance the appearance of Grip-Gard BC Basecoats. With extremely fast dry times, excellent durability, and a full range of gloss levels, These Clearcoats are ideal for the Sign and Exhibit Manufacturer.



3 Autoclear Mat LV or Autoclear HS + LV
1 Autoclear HS + LV Hardener
1 Autoclear HS + LV Activators

Use the Measuring Stick #106 (Purple)

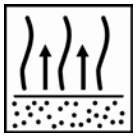
Spray gun set-up:
Gravity: 1.3 – 1.5 mm
Siphon: 1.6 – 1.8 mm

Application pressure:
30–40 psi (2-3 bar) at the air inlet

HVLP max 10 psi (0.7 bar) at the air cap

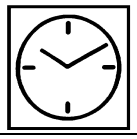
Application

Apply 2 – 3 even coats



Flash between coats

5 - 10 minutes at 70°F (20°C)



8 Hours With Slow Activator
7 Hours With Medium Activator
4 Hours With Spot & Panel Activator

Use suitable respiratory protection
Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator

AUTOCLEAR HS + LV and AUTOCLEAR MAT LV®

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Autoclear Mat LV and Autoclear HS + LV are designed to protect and enhance the appearance of Grip-Gard BC Basecoats. With extremely fast dry times, excellent durability, and a full range of gloss levels, These Clearcoats are ideal for the Sign and Exhibit Manufacturer.

Suitable substrates

- Grip-Gard BC Solid, Metallic and Pearl Basecoats. The maximum time Grip-Gard BC Basecoat may be left before Grip-Gard BC Clear is applied is 2 days.
- Grip-Gard BC Single Stage after 15 – 20 minutes for solid colors or 3 hours for metallic
- Autowave® Solid, Metallic and Pearl colors: after a flash-off time of 20 minutes at 70°F (20°C).

Note: As stated in Grip-Gard BC Basecoat TDS, it is always recommended that Grip-Gard BC Clear Hardener is added to Grip-Gard BC Basecoat. However, if the hardener is omitted from the basecoat, the maximum time allowed to apply Grip-Gard BC Clear is 5 hours.

Products and additives

PRODUCTS:	— Autoclear Mat LV :	Item #397355
	— Autoclear HS + LV:	Item #390836
	— Autoclear HS + LV Activator Spot & Panel LH, 55ºF–85ºF (13ºC–29ºC)	Item #397228
REDUCERS:	— Autoclear HS + LV Activator Medium LH, 65°F–95°F (18°C–35°C)	Item #397232
	— Autoclear HS + LV Activator Slow LH, 80°F–105°F (27°C–41°C.)	Item #397231
ADDITIVES:	— Supertop Plus Accelerator	Item #395714
	— Grip-Gard Plus Exempt Reducer: a reducer that can be added without raising the VOC level	Item #395709
Hardener:	Autoclear HS + LV Hardener:	Item #390837

Basic raw materials

- Autoclear HS + LV: hydroxyl acrylic resins
- Autoclear Mat LV: hydroxyl acrylic resins
- Autoclear HS + LV Hardener: polyisocyanate resins.
- Slow Activator LV: special activated solvent blends.
- Medium Activator LV and Spot & Panel Activator LV: activated reducers containing special solvent blends and catalyst.

AUTOCLEAR HS + LV and AUTOCLEAR MAT LV®

JUNE 2012

FOR PROFESSIONAL USE ONLY

Mixing

3 parts by volume Autoclear HS + LV or Autoclear Mat LV
1 part Autoclear HS + LV Hardener:
1 part Autoclear HS + LV Activator LH
Use Mixing Stick #106

Note: 10% additional Grip-Gard Plus Exempt Reducer can be added to lower application viscosity if needed

Stir after mixing
All mixtures must be stirred thoroughly directly after mixing the components

ACCELERATOR MIXING RATIO:

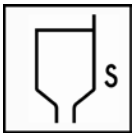
Grip-Gard Plus Super top Plus Accelerator can be added to Autoclear HS + LV or Autoclear Mat LV at a level of ½ ounce per ready-to-spray quart, or 2 ounces per ready-to-spray gallon

GLOSS BLENDS:

Any gloss level can be achieved by using the appropriate blend of Grip-Gard BC Clear and Grip-Gard BC Low Gloss Clear. Then mix blend at 3:1:1 as stated above
Recommended Mix Ratios for Gloss Levels (by Volume)

Gloss Level at 60º Angle	Autoclear HS + LV	Autoclear Mat LV
High Gloss (85 +)	100	0
Semi Gloss (50-84)	40	60
Satin Gloss (20-49)	25	75
Low Gloss (10-19)	10	90
Flat Gloss (< 10)	0	100

Viscosity



The proper spraying viscosity is achieved by using the recommended mixing ratio.
16–18 sec. ZAHN cup #2 (14–16 sec. DIN cup #4) at 70°F (20°C)

Spray gun set-up / application pressure

Spray gun	Fluid tipset-up	Application pressure
Gravity	1.1-1.3 mm	30–40 psi (2-3 bar) at the spray gun air inlet
Suction	1.2-1.4 mm	30–40 psi (2-3 bar) at the spray gun air inlet
		HVLP max 10 psi (0.7 bar) at the air cap

Pot-life

When mixed with Autoclear HS+ LV Hardener and Autoclear HS+ LV Spot and Panel Activator: 2 hours at 70°F (20°C)

AUTOCLEAR HS + LV and AUTOCLEAR MAT LV®

JUNE 2012

FOR PROFESSIONAL USE ONLY

Application process

- For gloss application, spray 2 wet coats with a flash of 5 – 10 minutes between coats.
- For Satin and low gloss application, apply two layers back to back or with as little flash time as possible to ensure an even mat appearance.
- Always ensure an even wet film is achieved with the final coat to maintain an even mat appearance when dry.

Film thickness

By recommended application;
Autoclear HS + LV or Autoclear Mat LV 1.0 –1.2 mils per single coat.

Recoat time

Autoclear HS + LV or Autoclear Mat LV can be recoated with itself up to 48 hours without sanding. After 48 hours, sanding will be necessary.

NOTE:

Vinyl graphics can be applied after 48 hours at 70^{O}F (20^{O}C). Reflective vinyl graphics require additional time (contact manufacturer for recommendation) before applying to avoid bubbling.
Vinyl graphics can be applied after 12 hours at 70^{O}F (20^{O}C) with the addition of Supertop Plus

NOTE:

Striping or lettering with Autoclear HS + LV or Autoclear Mat LV must be applied within 48 hours to obtain good adhesion. After 48 hours, scuff with a gray scuffing pad.

Curing time

Dust Free at 70° F:
60 Minutes With Slow Activator
35 Minutes With Medium Activator
30 Minutes With Spot & Panel Activator
10 Minutes With Supertop Plus

Dry to Handle at 70° F:
8 Hours With Slow Activator
7 Hours With Medium Activator
4 Hours With Spot & Panel Activator
2 Hours With Supertop Plus

Dust Free at140° F:
20 Minutes With Slow Activator
15 Minutes With Medium Activator
7 Minutes With Spot & Panel Activator

Dry to Handle at 140° F:
30 Minutes With Slow Activator
20 Minutes With Medium Activator
10 Minutes With Spot & Panel Activator

Technical Data Sheet
Topcoats

AUTOCLEAR HS + LV and AUTOCLEAR MAT LV®

JUNE 2012

FOR PROFESSIONAL USE ONLY

Material usage

Approximate square foot coverage per gallon at 1 dry mil:

Transfer Efficiency	Gloss Clear RTS	Low Gloss Clear RTS
100% (Theoretical)	510	510
65% (HVLP)	330	330
35% (Conventional)	177	177

Cleaning of equipment

Clean equipment with Cleaning Solvent 790, Cleaning Solvent LV or lacquer thinner.

VOC

(RTS)

Autoclear HS + LV (RTS): 1.9 lb/gal. 228 g/liter
Autoclear Mat LV (RTS): 1.98 lb/gal. 237 g/liter

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE:

Autoclear HS + LV: Two years if stored unopened at room temperature.
Autoclear Mat LV: Two years if stored unopened at room temperature.
Autoclear HS + LV Hardener: Six Months if stored unopened at room temperature.
Autoclear HS + LV Activators: Six Months if stored unopened at room temperature.

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Technical Data Sheet
Topcoats

GRIP-GARD® PLUS 2.8 POLYURETHANE

JUNE 2012

FOR PROFESSIONAL USE ONLY

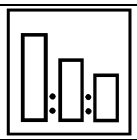
Description

Grip-Gard Plus is a high solid, two-component, polyurethane topcoat developed for application to metal signage components. Grip-Gard Plus is the most durable spray applied polyurethane metal finish available to the Sign industry. As Grip-Gard is an intermix toner system where topcoats can be mixed to match thousands of solid colors in any gloss level. In addition to solid colors the use of six additional metallic and transparent toners allows a broad range of metallic colors to be utilized in the Grip-Gard Plus system.

100 Grip Gard Plus Intermix Color, Stock Whites, Black and Bronzes
50 Grip-Gard Plus 2.8 Hardener
25 Grip-Gard Plus 2.8 Reducer

NOTE: When Mixing Brushed Aluminum Stock Color, DO NOT add the 25 parts reducer

Use the Measuring Stick #101 (Black)



Semi / Satin/ Low Gloss Finishes
Refer to mixing information later in this TDS
2.8 444 Matte Reducer

Spray gun set-up:
Gravity: 1.3 – 1.5 mm
Siphon: 1.6 – 1.8 mm

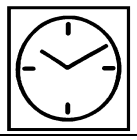
Application pressure:
30–40 psi (2-3 bar) at the air inlet
HVLP max 10 psi (0.7 bar) at the air cap

Application

Apply 2 medium wet coats

Flash between coats

2 – 3 minutes at 70°F (20°C)



24 hrs. at 70°F (20°C)
1.5 hrs. at 100°F (38°C)
30 min. at 140°F (60°C)
Accelerated: 1.5-2.5 hrs. at 70°F (20°C)

Use suitable respiratory protection
Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator

GRIP-GARD® PLUS 2.8 POLYURETHANE

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard Plus is a high solid, two-component, polyurethane topcoat developed for application to metal signage components. Grip-Gard Plus is the most durable spray applied polyurethane metal finish available to the Sign industry. As Grip-Gard is an intermix toner system where topcoats can be mixed to match thousands of solid colors in any gloss level. In addition to solid colors the use of six additional metallic and transparent toners allows a broad range of metallic colors to be utilized in the Grip-Gard Plus system.

Grip-Gard Plus Environmental Statement

All Grip-Gard Plus toners, hardeners, reducers and additives are lead and chrome free. No products from AkzoNobel Sign Finishes, including the lead and chrome free primers contain heavy metals such as manganese, nickel and cadmium in amounts high enough to reach the MSDS reportable threshold.

Suitable substrates

— All Grip-Gard primers and surfacers.
— Most existing finishes, degreased and sanded with #P320 to #P400 grit paper dry or #P500 to #P600 wet.
— Fiberglass, (unbroken gel coat) degreased and sanded with #P320 to #P360 grit dry or #P500 to #P600 wet.

PREPERATION:

For detailed information on the use of primers and surfacer, refer to the following Technical Data Sheets (TDS):

- TDS Grip-Gard White Washprimer, Light Enhancing
- TDS Grip-Gard Epoxy Sealer White and Gray
- TDS Grip-Gard Epoxy 2.8/3.5
- TDS Grip-Gard Epoxy 4.6
- TDS Grip-Gard Brite White HF Primer
- TDS Grip-Gard HB Surfacer

Products and additives

MAIN PRODUCTS:

Grip Gard Plus Intermix toners	N/A
Satin Black	Item # 391330
Low Gloss White	Item # 39565
312 Medium Bronze	Item # 398660
313 Dark Bronze	Item # 398661
313E Dark Bronze	Item # 398659
Brushed Aluminum	Item # 390473

HARDENER:

Grip-Gard Plus 2.8 Hardener	Item # 390471

REDUCERS:

Grip-Gard Plus 2.8 Reducer: A standard reducer for most climate temperatures	Item # 398319
Grip-Gard Plus 2.8 Accelerator Reducer: A standard reducer with catalyst for faster cure times	Item # 398304
Grip-Gard Plus 2.8 Retarder: A slow reducer for use in warmer temperatures	Item # 395705
Grip-Gard Plus Exempt Reducer: A standard reducer with VOC exempt solvents	Item # 395709

ADDITIVES:

Grip-Gard Plus 2.8 444 Matte Reducer: A matte reducer designed to lower the gloss level of Grip-Gard Plus topcoats	Item # 390419
SuperTop Plus: An accelerator to speed cure time with minimal impact on pot life	Item #395714
Grip-Gard Plus 1K Touch Up Additive	Item # 390948
Grip-Gard Plus Brushing and Rolling Additive (See B/R TDS for instruction)	Item # 390909

Technical Data Sheet
Topcoats

GRIP-GARD® PLUS 2.8 POLYURETHANE

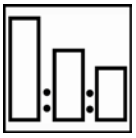
JUNE 2012

FOR PROFESSIONAL USE ONLY

Basic raw materials

Grip-Gard Plus:	Acrylic resins, solvents
Grip-Gard Plus 2.8 Hardener:	Polyisocyanate resins
Grip-Gard Plus 2.8 Reducers:	Solvents
Grip-Gard Plus Accelerators:	Solvents containing a catalyst

Mixing



100 parts by volume Grip-Gard Plus Intermix color, Stock White, Black and Bronzes
50 parts Grip-Gard Plus 2.8 Hardener
25 parts Grip-Gard Plus 2.8 Reducer
Use Mixing Stick #101 (Black)

NOTE: When Mixing Brushed Aluminum Stock Color, DO NOT add the 25 parts reducer

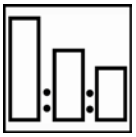
Stir after mixing
Grip-Gard Plus must be stirred thoroughly directly after mixing the components

ACCELERATOR MIXING RATIO: Supertop Plus Accelerator can be added to Grip-Gard Plus at a level of ½ to1 ounce per ready-to-spray quart, or 2 - 4 ounces per ready-to-spray gallon. Accelerator is not recommended above 80° F.

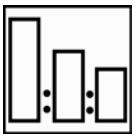
MIXING NOTE: For additional viscosity reduction while maintaining the required VOC, Grip-Gard Plus Exempt Reducer may be added. In VOC restricted areas, it is required that compliant products be used

MIXING NOTE 2: In non-VOC restricted areas any Grip-Gard Plus Reducer or Retarder or Accelerator Reducer can be added for additional viscosity reduction.

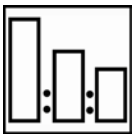
GLOSS BLENDS: Any gloss level can be achieved by using the appropriate blend of Grip-Gard Plus and Grip-Gard Plus 2.8 444 Matte Reducer.
Recommended Mix Ratios for Gloss Levels (by Volume)



SEMI GLOSS FINISH (USE MEASURING STICK #108)
100 parts by volume of Grip-Gard Plus topcoat, with
50 parts by volume of Grip-Gard Plus 2.8 Hardener
125 parts by volume of Grip-Gard Plus 2.8 444 Matte Reducer



LOW GLOSS FINISH (use measuring stick #108)
100 parts by volume of Grip-Gard Plus topcoat, with
50 parts by volume of Grip-Gard Plus 2.8 Hardener
150 parts by volume of Grip-Gard Plus 2.8 444 Matte Reducer



MATTE FINISH (use measuring stick #108)
100 parts by volume of Grip-Gard Plus topcoat, with
50 parts by volume of Grip-Gard Plus 2.8 Hardener
175 parts by volume of Grip-Gard Plus 2.8 444 Matte Reducer

MATTE NOTE: For additional viscosity reduction, or for use in warm to hot / humid conditions, 5-10% Grip-Gard Plus Reducer, Retarder or Extra Slow Retarder may be added to final mix to improve performance. In VOC restricted areas, it is required that compliant products be used. For maintaining the required 2.8 VOC in restricted areas, Grip-Gard Plus Exempt Reducer must be used.

GRIP-GARD® PLUS 2.8 POLYURETHANE

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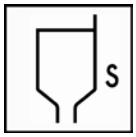
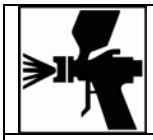
MATTE NOTE: Gloss range may vary according to the amount of film build and cure time of topcoat.

Viscosity



The proper viscosity achieved using the recommended mixing ratio.
Grip-Gard Plus 17 - 24 sec. DIN Cup #4 at 70°F (20°C).

Spray gun set-up / application pressure

	**Spray gun**	**Fluid tipset-up**	**Application pressure**
Gravity	1.3 – 1.5 mm	30–40 psi at spray gun air inlet	
Suction	1.4 – 1.7 mm	30–40 psi at spray gun air inlet	
HVLP Pressure	1.0 – 1.2 mm	HVLP max 10 psi (0.7 bar) at the air cap	12 – 16 oz/min
HVLP Siphon	1.8 – 2.2 mm	HVLP max 10 psi (0.7 bar) at the air cap	
HVLP Gravity	1.5 – 1.7 mm	HVLP max 10 psi (0.7 bar) at the air cap	
Pressure	1.0 – 1.4 mm	30–40 psi at spray gun air inlet	12 – 16 oz/min
Electrostatic	1.2 – 1.7 mm	40 – 50 psi at spray gun air inlet	12 – 14 oz/min
Airless Spray	0.011 – 0.015 mm	1500 – 3000 psi	
Air Assisted Airless	0.011 – 0.015 mm	700 – 900 psi	

Pot-life

Mixture with Grip-Gard Plus 2.8 Hardener & Reducers:	1.5 - 2 hours at 70°F (20°C)
Mixture with Grip-Gard Plus 2.8 Hardener & 2.8 Matte Reducer:	1.5 - 2 hours at 70°F (20°C)
Mixture with Accelerator Reducer or SuperTop Plus:	1.5 hours at 70°F (20°C)

Application process

SPRAY APPLICATION:

Solids: Apply 2 single medium wet coats with 2-3 minutes flash between coats. Additional coats may be required if applying clean vibrant bright colors.
Semi to Low gloss Solids - Apply 2 single consistent wet coats of Grip-Gard Plus using B01 Matte Reducer. Spray 6-8 inches from substrate with tight overlaps to avoid striping or mottling. Striping is appearance lines not consistent with the overall gloss of the sign. This is caused by excessive build up of paint in a particular area, usually caused by double coating or too narrow of a fan with spray gun. Mottling is significant gloss differences over large sections or entire sign, usually caused by very wide or erratic spray patterns. Other causes of mottling are heat and humidity related as well as poor spray gun performance.

GRIP-GARD® PLUS 2.8 POLYURETHANE

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Metallics: When spraying metallic colors, heavy or excessive coats can cause mottling or uneven distribution of aluminum flake. Metallic colors should be sprayed using medium wet coats with 3-5 minutes flash time between coats.
A light or dust coat (50% trigger) may be required immediately after final coat to even out the metallic pattern. Lighter coats will in most instances produce a lighter color while heavier coats will be darker.
Extra solvent (10-20%) may also be added to lighten metallics and improve flow of aluminum. In VOC restricted areas, use only Grip-Gard Plus Exempt Reducer (395709) as the additional solvent for metallics.

Semi to Low gloss metallic's - adding flatteners into Grip-Gard Plus metallic colors can severely distort the color causing the metallic to be dark and dull compared to the high gloss version. For cleaner and brighter metallics, it is recommended that a low or gloss modified clear be applied over the top of the Grip-Gard Plus high gloss metallic color. (See TDS for Grip-Gard Plus Clear coats)

TOUCH UP: Grip-Gard Plus 1K Touch up additive can be used with Grip-Gard Plus topcoats to touch up small areas or cover scratches in the field. See 1K Touch up additive TDS

Film thickness

By recommended application;

Grip-Gard Plus	1.0 –1.2 mils per single coat.

Recoatability

Grip-Gard Plus can be recoated with itself up to 48 hours without sanding. After 48 hours, sanding will be necessary.

NOTE: Vinyl graphics can be applied after 48 hours at 70^{O}F (20^{O}C). Or after 24 hours when Supertop Plus has been added. Reflective vinyl graphics require additional time (contact manufacturer for recommendation) before applying to avoid bubbling.

NOTE: Striping or lettering on Grip-Gard Plus must be applied within 24 hours to obtain good adhesion. After 24 hours, scuff with a gray scuffing pad.

Curing time

Curing at 70° F:
Dust Free: 50 Minutes Without Accelerator
Dry to Exposure: 24 Hours

Curing at 70° F With Accelerator:
Dust Free: 30 – 45 Minutes
Dry to Exposure: 1.5 – 2.5 Hours

Curing at 100° F:
Dust Free: 30 Minutes
Dry to Exposure: 1.5 Hours

Curing at 140° F:
Dust Free: 15 Minutes
Dry to Exposure: 30 Minutes

Note: Adding retarder or slower reducers will extend dust free time in cooler temperatures

GRIP-GARD® PLUS 2.8 POLYURETHANE

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FOR PROFESSIONAL USE ONLY

Material usage

Approximate square foot coverage per gallon at 1 dry mil:

Transfer Efficiency	Gloss RTS	Low Gloss RTS
100% (Theoretical)	844	788
65% (HVLP)	548	512
35% (Conventional)	295	276

NOTE: 2.0 - 2.5 mils dry film thickness is recommended for warranty purposes.

Cleaning of equipment

	Clean equipment with Cleaning Solvent LV	Item# 391000

VOC

Grip-Gard Plus	Grip-Gard Plus (RTS per this TDS):	2.8 lb/gal. 340 g/liter

Product storage

SHELF LIFE:	Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C) Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C) Grip-Gard Plus: Two years if stored unopened at room temperature. Grip-Gard Plus 2.8 Hardener: One year if stored unopened at room temperature. Grip-Gard Plus Reducers: Two years if stored unopened at room temperature.

Head Office
Akzo Nobel Signfinishes Inc.
3785 Parkway Lane, Norcross, GA 30092, USA. 770-662-8464
ON THE WEB AT: www.signfinishes.com

Technical Data Sheet
Topcoats

GRIP-GARD® PLUS 3.5 POLYURETHANE

JUNE 2012

FOR PROFESSIONAL USE ONLY

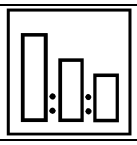
Description

Grip-Gard Plus is a high solid, two-component, polyurethane topcoat developed for application to metal signage components. Grip-Gard Plus is the most durable spray applied polyurethane metal finish available to the Sign industry. As Grip-Gard is an intermix toner system where topcoats can be mixed to match thousands of solid colors in any gloss level. In addition to solid colors the use of six additional metallic and transparent toners allows a broad range of metallic colors to be utilized in the Grip-Gard Plus system.

100 Grip Gard Plus Intermix Color, Stock White, Black and Bronzes
50 Grip-Gard Plus Hardener
25 Grip-Gard Plus Reducer

NOTE: When Mixing Brushed Aluminum Stock Color, DO NOT add the 25 parts reducer

Use the Measuring Stick #101 (Black)



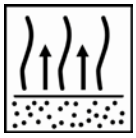
Semi / Satin / Low Gloss Finishes
Refer to mixing information later in this TDS
B01 Matte Reducer

Spray gun set-up:
Gravity: 1.3 – 1.5 mm
Siphon: 1.6 – 1.8 mm

Application pressure:
30–40 psi (2-3 bar) at the air inlet
HVLP max 10 psi (0.7 bar) at the air cap

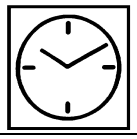
Application

Apply 2 medium wet coats



Flash between coats

2 – 3 minutes at 70°F (20°C)



24 hrs. at 70°F (20°C)
1.5 hrs. at 100°F (38°C)
30 min. at 140°F (60°C)
Accelerated: 1.5-2.5 hrs. at 70°F (20°C)

Use suitable respiratory protection
Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator

GRIP-GARD® PLUS 3.5 POLYURETHANE

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard Plus is a high solid, two-component, polyurethane topcoat developed for application to metal signage components. Grip-Gard Plus is the most durable spray applied polyurethane metal finish available to the Sign industry. As Grip-Gard is an intermix toner system where topcoats can be mixed to match thousands of solid colors in any gloss level. In addition to solid colors the use of six additional metallic and transparent toners allows a broad range of metallic colors to be utilized in the Grip-Gard Plus system.

Grip-Gard Plus Environmental Statement

All Grip-Gard Plus toners, hardeners, reducers and additives are lead and chrome free. No products from AkzoNobel Sign Finishes, including the lead and chrome free primers contain heavy metals such as manganese, nickel and cadmium in amounts high enough to reach the MSDS reportable threshold.

Suitable substrates

— All Grip-Gard primers and surfacers.
— Most existing finishes, degreased and sanded with #P320 to #P400 grit paper dry or #P500 to #P600 wet.
— Fiberglass, (unbroken gel coat) degreased and sanded with #P320 to #P360 grit dry or #P500 to #P600 wet.

PREPARATION:

For detailed information on the use of primers and surfacer, refer to the following Technical Data Sheets (TDS):

- TDS Grip-Gard White Washprimer, Light Enhancing
- TDS Grip-Gard Epoxy Sealer White and Gray
- TDS Grip-Gard Epoxy 2.8/3.5
- TDS Grip-Gard Epoxy 4.6
- TDS Grip-Gard Brite White HF Primer
- TDS Grip-Gard HB Surfacer

Products and additives

MAIN PRODUCTS:

Grip-Gard Plus Intermix toners

Satin Black	Item # 391330
Low Gloss White	Item # 395650
312 Medium Bronze	Item # 398660
313 Dark Bronze	Item # 398661
313E Dark Bronze	Item # 398659
Brushed Aluminum	Item # 390473

HARDENER:

Grip-Gard Plus Hardener	Item # 398073

REDUCERS:

Grip-Gard Plus Reducer: A standard reducer for most climate temperatures	Item # 398318
Grip-Gard Plus Accelerator Reducer: A reducer with catalyst for faster cure times	Item # 395715
Grip-Gard Plus Retarder: A slow reducer for use in warmer temperatures	Item # 395716
Grip-Gard Plus Extra Slow Retarder: Extra slow reducer for high temperatures	Item # 391219
Grip-Gard Plus Exempt Reducer: A standard reducer with VOC exempt solvents	Item # 395709

ADDITIVES:

Grip-Gard Plus B01 Matte Reducer: A matte reducer designed to lower the gloss level of Grip-Gard Plus topcoats	Item # 390877
SuperTop Plus: An accelerator to speed cure time with minimal impact on pot life	Item #395714
Grip-Gard Plus 1K Touch Up Additive	Item # 390948
Grip-Gard Plus Brushing and Rolling Additive (See B/R TDS for instruction)	Item # 390909

GRIP-GARD® PLUS 3.5 POLYURETHANE

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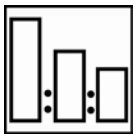
Basic raw materials

Grip-Gard Plus:	Acrylic resins, solvents
Grip-Gard Plus Hardener:	Polyisocyanate resins
Grip-Gard Plus Reducers:	Solvents
Grip-Gard Plus Accelerators:	Solvents containing a catalyst

Mixing



100 parts by volume Grip-Gard Plus Intermix color, Stock White, Black and Bronzes
50 parts Grip-Gard Plus Hardener
25 parts Grip-Gard Plus Reducer
Use Mixing Stick #101 (Black)

NOTE: When Mixing Brushed Aluminum Stock Color, DO NOT add the 25 parts reducer

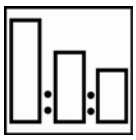
Stir after mixing
Grip-Gard Plus must be stirred thoroughly immediately after mixing the components.

ACCELERATOR MIXING RATIO: Supertop Plus Accelerator can be added to Grip-Gard Plus at a level of ½ to1 ounce per ready-to-spray quart, or 2 - 4 ounces per ready-to-spray gallon. Accelerator is not recommended above 80° F.

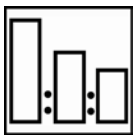
MIXING NOTE: For additional viscosity reduction while maintaining the required VOC, Grip-Gard Plus Exempt Reducer may be added. In VOC restricted areas, it is required that compliant products be used.

MIXING NOTE 2: In non-VOC restricted areas any Grip-Gard Plus Reducer or Retarder or Accelerator Reducer can be added for additional viscosity reduction.

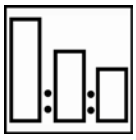
GLOSS BLENDS: Any gloss level can be achieved by using the appropriate blend of Grip-Gard Plus and Grip-Gard Plus B01 Matte Reducer.
Recommended Mix Ratios for Gloss Levels (by Volume)



SEMI GLOSS FINISH (USE MEASURING STICK #102)
100 parts by volume of Grip-Gard Plus topcoat, with
50 parts by volume of Grip-Gard Plus Hardener
100 parts by volume of Grip-Gard Plus B01 Matte Reducer



LOW GLOSS FINISH (USE MEASURING STICK #102)
100 parts by volume of Grip-Gard Plus topcoat, with
50 parts by volume of Grip-Gard Plus Hardener
125 parts by volume of Grip-Gard Plus B01 Matte Reducer



MATTE FINISH (USE MEASURING STICK #102)
100 parts by volume of Grip-Gard Plus topcoat, with
50 parts by volume of Grip-Gard Plus Hardener
150 parts by volume of Grip-Gard Plus B01 Matte Reducer

MATTE NOTE: For additional viscosity reduction, or for use in warm to hot / humid conditions, 5-10% Grip-Gard Plus Reducer, Retarder or Extra Slow Retarder may be added to final mix to improve performance.
In VOC restricted areas, it is required that compliant products be used. For maintaining the required 3.5 VOC in restricted areas, Grip-Gard Plus Exempt Reducer must be used.

MATTE NOTE: Gloss range may vary according to the amount of film build and cure time of topcoat.

GRIP-GARD® PLUS 3.5 POLYURETHANE

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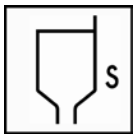
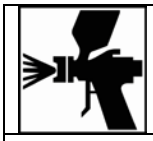
Viscosity



The proper viscosity achieved using the recommended mixing ratio.
Grip-Gard Plus 17 - 24 sec. DIN Cup #4 at 70°F (20°C).

Spray gun set-up / application pressure

	**Spray gun**	**Fluid tipset-up**	**Application pressure**
Gravity	1.3 – 1.5 mm	30–40 psi at spray gun air inlet	
Suction	1.4 – 1.7 mm	30–40 psi at spray gun air inlet	
HVLP Pressure	1.0 – 1.2 mm	HVLP max 10 psi (0.7 bar) at the air cap	12 – 16 oz/min
HVLP Siphon	1.8 – 2.2 mm	HVLP max 10 psi (0.7 bar) at the air cap	
HVLP Gravity	1.5 – 1.7 mm	HVLP max 10 psi (0.7 bar) at the air cap	
Pressure	1.0 – 1.4 mm	30–40 psi at spray gun air inlet	12 – 16 oz/min
Electrostatic	1.2 – 1.7 mm	40 – 50 psi at spray gun air inlet	12 – 14 oz/min
Airless Spray	0.011 – 0.015 mm	1500 – 3000 psi	
Air Assisted Airless	0.011 – 0.015 mm	700 – 900 psi	

Pot-life

Mixture with Grip-Gard Plus Hardener & Reducers:	1.5 - 2 hours at 70°F (20°C)
Mixture with Grip-Gard Plus Hardener & B01 Matte Reducer:	1.5 - 2 hours at 70°F (20°C)
Mixture with Accelerator Reducer or SuperTop Plus:	1.5 hours at 70°F (20°C)

Application process

SPRAY APPLICATION:

Solids: Apply 2 single medium wet coats with 2-3 minutes flash between coats. Additional coats may be required if applying clean vibrant bright colors.
Semi to Low gloss Solids - Apply 2 single consistent wet coats of Grip-Gard Plus using B01 Matte Reducer. Spray 6-8 inches from substrate with tight overlaps to avoid striping or mottling. Striping is appearance lines not consistent with the overall gloss of the sign. This is caused by excessive build up of paint in a particular area, usually caused by double coating or too narrow of a fan with spray gun. Mottling is significant gloss differences over large sections or entire sign, usually caused by very wide or erratic spray patterns. Other causes of mottling are heat and humidity related as well as poor spray gun performance.
Metallics: When spraying metallic colors, heavy or excessive coats can cause mottling or uneven distribution of aluminum flake. Metallic colors should be sprayed using medium wet coats with 3-5 minutes flash time between coats.

GRIP-GARD® PLUS 3.5 POLYURETHANE

JUNE 2012

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A light or dust coat (50% trigger) may be required immediately after final coat to even out the metallic pattern. Lighter coats will in most instances produce a lighter color while heavier coats will be darker.
Extra solvent (10-20%) may also be added to lighten metallics and improve flow of aluminum. In VOC restricted areas, use only Grip-Gard Plus Exempt Reducer (395709) as the additional solvent for metallics.

Semi to Low gloss metallic's - adding flatteners into Grip-Gard Plus metallic colors can severely distort the color causing the metallic to be dark and dull compared to the high gloss version. For cleaner and brighter metallics, it is recommended that a low or gloss modified clear be applied over the top of the Grip-Gard Plus high gloss metallic color. (See TDS for Grip-Gard Plus Clear coats)

TOUCH UP: Grip-Gard Plus 1K Touch up additive can be used with Grip-Gard Plus topcoats to touch up small areas or cover scratches in the field. See 1K Touch up additive TDS

Film thickness

By recommended application;

Grip-Gard Plus	1.0 –1.2 mils per single coat.

Recoatability

Grip-Gard Plus can be recoated with itself up to 48 hours without sanding. After 48 hours, sanding will be necessary.

NOTE: Vinyl graphics can be applied after 48 hours at 70^{O}F (20^{O}C). Or after 24 hours when Supertop Plus has been added. Reflective vinyl graphics require additional time (contact manufacturer for recommendation) before applying to avoid bubbling.

NOTE: Striping or lettering on Grip-Gard Plus must be applied within 24 hours to obtain good adhesion. After 24 hours, scuff with a gray scuffing pad.

Curing time

Curing at 70° F:
Dust Free: 50 Minutes Without Accelerator
Dry to Exposure: 24 Hours

Curing at 70° F With Accelerator:
Dust Free: 30 – 45 Minutes
Dry to Exposure: 1.5 – 2.5 Hours

Curing at 100° F:
Dust Free: 30 Minutes
Dry to Exposure: 1.5 Hours

Curing at 140° F:
Dust Free: 15 Minutes
Dry to Exposure: 30 Minutes

Note: Adding retarder or slower reducers can extend dust free time in cooler temperatures

Technical Data Sheet
Topcoats

GRIP-GARD® PLUS 3.5 POLYURETHANE

JUNE 2012

FOR PROFESSIONAL USE ONLY

Material usage

Approximate square foot coverage per gallon at 1 dry mil:

Transfer Efficiency	Gloss RTS	Low Gloss RTS
100% (Theoretical)	844	788
65% (HVLP)	548	512
35% (Conventional)	295	276

NOTE: 2.0 – 2.5 mils dry film thickness is recommended for warranty purposes.

Cleaning of equipment

	Clean equipment with Cleaning Solvent LV	Item# 391000

VOC

Grip-Gard Plus	Grip-Gard Plus (RTS per this TDS):	3.5 lb/gal. 420 g/liter

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE:
Grip-Gard Plus: Two years if stored unopened at room temperature.
Grip-Gard Plus Hardener: One year if stored unopened at room temperature.
Grip-Gard Plus Reducers: Two years if stored unopened at room temperature.

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ON THE WEB AT: www.signfinishes.com

Technical Data Sheet
Topcoats

GRIP-GARD® PLUS 4.0 POLYURETHANE

JUNE 2012

FOR PROFESSIONAL USE ONLY

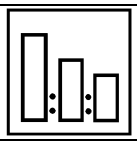
Description

Grip-Gard Plus is a high solid, two-component, polyurethane topcoat developed for application to metal signage components. Grip-Gard Plus is the most durable spray applied polyurethane metal finish available to the Sign industry. As Grip-Gard is an intermix toner system where topcoats can be mixed to match thousands of solid colors in any gloss level. In addition to solid colors the use of six additional metallic and transparent toners allows a broad range of metallic colors to be utilized in the Grip-Gard Plus system.

100 Grip Gard Plus Intermix Color, Stock White, Black and Bronzes
50 Grip-Gard Plus Hardener
30 Grip-Gard Plus Reducer

NOTE: When Mixing Brushed Aluminum Stock Color, DO NOT add the 30 parts reducer

Use the Measuring Stick #103 (Blue)



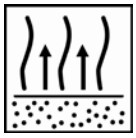
Semi / Satin / Low Gloss Finishes
Refer to mixing information later in this TDS
B02 Matte Reducer

Spray gun set-up:
Gravity: 1.3 – 1.5 mm
Siphon: 1.6 – 1.8 mm

Application pressure:
30–40 psi (2-3 bar) at the air inlet
HVLP max 10 psi (0.7 bar) at the air cap

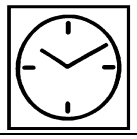
Application

Apply 2 medium wet coats



Flash between coats

2 – 3 minutes at 70°F (20°C)



24 hrs. at 70°F (20°C)
1.5 hrs. at 100°F (38°C)
30 min. at 140°F (60°C)
Accelerated: 1.5-2.5 hrs. at 70°F (20°C)

Use suitable respiratory protection
Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator

GRIP-GARD® PLUS 4.0 POLYURETHANE

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard Plus is a high solid, two-component, polyurethane topcoat developed for application to metal signage components. Grip-Gard Plus is the most durable spray applied polyurethane metal finish available to the Sign industry. As Grip-Gard is an intermix toner system where topcoats can be mixed to match thousands of solid colors in any gloss level. In addition to solid colors the use of six additional metallic and transparent toners allows a broad range of metallic colors to be utilized in the Grip-Gard Plus system.

Grip-Gard Plus Environmental Statement

All Grip-Gard Plus toners, hardeners, reducers and additives are lead and chrome free. No products from AkzoNobel Sign Finishes, including the lead and chrome free primers contain heavy metals such as manganese, nickel and cadmium in amounts high enough to reach the MSDS reportable threshold.

Suitable substrates

- All Grip-Gard primers and surfacers.
- Most existing finishes, degreased and sanded with #P320 to #P400 grit paper dry or #P500 to #P600 wet.
- Fiberglass, (unbroken gel coat) degreased and sanded with #P320 to #P360 grit dry or #P500 to #P600 wet.

PREPARATION:

For detailed information on the use of primers and surfacer, refer to the following Technical Data Sheets (TDS):

- TDS Grip-Gard White Washprimer, Light Enhancing
- TDS Grip-Gard Epoxy Sealer White and Gray
- TDS Grip-Gard Epoxy 2.8/3.5
- TDS Grip-Gard Epoxy 4.6
- TDS Grip-Gard Brite White HF Primer
- TDS Grip-Gard HB Surfacer

Products and additives

MAIN PRODUCTS:

Grip-Gard Plus Intermix toners

Satin Black	Item # 391330
Low Gloss White	Item # 395650
312 Medium Bronze	Item # 398660
313 Dark Bronze	Item # 398661
313E Dark Bronze	Item # 398659
Brushed Aluminum	Item # 390473

HARDENER:

Grip-Gard Plus Hardener	Item # 398073

REDUCERS:

Grip-Gard Plus Reducer: A standard reducer for most climate temperatures	Item # 398318
Grip-Gard Plus Accelerator Reducer: A reducer with catalyst for faster cure times	Item # 395715
Grip-Gard Plus Retarder: A slow reducer for use in warmer temperatures	Item # 395716
Grip-Gard Plus Extra Slow Retarder: Extra slow reducer for high temperatures	Item # 391219
Grip-Gard Plus Exempt Reducer: A standard reducer with VOC exempt solvents	Item # 395709

ADDITIVES:

Grip-Gard Plus B02 Matte Reducer: A matte reducer designed to lower the gloss level of Grip-Gard Plus topcoats	Item # 391218
SuperTop Plus: An accelerator to speed cure time with minimal impact on pot life	Item #395714
Grip-Gard Plus 1K Touch Up Additive	Item # 390948
Grip-Gard Plus Brushing and Rolling Additive (See B/R TDS for instruction)	Item # 390909

GRIP-GARD® PLUS 4.0 POLYURETHANE

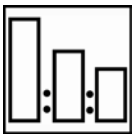
JUNE 2012

FOR PROFESSIONAL USE ONLY

Basic raw materials

Grip-Gard Plus:	Acrylic resins, solvents
Grip-Gard Plus Hardener:	Polyisocyanate resins
Grip-Gard Plus Reducers:	Solvents
Grip-Gard Plus Accelerators:	Solvents containing a catalyst

Mixing



100 parts by volume Grip-Gard Plus Intermix color, Stock White, Black and Bronzes
50 parts Grip-Gard Plus Hardener
30 parts Grip-Gard Plus Reducer
Use Mixing Stick #103 (Blue)

NOTE: When Mixing Brushed Aluminum Stock Color, DO NOT add the 30 parts reducer

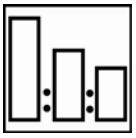
Stir after mixing
Grip-Gard Plus must be stirred thoroughly immediately after mixing the components.

ACCELERATOR MIXING RATIO: Supertop Plus Accelerator can be added to Grip-Gard Plus at a level of ½ to1 ounce per ready-to-spray quart, or 2 - 4 ounces per ready-to-spray gallon. Accelerator is not recommended above 80° F.

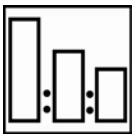
MIXING NOTE: For additional viscosity reduction while maintaining the required VOC, Grip-Gard Plus Exempt Reducer may be added. In VOC restricted areas, it is required that compliant products be used.

MIXING NOTE 2: In non-VOC restricted areas any Grip-Gard Plus Reducer or Retarder or Accelerator Reducer can be added for additional viscosity reduction.

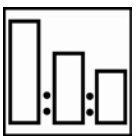
GLOSS BLENDS: Any gloss level can be achieved by using the appropriate blend of Grip-Gard Plus and Grip-Gard Plus B01 Matte Reducer.
Recommended Mix Ratios for Gloss Levels (by Volume)



SEMI GLOSS FINISH (USE MEASURING STICK #110 GREY)
100 parts by volume of Grip-Gard Plus topcoat, with
50 parts by volume of Grip-Gard Plus Hardener
75 parts by volume of Grip-Gard Plus B02 Matte Reducer



LOW GLOSS FINISH (USE MEASURING STICK #110 GREY)
100 parts by volume of Grip-Gard Plus topcoat, with
50 parts by volume of Grip-Gard Plus Hardener
90 parts by volume of Grip-Gard Plus B02 Matte Reducer



MATTE FINISH (USE MEASURING STICK #110 GREY)
100 parts by volume of Grip-Gard Plus topcoat, with
50 parts by volume of Grip-Gard Plus Hardener
110 parts by volume of Grip-Gard Plus B02 Matte Reducer

MATTE NOTE: For additional viscosity reduction, or for use in warm to hot / humid conditions, 5-10% Grip-Gard Plus Reducer, Retarder or Extra Slow Retarder may be added to final mix to improve performance.
In VOC restricted areas, it is required that compliant products be used. For maintaining the required 3.5 VOC in restricted areas, Grip-Gard Plus Exempt Reducer must be used.

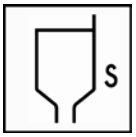
GRIP-GARD® PLUS 4.0 POLYURETHANE

JUNE 2012

FOR PROFESSIONAL USE ONLY

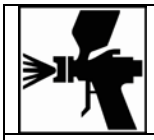
MATTE NOTE: Gloss range may vary according to the amount of film build and cure time of topcoat.

Viscosity



The proper viscosity achieved using the recommended mixing ratio.
Grip-Gard Plus 17 - 24 sec. DIN Cup #4 at 70°F (20°C).

Spray gun set-up / application pressure

	**Spray gun**	**Fluid tipset-up**	**Application pressure**
Gravity	1.3 – 1.5 mm	30–40 psi at spray gun air inlet	
Suction	1.4 – 1.7 mm	30–40 psi at spray gun air inlet	
HVLP Pressure	1.0 – 1.2 mm	HVLP max 10 psi (0.7 bar) at the air cap	12 – 16 oz/min
HVLP Siphon	1.8 – 2.2 mm	HVLP max 10 psi (0.7 bar) at the air cap	
HVLP Gravity	1.5 – 1.7 mm	HVLP max 10 psi (0.7 bar) at the air cap	
Pressure	1.0 – 1.4 mm	30–40 psi at spray gun air inlet	12 – 16 oz/min
Electrostatic	1.2 – 1.7 mm	40 – 50 psi at spray gun air inlet	12 – 14 oz/min
Airless Spray	0.011 – 0.015 mm	1500 – 3000 psi	
Air Assisted Airless	0.011 – 0.015 mm	700 – 900 psi	

Pot-life

Mixture with Grip-Gard Plus Hardener & Reducers:	1.5 - 2 hours at 70°F (20°C)
Mixture with Grip-Gard Plus Hardener & B01 Matte Reducer:	1.5 - 2 hours at 70°F (20°C)
Mixture with Accelerator Reducer or SuperTop Plus:	1.5 hours at 70°F (20°C)

Application process

SPRAY APPLICATION:

Solids: Apply 2 single medium wet coats with 2-3 minutes flash between coats. Additional coats may be required if applying clean vibrant bright colors.
Semi to Low gloss Solids - Apply 2 single consistent wet coats of Grip-Gard Plus using B02 Matte Reducer. Spray 6-8 inches from substrate with tight overlaps to avoid striping or mottling. Striping is appearance lines not consistent with the overall gloss of the sign. This is caused by excessive build up of paint in a particular area, usually caused by double coating or too narrow of a fan with spray gun. Mottling is significant gloss differences over large sections or entire sign, usually caused by very wide or erratic spray patterns. Other causes of mottling are heat and humidity related as well as poor spray gun performance.

GRIP-GARD® PLUS 4.0 POLYURETHANE

JUNE 2012

FOR PROFESSIONAL USE ONLY

Metallics: When spraying metallic colors, heavy or excessive coats can cause mottling or uneven distribution of aluminum flake. Metallic colors should be sprayed using medium wet coats with 3-5 minutes flash time between coats.
A light or dust coat (50% trigger) may be required immediately after final coat to even out the metallic pattern. Lighter coats will in most instances produce a lighter color while heavier coats will be darker.
Extra solvent (10-20%) may also be added to lighten metallics and improve flow of aluminum. In VOC restricted areas, use only Grip-Gard Plus Exempt Reducer (395709) as the additional solvent for metallics.

Semi to Low gloss metallic's - adding flatteners into Grip-Gard Plus metallic colors can severely distort the color causing the metallic to be dark and dull compared to the high gloss version. For cleaner and brighter metallics, it is recommended that a low or gloss modified clear be applied over the top of the Grip-Gard Plus high gloss metallic color. (See TDS for Grip-Gard Plus Clear coats)

TOUCH UP: Grip-Gard Plus 1K Touch up additive can be used with Grip-Gard Plus topcoats to touch up small areas or cover scratches in the field. See 1K Touch up additive TDS

Film thickness

By recommended application;
Grip-Gard Plus 1.0 –1.2 mils per single coat.

Recoatability

Grip-Gard Plus can be recoated with itself up to 48 hours without sanding. After 48 hours, sanding will be necessary.

NOTE: Vinyl graphics can be applied after 48 hours at 70^{O}F (20^{O}C). Or after 24 hours when Supertop Plus has been added. Reflective vinyl graphics require additional time (contact manufacturer for recommendation) before applying to avoid bubbling.

NOTE: Striping or lettering on Grip-Gard Plus must be applied within 24 hours to obtain good adhesion. After 24 hours, scuff with a gray scuffing pad.

Curing time

Curing at 70° F:
Dust Free: 50 Minutes Without Accelerator
Dry to Exposure: 24 Hours

Curing at 70° F With Accelerator:
Dust Free: 30 – 45 Minutes
Dry to Exposure: 1.5 – 2.5 Hours

Curing at 100° F:
Dust Free: 30 Minutes
Dry to Exposure: 1.5 Hours

Curing at 140° F:
Dust Free: 15 Minutes
Dry to Exposure: 30 Minutes

Note: Adding retarder or slower reducers can extend dust free time in cooler temperatures

Technical Data Sheet
Topcoats

GRIP-GARD® PLUS 4.0 POLYURETHANE

JUNE 2012

FOR PROFESSIONAL USE ONLY

Material usage

Approximate square foot coverage per gallon at 1 dry mil:

Transfer Efficiency	Gloss RTS	Low Gloss RTS
100% (Theoretical)	844	788
65% (HVLP)	548	512
35% (Conventional)	295	276

NOTE: 2.0 – 2.5 mils dry film thickness is recommended for warranty purposes.

Cleaning of equipment

Clean equipment with Cleaning Solvent LV Item# 391000

VOC

Grip-Gard Plus — Grip-Gard Plus (RTS per this TDS): 4.0 lb/gal. 480 g/liter

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE:
Grip-Gard Plus: Two years if stored unopened at room temperature.
Grip-Gard Plus Hardener: One year if stored unopened at room temperature.
Grip-Gard Plus Reducers: Two years if stored unopened at room temperature.

Head Office
Akzo Nobel Signfinishes Inc.
3785 Parkway Lane, Norcross, GA 30092, USA. 770-662-8464
ON THE WEB AT: www.signfinishes.com

Technical Data Sheet
Topcoats

GRIP-GARD® PLUS 1K TOUCH UP ADDITIVE

JUNE 2012

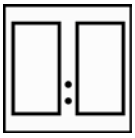
FOR PROFESSIONAL USE ONLY

Description

1K Touch Up Additive was designed to convert Grip-Gard Plus toners and colors into one component coatings that can be applied by brush, spray gun or aerosol to installed signs for field touch up. When used in Grip-Gard Plus without hardener, it provides unlimited pot life, quick air dry and consistency in gloss and color compared to the original finish. It is intended to be used for touch up purposes only.

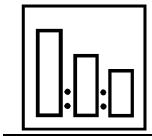
- First clean the area with Soap and Water
- Then clean with M600 Wax and grease remover and dry with a clean towel

Existing finish should be sanded or scuffed to eliminate surface roughness in the scratch. Avoid sanding to bare metal when possible.



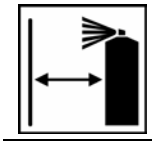
100 Grip Gard Plus Original Sign Color
100 Grip-Gard Plus 1KTouch Up Additive

Use any Mixing Stick. Simply double the number in any column.

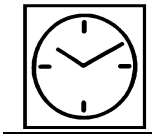


Semi / Satin/ Low Gloss Finishes
Refer to mixing information later in this TDS with B02 Matte Reducer by weight

Apply Solid Colors with a small brush or a small foam roller as needed to obtain opacity. Use appropriate solvent resistant brush.



Apply Metallic colors with a spray gun or an aerosol can as needed to obtain opacity. Brush application with metallic colors will not produce the desired appearance.



GRIP-GARD PLUS WITH 1K TOUCH UP ADDITIVE
Dry to touch 45 minutes at 70°F (20°C)

GRIP-GARD® PLUS 1K TOUCH UP ADDITIVE

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

1K Touch Up Additive was designed to convert Grip-Gard Plus toners and colors into one component coatings that can be applied by brush, spray gun or aerosol to installed signs for field touch up. When used in Grip-Gard Plus without hardener, it provides unlimited pot life, quick air dry and consistency in gloss and color compared to the original finish. It is intended to be used for touch up purposes only.

Suitable substrates

- All Grip-Gard primers and surfacers.
- Grip-Gard Plus coated substrates that have been scratched or damaged in a minor way.
- ***For touch up only***

Products and additives

MAIN PRODUCTS:

Grip Gard Plus Topcoat	N/A

REDUCERS:

Grip-Gard Plus 1K Touch Up Additive	Item # 390948
Grip-Gard Plus Extra Slow Retarder: Extra slow reducer for high temperatures	Item # 391219

Basic raw materials

Grip-Gard Plus:	Acrylic resins, solvents
1K Touch Up Additive:	Solvent and physically drying binders
Grip-Gard Plus Reducers:	Solvents

Mixing:

COLOR MIXING: To use 1K Touch Up Additive with varied gloss levels, the paint must be pre-flattened prior to the addition of hardener and reducer. Any gloss level can be achieved by using the appropriate blend of Grip-Gard Plus and Grip-Gard Plus B02 Matte Reducer.

SEMI GLOSS:

Volume required	Volume to select in Mixit	B02 Volume to add
1 Pint	select .27 liter	198.0 grams B02
1 Quart	select .54 liter	397.0 grams B02
2 Quart	select 1.09 liter	794.0 grams B02
1 Gallon	select 2.19 liter	1589.0 grams B02

SATIN GLOSS:

Volume required	Volume to select in Mixit	B02 Volume to add
1 Pint	select .25 liter	219.0 grams B02
1 Quart	select .50 liter	439.0 grams B02
2 Quart	select 1.0 liter	878.0 grams B02
1 Gallon	select 2.0 liter	1757.0 grams B02

FLAT GLOSS:

Volume required	Volume to select in Mixit	B02 Volume to add
1 Pint	select .22 liter	242.0 grams B02
1 Quart	select .45 liter	485.0 grams B02
2 Quart	select .90 liter	971.0 grams B02
1 Gallon	select 1.81 liter	1943.0 grams B02

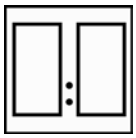
Stir after mixing
Grip-Gard Plus and B02 must be stirred thoroughly directly after mixing the components

FURTHER MIXING: **The pre-flattened color must then be made ready for use by adding 1K Touch Up Additive**

GRIP-GARD® PLUS 1K TOUCH UP ADDITIVE

JUNE 2012

FOR PROFESSIONAL USE ONLY



100 parts by volume Grip-Gard Plus original color
100 parts Grip-Gard Plus 1K Touch Up Additive

MIXING NOTE: When applied on surfaces in hot weather, leveling of GRIP-GARD PLUS can be improved by the addition of 10 – 15% Extra Slow Retarder.

MIXING NOTE 2: For additional viscosity reduction while maintaining the required VOC, Grip-Gard Plus Exempt Reducer may be added. In VOC restricted areas, it is required that compliant products be used.

Pot-life

Mixture with Grip-Gard Plus and 1K Touch Up Additive: None

Preparation process

Existing or Old finishes:

- Wash with lanolin free detergent and rinse well with clean water.
- Degrease with M600 Wax & Grease Remover to prevent sanding any contaminants into finish.
- Sand with # P320 - # P400 grit paper dry or # P500 - # 600 grit paper wet.
- Blow off residue with air hose if available.
- Re-apply M600 wax and grease remover. Wipe dry with a clean cloth.

FERROUS METALS AND NON FERROUS METALS:

All bare metals should be primed with a suitable corrosion resistant primer. Following preparation procedures above to remove any rust or contamination before priming. Recommend Akzo Nobel Sign Finishes Autoprep™ Etching Pen CF Item # 398576, Washprimer 1K CF Aerosol item # 390992 or Autoprep Pre-treatment wipes item #1014570 for 1K Touch Up field application.

Note: Some old alkyd based finishes may lift or wrinkle due to the strong solvent used in GRIP-GARD PLUS. Test a small area before starting a project. If the old finish is not secure and wrinkles, remove it and start from base metal.

Application process

- Apply 1 wet coat followed by a second coat after 10-15 minutes flash time. A third coat may be nessessary for bright colors where full hiding is not achieved.
- To make this product usable in the broadest range of application temperatures, slow evaporating solvents have been used. It is not recommended to apply GRIP-GARD PLUS if the ambient temperature is below 50°F. Application below 50 ° F may cause excessive dry times and paint failure.
- GRIP-GARD PLUS colors have excellent hiding and should cover with minimal coats. Bright colors may require more coats to achieve sufficient hiding power for brushing and rolling application

Recoatability

Grip-Gard Plus 1K Touch Up can be recoated with itself at any time

Technical Data Sheet
Topcoats

GRIP-GARD® PLUS 1K TOUCH UP ADDITIVE

JUNE 2012

FOR PROFESSIONAL USE ONLY

Curing time

Curing at 70° F:
Dry to touch in 45 minutes

Cleaning of equipment

Clean equipment with Cleaning Solvent LV Item# 391000

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE: Grip-Gard Plus: Two years if stored unopened at room temperature.
Grip-Gard Plus 1K Touch Up Additive: Two years if stored unopened at room temperature.

Head Office
Akzo Nobel Signfinishes Inc.
3785 Parkway Lane, Norcross, GA 30092, USA. 770-662-8464
ON THE WEB AT: www.signfinishes.com

Technical Data Sheet
Topcoats

GRIP-GARD® PLUS BRUSH / ROLL ADDITIVE®

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

The GRIP-GARD PLUS Brushing/Rolling Additive is designed to convert GRIP-GARD® PLUS spray paint into a coating that can be used for brush & roll application.

100 Grip Gard Plus (High Gloss)
50 Grip-Gard Plus Hardener
25 Grip-Gard Plus Brushing and rolling additive

Use the Measuring Stick #101 (Black)

Semi / Satin/ Low Gloss Finishes
Refer to mixing information later in this TDS with B02 Matte Reducer by weight

Apply as needed to obtain opacity. Use appropriate solvent resistant brush.

Apply as needed to obtain opacity. Use appropriate solvent resistant roller.

GRIP-GARD PLUS
20 hours at 70°F (20°C)
2.5 hours at 100°F (38°C)
Do not apply at temperatures below 50 ° F

Use suitable respiratory protection
Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator

Technical Data Sheet
Topcoats

GRIP-GARD® PLUS BRUSH / ROLL ADDITIVE®

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

The GRIP-GARD PLUS Brushing/Rolling Additive is designed to convert GRIP-GARD® PLUS spray paint into a coating that can be used for brush & roll application.

Suitable substrates

- All Grip-Gard primers and surfacers.
- Most existing finishes, degreased and sanded with #P320 to #P400 grit paper dry or #P500 to #P600 wet.
- Fiberglass, (unbroken gel coat) degreased and sanded with #P320 to #P360 grit dry or #P500 to #P600 wet.

Products and additives

MAIN PRODUCTS:

Grip Gard Plus Topcoat	N/A

HARDENER:

Grip-Gard Plus Hardener	Item # 398073

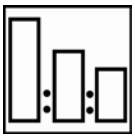
REDUCERS:

Grip-Gard Plus Brush and Roll Additive	Item # 390909
Grip-Gard Plus Extra Slow Retarder: Extra slow reducer for high temperatures	Item # 391219

Basic raw materials

Grip-Gard Plus:	Acrylic resins, solvents
Grip-Gard Plus Hardener:	Polyisocyanate resins
Grip-Gard Plus Reducers:	Solvents

Mixing:



HIGH GLOSS RATIO

100 parts by volume Grip-Gard Plus Intermix color, Stock White, Black and Bronzes
50 parts Grip-Gard Plus Hardener
25 parts Grip-Gard Plus Brushing and Rolling Additive
Use Mixing Stick #101 (Black)

GRIP-GARD PLUS Metallic Colors: are not recommended for Brush and Roll Application

LOWER GLOSS LEVEL MIXING:

To use Brush and roll Additive with varied gloss levels, the paint must be pre-flattened prior to the addition of hardener and reducer. Any gloss level can be achieved by using the appropriate blend of Grip-Gard Plus and Grip-Gard Plus B02 Matte Reducer.

SEMI GLOSS:

Volume required	Volume to select in Mixit	B02 Volume to add
1 Pint	select .27 liter	198.0 grams B02
1 Quart	select .54 liter	397.0 grams B02
2 Quart	select 1.09 liter	794.0 grams B02
1 Gallon	select 2.19 liter	1589.0 grams B02

SATIN GLOSS:

Volume required	Volume to select in Mixit	B02 Volume to add
1 Pint	select .25 liter	219.0 grams B02
1 Quart	select .50 liter	439.0 grams B02
2 Quart	select 1.0 liter	878.0 grams B02
1 Gallon	select 2.0 liter	1757.0 grams B02

FLAT GLOSS:

Volume required	Volume to select in Mixit	B02 Volume to add
1 Pint	select .22 liter	242.0 grams B02
1 Quart	select .45 liter	485.0 grams B02
2 Quart	select .90 liter	971.0 grams B02
1 Gallon	select 1.81 liter	1943.0 grams B02

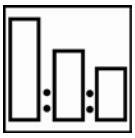
GRIP-GARD® PLUS BRUSH / ROLL ADDITIVE®

JUNE 2012

FOR PROFESSIONAL USE ONLY

Stir after mixing
Grip-Gard Plus and B02 must be stirred thoroughly directly after mixing the components

FURTHER MIXING: **The pre-flattened color must then be made ready for use by adding hardener and Brushing & Rolling Additive.**

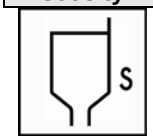


4 parts by volume Grip-Gard Plus Intermix color, Stock White, Black and Bronzes
1 part Grip-Gard Plus Hardener
1 part Grip-Gard Plus Brushing and Rolling Additive
Use Mixing Stick #109 (Light Blue)

MIXING NOTE: When brushing or rolling on surfaces in hot weather, leveling of GRIP-GARD PLUS can be improved by the addition of 10 – 15% Extra Slow Retarder.

MIXING NOTE 2: For additional viscosity reduction while maintaining the required VOC, Grip-Gard Plus Exempt Reducer may be added. In VOC restricted areas, it is required that compliant products be used.

Viscosity



The proper viscosity achieved using the recommended mixing ratio.
Grip-Gard Plus 17 - 24 sec. DIN Cup #4 at 70°F (20°C).

Pot-life

Mixture with Grip-Gard Plus Hardener & Reducers:	1.5 - 2 hours at 70°F (20°C)
Mixture with Grip-Gard Plus Hardener & B02 Matte Reducer:	1.5 - 2 hours at 70°F (20°C)
Mixture with Accelerator Reducer or SuperTop Plus:	1.5 hours at 70°F (20°C)

Preparation process

Existing or Old finishes:

- Wash with lanolin free detergent and rinse well with clean water.
- Degrease with M600 Wax & Grease Remover to prevent sanding any contaminants into finish.
- Sand with # P320 - # P400 grit paper dry or # P500 - # 600 grit paper wet.
- Blow off residue with air hose if available.
- Re-apply M600 wax and grease remover. Wipe dry with a clean cloth.

FERROUS METALS AND NON FERROUS METALS:
All bare metals should be primed with a suitable corrosion resistant primer. Following preparation procedures above to remove any rust or contamination before priming. Recommend Akzo Nobel Sign Finishes Autoprep™ Etching Pen CF Item # 398576, Washprimer 1K CF Aerosol item # 390992 or Autoprep Pre-treatment wipes item #1014570 for 1K Touch Up field application.

Note: Some old alkyd based finishes may lift or wrinkle due to the strong solvent used in GRIP-GARD PLUS. Test a small area before starting a project. If the old finish is not secure and wrinkles, remove it and start from base metal.

GRIP-GARD® PLUS BRUSH / ROLL ADDITIVE®

JUNE 2012

FOR PROFESSIONAL USE ONLY

Application process

- Apply 1 wet coat using a solvent resistant brush or roller followed by a second coat after 10-15 minutes flash time. A third coat may be nessessary for bright colors where full hiding is not achieved.
- To make this product usable in the broadest range of application temperatures, slow evaporating solvents have been used. It is not recommended to apply GRIP-GARD PLUS if the ambient temperature is below 50°F. Application below 50 °F may cause excessive dry times and paint failure.
- GRIP-GARD PLUS colors have excellent hiding and should cover with minimal coats. Bright colors may require more coats to achieve sufficient hiding power for brushing and rolling application

Film thickness

By recommended application;

Grip-Gard Plus	1.0 –1.2 mils per single coat.

Recoatability

Grip-Gard Plus can be recoated with itself up to 48 hours without sanding. After 48 hours, sanding will be necessary.

NOTE: Striping or lettering on Grip-Gard Plus must be applied within 24 hours to obtain good adhesion. After 24 hours, scuff with a gray scuffing pad.

Curing time

Curing at 70° F:
Dust Free: 50 Minutes
Dry to Exposure: 20 Hours

Curing at 100° F:
Dust Free: 30 Minutes
Dry to Exposure: 2.5 Hours

Material usage

NOTE: 2.0 – 2.5 mils dry film thickness is recommended for warranty purposes.

Cleaning of equipment

Clean equipment with Cleaning Solvent LV Item# 391000

Product storage

Store products unopened, and used products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

SHELF LIFE:

Grip-Gard Plus: Two years if stored unopened at room temperature.
Grip-Gard Plus Hardener: One year if stored unopened at room temperature.
Grip-Gard Plus Brush and Roll Additive: Two years if stored unopened at room temperature.

GRIP-GARD® PLUS BRUSH / ROLL ADDITIVE®

JUNE 2012

FOR PROFESSIONAL USE ONLY

Head Office
Akzo Nobel Signfinishes Inc.
3785 Parkway Lane, Norcross, GA 30092, USA. 770-662-8464
ON THE WEB AT: www.signfinishes.com

Technical Data Sheet
Topcoats

GRIP-GARD® PLUS TEXTURE APPLICATION WITH PROPYLTEX WAXES

JUNE 2012

FOR PROFESSIONAL USE ONLY

Description

Grip-Gard Plus can be modified with PROPYLTEX waxes (Micro Powders, Inc.) to obtain a texture finish or a suede appearance. The three grades currently recommended are PROPYLTEX 20 (840 micron particle size) and PROPYLTEX 50 (300 micron particle size) and PROPYLTEX 100S (149 micron particle size). PROPYLTEX 20 is the coarsest of the three waxes. The PROPYLTEX wax can be stirred in with a mixing blade.

Please contact TH Hilson Company at 1.800.665.3087 to get further information or to place an order.

ADDING PROPYLTEX:

TEXTURE BLENDING RATIO FOR GRIP-GARD PLUS WITH PROPYLTEX 20 & 50:

Amount to be entered in the MIXIT 2000 formula Amount Box	Amount of PROPYLTEX 20 or 50 to weigh and stir into GGP	Amount of GGP obtained before adding Hardener and Reducer
0.80	100 grams	1 quart
1.60	200 grams	2 quarts
2.40	300 grams	3 quarts
3.20	400 grams	1 gallon

SUEDE TEXTURE BLENDING RATIO FOR GRIP-GARD PLUS WITH PROPYLTEX 100S:

Amount to be entered in the MIXIT 2000 formula Amount Box	**Amount of PROPYLTEX 100S to weigh and stir into GGP**	**Amount of GGP obtained before adding Hardener and Reducer**
0.75	**150 grams**	**1 quart**
1.50	**300 grams**	**2 quarts**
2.25	**450 grams**	**3 quarts**
3.0	**600 grams**	**1 gallon**

Stir thoroughly with mixing blade

Use suitable respiratory protection

Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator. Wear an approved respirator for organic solvents and dust particulates

TDS:

For further application data, please refer to the normal Grip-Gard Plus TDS Sheets.

Technical Data Sheet
Topcoats

GRIP-GARD® PLUS TEXTURE APPLICATION WITH PROPYLTEX WAXES

JUNE 2012

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Description

Grip-Gard Plus can be modified with PROPYLTEX waxes (Micro Powders, Inc.) to obtain a texture finish or a suede appearance. The three grades currently recommended are PROPYLTEX 20 (840 micron particle size) and PROPYLTEX 50 (300 micron particle size) and PROPYLTEX 100S (149 micron particle size). PROPYLTEX 20 is the coarsest of the three waxes. The PROPYLTEX wax can be stirred in with a mixing blade.

Please contact TH Hilson Company at 1.800.665.3087 to get further information or to place an order.

NOTES:

- Wear approved protective respirator when adding PROPYLTEX wax to Grip-Gard Plus.
- The Red Devil® company makes available low cost effective mixing blades. See website http://www.reddevil.com/products.cfm?c=pt&cat=15 for mixing blades and availability.
- Do not strain Grip-Gard Plus after adding the PROPYLTEX wax. If a PPS system is being used make sure the filter is removed from the cup.
- See appropriate TDS for mixing instruction with Hardener and selected Reducers.
- The number of coats applied will ultimately determine the Texture appearance.

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ON THE WEB AT: www.signfinishes.com

Physical Characteristics & Test Data
Grip-Gard Plus Sign Finishes

Akzo Nobel's Grip-Gard Plus for metal has been tested using the methods listed below with very good results on a variety of substrates.

Test Description	Test Method	Test Results	Conclusions
QUV	ASTM-D4587	1500 hrs= 94% gloss retention	Excellent
Humidity	ASTM-D-2247	30 Days / Blistering = 0 on scale of 1-10 Adhesion = 5A	No effect
Water Immersion	ASTM-D870	5 Days / Blistering = 0 on scale of 1-10 Adhesion = 5A	No effect
Pencil Hardness	ASTM-D-3363	2H	Good mar & scratch resistance
Salt Spray	ASTM- B117	250 Hours / Adhesion = 5A Blistering F/ 8 Rust Creep =<1	Good adhesion; with virtually no blisters / rust
Impact Resistance	ASTM-D-2794	Direct - 120 inch-lbs Reverse - 64 inch-lbs	Excellent
Flexibility	ASTM-D-522	Pass at 3.0 mils film thickness	Good Flexibility
MEK Double Rubs	ASTM-D-4752	Over 200 double rubs	No effect
Gravelometer (Stone chip resistance)	ASTM-D-3170	GM Rating 7	Excellent
GM Accelerated Corrosion	GM9540P	80+ cycles / Blistering F/ 8 Rust Creep =<1	Excellent corrosion resistance

Chemical Resistance Testing

Grip-Gard Plus has been tested for chemical resistance against the following assortment and has shown excellent resistance to damage.

Acetic Acid, Aqueous Fire Fighting Foam (AFFF), Anti-freeze, Brake Fluid, Diesel Fuel, Diesel Fuel Conditioner, Truck Wash Solutions, Hydrochloric Acid, Hydraulic Fluid, Sodium Hydroxide, Phosphoric Acid, Sulfuric Acid, Unleaded Fuel, Graffiti Removers. Test results may be dependent on substrate and the preparation of the substrate as well as pretreatments and primers used.

Akzo Nobel Coatings Inc.
3785 Parkway Lane
Norcross, GA 30092
1-800-618-1010

Technical Data Sheet
Masking Materials

GRIP-MASK® STRIPPABLE COATING

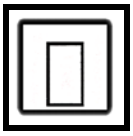
June 2012

FOR PROFESSIONAL USE ONLY

Description

GRIP-MASK is a water based transparent strippable coating used as a premium masking material in the decoration of multicolored plastic signage. The unmatched quality of Grip-Mask makes it the choice of sign manufacturing professionals.

Clean plastic with T-4000. Remove static electricity with a 1:1 solution of T-4000 and clean water.



Ready to Spray

Spray gun set-up:

Airless	.017-.023” - 0.44-0.59 mm
Siphon Feed	.086” - 2.2 mm
Pressure Feed:	.078-.086” - 2.0-2.2 mm
HVLP	.070-.110” 1.8-2.8 mm

Application

Apply 20-25 wet mils. Approximately 3 coats with an airless applicator. More coats required with conventional spray equipment

No flash time between coats is required.

- 12 – 24 hours at 65 - 95°F (18 - 35°C) 50%RH
- Grip-Mask May be force dried at 100 to 110°F
- Increasing the air flow over the Grip-Mask will reduce the dry times

Use suitable respiratory protection
Akzo Nobel Sign Refinishes recommends the use of a fresh air supply respirator

Protect From Freezing. If frozen, the product will separate and have a watery liquid on top with a clumped appearance in the bottom that will not re-incorporate.

Technical Data Sheet
Masking Materials

GRIP-MASK® STRIPPABLE COATING

June 2012

FOR PROFESSIONAL USE ONLY

Description

GRIP-MASK is a water based transparent strippable coating used as a premium masking material in the decoration of multicolored plastic signage. The unmatched quality of Grip-Mask makes it the choice of sign manufacturing professionals.

Suitable substrates

—Polycarbonate, Acrylic, impact modified acrylic, ABS, Styrene, and many flexible rigid and flexible vinyl's.

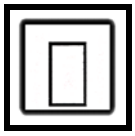
Products and additives

PRODUCT:		
	Grip-Mask Transparent; 1 Gallon	Item # 386310
	Grip-Mask Transparent; 5 Gallon	Item # 386311
	Grip-Mask Transparent; 53 Gallon	Item # 386312
	Grip-Mask Blue; 1 Gallon	Item # 386461
	Grip-Mask Blue; 1 Gallon	Item # 386462
	Grip-Mask Blue; 1 Gallon	Item # 386463

Basic raw materials

Emulsified resins and plasticizers.

Mixing



Ready To Spray

Spray gun set-up / application pressure

Spray gun	Fluid tip set-up
Airless	.017-.023” - 0.44-0.59 mm
Siphon Feed	.086” - 2.2 mm
Pressure Feed:	.078-.086” - 2.0-2.2 mm
HVLP	.070-.110” 1.8-2.8 mm

Pot-life

3 weeks (21 days) after any container is opened

Application process

- With Airless spray, apply 3 wet coats. Little or no flash time is required.
- With conventional spray equipment additional coats may be required.
- The use of a wet film gauge is recommended. Failure to apply the 20 – 25 wet film layer thickness will not give sufficient film for protection. Additionally the coating will not peel as desired.

Film thickness

Grip-Mask — Approximately 7 - 8 wet mils per single coat.

Recoatability

Grip-Mask can be recoated after drying with

- Grip-Gard BC Flex System
- Grip-Flex
- Other Plastic Paints

Technical Data Sheet
Masking Materials

GRIP-MASK® STRIPPABLE COATING

June 2012

FOR PROFESSIONAL USE ONLY

Curing time

- 12 – 24 hours at 65 - 95°F (18 - 35°C) 50%RH
- Grip-Mask May be force dried at 100 to 110°F
- Increasing the air flow over the Grip-Mask will reduce the dry times

Film Characteristics

Cutting	Excellent
Elongation at rupture	150 – 200%
Tensile Strength	1500 psi
Adhesion	0.4 – 0.6 lb/linear inch
Chemical resistance	Excellent against aromatic, aliphatic and alcohols for a short period.
Re-stick	Excellent

VOC

Grip-Mask: 0.0 lb/gal. 0 g/liter

Product storage

Store products unopened, and open products with closed lids preferably between 70°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)
Protect from Freezing. If the material is frozen it is damaged beyond use and cannot be reclaimed.

SHELF LIFE:	Unopened 1 and 5 gallon containers;	1 Year
	Unopened 53 gallon containers;	6 Months
	Opened	Any container, 21 Days
Freezing Note:	Shelf life is not valid if product has been Frozen. Product will separate and have a watery liquid on top with a clumped appearance in the bottom that will not re-incorporate.	

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