Armorlast® II

PRODUCT DATA SHEET

SELECTION & SPECIFICATION DATA

Generic Type	Inorganic Silicate Finish
Description	Armorlast II is a high solids, inorganic finish coat for inorganic zinc primers. The film exhibits exceptional toughness and is available in a limited assortment of colors. Armorlast II allows for continued curing of the inorganic zinc primer, reducing fabrication time. Using Armorlast II as part of a two- coat inorganic finish provides ultra-long lasting corrosion protection with good color retention.
Features	• Ultra-long corrosion protection when applied over Carbozinc 11 Series inorganic zinc primers • Extremely fast throughput in fabrication shops • Can be applied over Carbozinc 11 HS or Carbozinc 11 after as little as two hours cure • Cures to handle quickly at ambient temperature • Outstanding weatherability • VOC compliant in most areas • Isocyanate free • Meets Class B Slip Co-Efficient over approved inorganic zinc primer • Exceeds ISO 12944-9 CX testing criteria as part of a two coat inorganic system
Color	1709 (Grey), 1864 (White) Other colors may be available upon request. Contact your Carboline Representative for availability.
Finish	Flat
Primer	Apply over solvent-based inorganic zinc silicate primers like Carbozinc 11 Series. An organic primer, like Carbomastic 615 AL may be used in certain applications. Please contact your Carboline Representative for more information.
Dry Film Thickness	3 - 4 mils (76 - 102 microns) . Not to exceed 6 mils (178 microns) total dry film thickness.
Solids Content	By Volume 60% +/- 2%
Theoretical Coverage Rate	962 ft²/gal at 1.0 mils (23.6 m²/l at 25 microns) 321 ft²/gal at 3.0 mils (7.9 m²/l at 75 microns) 241 ft²/gal at 4.0 mils (5.9 m²/l at 100 microns) Allow for loss in mixing and application.
VOC Value(s)	Per EPA Method 24: 1.95 lbs/gal (234 g/l) mixed 10 oz/gal of Thinner 236 E or Thinner 243 E: 1.95 lbs/gal (234 g/l) mixed This product contains US EPA VOC-exempt solvent(s).
Dry Temp. Resistance	Continuous: 800°F (427°C) Non-Continuous: 1000°F (538°C) *Dry temperature resistance listed above is only applicable when applied over suitable solventbased inorganic zinc primers.
Limitations	Carbomastic 615 AL, organic primer, may be used for lower maximum dry temperature service and/or for repairing mechanical damage to the coating system that may result in bare metal being exposed. Refer to the specific primer Product Data Sheet for the maximum dry temperature resistance. Do not use over water-based inorganic zinc-rich primers.

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 in accordance with SSPC SP-1. Refer to specific primer's Product Data Sheet for detailed requirements of the specified primer.
Steel	Apply over properly applied inorganic zinc primers. Allow at least two hours dry time at 75°F and minimum of 40% humidity on inorganic zinc primers when applied at 2-3 mils dft prior to topcoating. Higher inorganic zinc thicknesses will require additional time prior to topcoating.

MIXING & THINNING

Mixing	Power mix Part A to a uniform consistency and then add Armorlast Activator and power mix for an additional 2 to 3 minutes until thoroughly mixed.
Thinning	May be thinned up to 10%. For VOC resticted areas, Thinner 243E or 236E may be used. Other areas may also use Thinners 33 or 254 as needed. Thinner 236E or 254 are best for hot or humid conditions and Thinner 243E is helpful in cooler conditions.
Ratio	1 Gal Kit Part A (Base): 0.78 gal Armorlast Activator: 0.05 gal 5 Gal Kit Part A (Base): 3.9 gal Armorlast Activator: 0.25 gal
Pot Life	8 hours at 75°F (24°C). Avoid moisture contamination.

APPLICATION EQUIPMENT GUIDELINES

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

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 equipment manufacturers.
Conventional Spray	Conventional pressure pot equipped with dual regulators, 3/8" I.D. minimum material hose, and 0.043" to 0.070" fluid tip and appropriate air cap.
Airless Spray	Minimum Requirements: Volume Output: 1.35 gpm minimum - 5.1 l/minute minimum Material Hose: 3/8" I.D. min. - 9.5 mm min. Tip Size: 0.013 - 0.019"; 0.3 mm - 0.5 mm Output Pressure: 1,900 - 2,200 psi; 134 - 155 kg/cm²
Brush	For touch up use on small areas only. Use medium bristle brush and avoid excessive brushing. Two coats may be required to obtain desired thickness and appearance. For best results tie-in within 5 minutes.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	40°F (4°C)	35°F (2°C)	35°F (2°C)	30%
Maximum	90°F (32°C)	150°F (66°C)	110°F (43°C)	95%

Industry standards are for substrate temperatures during application to be 5 °F (3 °C) above the dew point. This product requires moisture to complete its final cure. Use water mist if humidity is below 40% during cure.

CURING SCHEDULE

Surface Temp.	Dry to Touch	Dry to Handle
35°F (2°C)	20 Minutes	5 Hours
60°F (16°C)	15 Minutes	2.5 Hours
75°F (24°C)	7 Minutes	1.5 Hours
90°F (32°C)	5 Minutes	45 Minutes

May be applied to Inorganic Zinc primer when applied at 2-3 mils dft after at least 2 hours dry time at 75°F and minimum of 40% humidity. Higher dft zinc and/or lower temperatures will require longer dry times prior to topcoating. Consult primer PDS or follow ASTM D4752 for longer cure time of primers.

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 SDS for this product. Employ normal safety precautions. Use adequate ventilation. Keep container closed when not in use.

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 ensure all personnel are below guidelines. If not sure or if not able to monitor levels, use MSHA/NIOSH approved supplied air respirator.

PACKAGING, HANDLING & STORAGE

Shelf Life
Armorlast II Part A: 12 months at 75°F (24°C)
Carbozinc HS Activator: 24 months at 75°F (24°C)

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

Storage Temperature & Humidity
40 - 90°F (4 - 32°C)
0 - 90% Relative Humidity

Storage
Store Indoors. KEEP DRY.

Shipping Weight (Approximate)
0.83 Gallon Kit - 11.07 lbs (5.02 kg)
4.15 Gallon Kit - 55.36 lbs (25.11 kg)

Flash Point (Setaflash)
Armorlast II Part A: 39°F (4°C)
Carbozinc HS Activator: 91°F (33°C)

WARRANTY

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