product data



Carboguard[®]954 HB

Selection & Specification Data

Generic TypePolyamido-Amine EpoxyDescriptionAll-purpose, solvent-free, spray, brush & roll
epoxy mastic coating with applications in all
industrial markets and for almost all substrates
requiring user-friendly, single-coat protection with
abrasion resistance. This material represents the
next generation of high-performance protective
coatings.Features• Surface tolerant characteristics to existing
finishes and SP2, SP3-cleaned steel
• Single-coat application in most instances

- High-build capability
 Self-priming and primer/finish capabilities
 Excellent abrasion and moisture resistance
 - Excellent abrasion and moisture resistance
 True brush & roll characteristics
 - True brush & roll characteristics
 VOC compliant to current AIM regulations
- Color White (1864) and Gray (C705) are standard colors
- Finish
 Gloss

 Primers
 Self-priming. May be applied over inorganic zinc primers and other tightly adhering coatings. A mist coat may be required to minimize bubbling over inorganic zinc primers. Do not apply over latex coatings.
- **Topcoats** Acrylics, Epoxies, Polyurethanes
- Dry Film 3.0-12.0 mils (75-300 microns) per coat depending on application and amount of thinning. Do not exceed 18.0 mils (450 microns) per coat

with 954 HB. Film build decreases with pot life.

- Solids Content By Volume: $99.5\% \pm .5\%$
- Theoretical1604 mil ft² (39.0 m²/l at 25 microns)Coverage RateAllow for loss in mixing and application
- VOC Values As supplied: Trace (5 g/l) EPA Method 24: Trace (10 g/l) Thinned: 20 oz/gal w/ #2: 0.9 lbs/gal (112 g/l) 20 oz/gal w/ #76:* 1.7 lbs/gal (205 g/l) These are nominal values and may vary slightly with color. *Use Thinner #76 for projects requiring nonphotochemically reactive solvents.

Dry Temp. Continuous: 200°F (93°C) Resistance Non-Continuous: 250°F (121°C) Discoloration and loss of gloss is observed above 200°F (93°C). </

Substrates & Surface Preparation

| General | Surfaces must be clean and dry. Employ adequate methods to remove dirt, dust, oil and all other contaminants that could interfere with adhesion of the coating. |
|-----------------------------------|---|
| Steel | SSPC SP6 with a 2.0-3.0 mil (50-75 micron) surface profile for maximum protection. Self- priming or prime with specific Carboline primers as recommended by your Carboline sales representative. SSPC-SP2 or SP3 for previously painted or weathered surface. |
| Galvanized Steel | For optimum performance sweep blast cleaning is recommended. Consult your Carboline Sales Representative for specific recommendations. |
| Concrete | Concrete must be cured 28 days at 75°F (24°C) and 50% relative humidity or equivalent. Prepare surfaces in accordance with ASTM D4258 Surface Cleaning of Concrete and ASTM D4259 Abrading Concrete. Voids in concrete may require surfacing. |
| СМU | Mortar joints should be thoroughly cured for a minimum of 15 days at $75^{\circ}F$ (24°C) and 50% relative humidity or equivalent. Self-priming or prime with suitable block filler. |
| Drywall & Plaster | Joint compound and plaster should be fully cured prior to coating application. Self-priming or prime with specific Carboline primers as recommended by your Carboline sales representative. |
| Previously Painted Surfaces | Sand or abrade to roughen and degloss the surface. Existing paint must attain a minimum 3B rating in accordance with ASTM D3359 "X-Scribe" adhesion test. |

Performance Data

| Test Method | System | Results | Report # |
|------------------------------------|-------------------------------|---|----------|
| ASTM D4541 Adhesion | Blasted Steel 1 ct. 954 HB | 2124 psi (Pneumatic) | 09207 |
| ASTM 4060 Abrasion | Blasted Steel 1 ct. 954 HB | 105 mg. loss after 1000 cycles, CS17 wheel, 1000 gm. load | 03239 |
| ASTM B117 Salt Fog | Blasted Steel 1 ct. 954 HB | No effect on plane, rust in scribe. 6 mm. avg. undercutting at scribe after 2000 hours | 03347 |
| ASTM D1735 Water Fog | Blasted Steel 1 ct. 954 HB | No effect on plane, rust in scribe; less than 2 mm. undercutting at scribe | 03347 |
| ASTM D522 Flexibility | Blasted Steel 1 ct. 954 HB | No cracking when bent over the 1/8" conical mandrel | 09207 |
| ASTM D2794 Impact Resistance | Blasted Steel 1 ct. 954 HB | No cracking or delamination beyond ¾" of the point of impact | 03239 |
| ASTM D4213 Scrub Resistance | Blasted Steel 1 ct. 954 HB | Erosion rate: 0.0016 ml after 100 cycles with Abrasive scrub medium | 03403 |

Test reports and additional data available upon written request.

May 2007 replaces May 2005

0950

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Carboguard[®] 954 HB

Application Equipment

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the

| General Guidelines: Spray Application (General) | This is a high solids coating and may require adjustments in spray techniques. Wet film thickness is easily and quickly achieved. The following spray equipment has been found suitable and is available from manufacturers such as Binks, DeVilbiss and Graco. | | |
|---|--|--|--|
| Conventional Spray | Pressure pot equipped with dual regulators, 3/8" I.D. minimum material hose, .052" I.D. fluid tip and appropriate air cap. | | |
| Airless Spray | Pump Ratio: 45:1 (min)* GPM Output: 3.0 (min.) Material Hose: ½" I.D. (min.) Tip Size: .019"027" Output PSI: 3500-4000 Filter Size: 30 mesh – Part A; 60 mesh – Part B *Teflon packings are recommended and available from the pump manufacturer. Heated plural component spray equipment or thinning will aid in application of 954 HB. Recommended temp of Part A and B is 115F to 125F. | | |
| Brush & Roller (General) | Multiple coats may be required to obtain desired appearance, recommended dry film thickness and adequate hiding. Avoid excessive re-brushing or re- rolling. | | |
| Brush | Use a medium natural bristle brush. | | |
| Roller | Use a short-nap synthetic roller cover with phenolic core. | | |

Mixing & Thinning

| Mixing | Power mix separately, then combine and power mix. DO NOT MIX PARTIAL KITS. |
|----------|--|
| Ratio | 1:1 Ratio (A to B) |
| Thinning | May be thinned up to 20 oz/gal (15%) with Thinner #2 or Thinner #76. Additive 8506 may be used to reduce dry times. Use of thinners other than those supplied or recommended by Carboline may adversely affect product performance and void product warranty, whether expressed or implied. |
| Pot Life | 90 minutes at 75°F (24°C). When using Additive 8506, pot life is 45 minutes at 75°F (24°C). Pot life ends when |

coating loses body and begins to sag. Pot life times will be less at higher temperatures.

Cleanup & Safety

| Cleanup | Use Thinner #2 or Acetone. In case of spillage, absorb and dispose of in accordance with local applicable regulations. |
|-------------|---|
| Safety | Read and follow all caution statements on this product data sheet and on the MSDS for this product. Employ normal workmanlike safety precautions. Hypersensitive persons should wear protective clothing, gloves and use protective cream on face, hands and all exposed areas. |
| Ventilation | When used in enclosed areas, thorough air circulation must be used during and after application until the coating is cured. The ventilation system should be capable of preventing the solvent vapor concentration from reaching the lower explosion limit for the solvents used. User should test and monitor exposure levels to insure all personnel are below guidelines. If not sure or if not able to monitor levels, use MSHA/NIOSH approved respirator. |
| Caution | This product contains flammable solvents. Keep away from sparks and open flames. All electrical equipment and installations should be made and grounded in accordance with the National Electric Code. In areas where explosion hazards exist, workmen should be required to use non- ferrous tools and wear conductive and non-sparking shoes. |

May 2007 replaces May 2005

Application Conditions

| Condition | Material | Surface | Ambient | Humidity |
|-----------|------------|------------|------------|----------|
| Normal | 70°-80°F | 70°-80°F | 70°-90°F | 0.75% |
| | (21°-27°C) | (21°-27°C) | (21°-32°C) | 0-75% |
| Minimum | 60°F | 45°F | 45°F | 00/ |
| | (16°C) | (7°C) | (7°C) | 0% |
| Maximum | 90°F | 110°F | 110°F | 959/ |
| | (32°C) | (43°C) | (43°C) | 00% |

This product simply requires the substrate temperature to be above the dew point. Condensation due to substrate temperatures below the dew point can cause flash rusting on prepared steel and interfere with proper adhesion to the substrate. Special application techniques may be required above or below normal application conditions. For best results on rough cementitious surfaces, spray apply at 16 to 20 wet mils (400-500 microns) and then back roll into the surface.

Curing Schedule

| Surface Temp. & 50% Relative Humidity | Dry to Recoat & Topcoat | Maximum Recoat Time | Final Cure |
|---|----------------------------|------------------------|------------|
| 45°F (7°C) | 72 Hours | 120 Days | 28 Days |
| 60°F (16°C) | 32 Hours | 90 Days | 14 Days |
| 75°F (24°C) | 24 Hours | 60 Days | 7 Days |
| 90°F (32°C) | 12 Hours | 30 Days | 4 Days |
| 105°F (41°C) | 8 Hours | 15 Days | 24 Hours |
| w/ additive 8506 (2 oz/gl) | | | |
| 75°F (24°C) | 17 Hours | 30 Days | 4 Days |

These times are based on a 12.0 mil (300 micron) dry film thickness. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure. Excessive humidity or condensation on the surface during curing can interfere with the cure, can cause discoloration and may result in a surface haze. Any haze or blush must be removed by water washing before recoating. During high humidity conditions, it is recommended that the application be done while temperatures are increasing. If the maximum recoat time is exceeded, the surface must be abraded by sweep blasting or sanding before the application of additional coats.

Packaging, Handling & Storage

| Shipping Weight | <u>2 Gallon Kit</u> | <u>10 Gallon Kit</u> |
|-------------------------|--|----------------------|
| (Approximate) | 25 lbs (12 kg) | 125 lbs (57 kg) |
| Flash Point (Setaflash) | Part A: >205°F (96° Part B: >205°F (96° | C) C) |
| Storage Temperature | 40° -110°F (4°-43°C) Store indoors. | |
| & Humidity | 0-90% Relative Humidity | |
| Shelf Life | Part A: Min. 24 months at 75°F (24°C) Part B: 24 months at 75°F (24°C)** **Except for custom colors: 12 months | |

*Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.



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