

SELECTION & SPECIFICATION DATA

Generic Type	A single package, water based intumescent coating designed for the fire protection of interior structural steel.
Description	A decorative thin film intumescent coating designed for the fire protection of interior steel columns for up to a 3 hour fire rating, depending on the design.
Features	<ul style="list-style-type: none"> • Designs for interior space • Smooth, decorative finish • Dust free surface • Durable finish • Fast recoat, increased production • Extremely low VOC content • LEED compliant • Extensive outgas testing for controlled cleanroom and sterile environments
Color	Grey
Finish	Smooth
Primer	Must be applied over a compatible primer. If the steel has already been coated with an existing primer, refer to Carboline Technical Service for advice before applying. Contact Carboline Technical Service for a complete list of approved primers.
Wet Film Thickness	<p>40 mils (1.0 mm) per coat</p> <p>Excessive film build beyond recommended thickness per coat will result in extended drying time and potential sagging of applied material. During the drying process, the coating will shrink due to the evaporation of water.</p>
Dry Film Thickness	<p>28 mils (0.7 mm) per coat</p> <p>Must be applied to the specified DFT and be dry before applying a topcoat. The dry film thickness shall be checked using an electronic or magnetic thickness gauge.</p>
VOC Value(s)	<p>0.03 lb./gal. (4 g/L)*</p> <p>*Per EPA Method 24</p>
Limitations	Not for use in exterior environments or for interior steelwork that will be exposed to freeze/thaw cycling or long-term surface temperatures over 140°F (60°C) in normal use.
Topcoats	No topcoats required. Product must be applied to the specified DFT and be dry before applying a topcoat. The choice of topcoat will depend on project requirements. Contact Carboline Technical Service for a complete list of approved topcoats.

SUBSTRATES & SURFACE PREPARATION

General	All surfaces must be primed with compatible primer and be clean, dry and free of oil, grease, loose mill scale, dirt, dust or other materials which would impair the bond of material to the substrate. Surface preparation must meet the requirements of the primer being used. The general requirement for interior steel is SSPC-SP2 or SP3. Contact Carboline Technical Service for recommendations and specific primer requirements.
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SUBSTRATES & SURFACE PREPARATION

Painted/Primed Structural Steel

Existing coatings must attain a minimum 3A rating in accordance with ASTM D3359 Method A, X cut adhesion test. If acceptable, clean and lightly abrade in accordance with SSPC-SP2 or SP3 to roughen and de-gloss the surface. If not acceptable, the coating must be removed and areas re-primed with a compatible primer. If primer coating has acceptable adhesion, but is not compatible or compatibility is unknown, a tie-coat primer can be applied as a bonding or barrier coating. Contact Carboline Technical Service for a list of approved tie-coat primers and specific primer requirements.

Primer recoat intervals may vary from the published product datasheet when using under intumescent fireproofing products. Consult Carboline Technical Service for recommended cure times before applying Carboline intumescent products.

PERFORMANCE DATA

All test data was generated under laboratory conditions. Field testing results may vary.

Test Method	Results
ASTM D2240 Hardness	Shore D >60 (fully dried)
ASTM D2794 Impact Resistance	77 in-lbs
ASTM D4541 Bond Strength	>300 psi (>2.07 MPa)*
ASTM D695 Compressive Strength	367 psi (2.53 MPa)
ASTM E84 Surface Burning	Class A Flame Spread Index: 0 Smoke Developed Index: 5

All values derived under controlled laboratory conditions unless otherwise noted.

*Adhesion is dependent on the primer used. Always use Carboline approved primers.

MIXING & THINNING

Mixing | Mix using a 1/2" (12.7 mm) electric or air driven drill with a slotted rectangular blade (300 rpm under load). Mix material for a minimum of 5 minutes to achieve the necessary texture required before spraying.

Thinning | Do not thin.

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.

Airless Spray | Use Graco Mark V or equivalent 1.35 gal. (5.1 L) per minute electric airless (minimum) with ability to provide an operating pressure of 3,300 psi (228 bar). Must have 30 mesh inline filter installed. Remove rock catcher from siphon tube.

Recommended operating pressure when applying product is 1,200-2,000 psi (83-138 bar).

Spray Gun | Silver Gun with gun swivel, Silver Plus, Graco XHF, WIWA 500F, WIWA PFP 500F or equivalent contractor gun (with filter removed).

Spray Tips | 0.021" (Use Graco heavy duty RAC non diffuser tips and housing or RAC LTX blue tips)

Fan Size | 6-10" (152-254 mm) depending on section being sprayed

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Hose Length	Maximum hose length 150' (45.6 m) when using a single hose. NOTE: Dual hoses can be run simultaneously using a Graco gun splitter valve (Graco Part No. 262826 or 3A2573E) off of a Mark V pump. Attach 50' (15.2 m) length of 3/8" (9.5 mm) material hose from pump. Set up Graco gun splitter valve at 50'(15.2 m) from the pump, then attach two 100 foot lengths of 3/8"(30.5 mm) material sections to each side of the splitter. Maximum hose length 150' (45.6 m) total when using dual hose set up.
Material Hose	3/8" (9.5 mm) I.D. minimum
Whip Hose	1/4" (6.3 mm) I.D. minimum (optional)

APPLICATION PROCEDURES

General	May be applied by spray, trowel, brush or roller. Spray application is recommended for the optimum production, coverage and finish. When applying by trowel, brush or roller, work from a small container and mix material frequently. The original pail should be kept tightly closed.
Airless Spray	A single coat, built up with a number of quick passes, allows greater control over quantities, thickness and finish. In most conditions, it is advantageous to apply two thin coats rather than one thick coat.
Application Rates	At an ambient temperature of 70°F (21°C) and 50% relative humidity, the following application rates are applicable: Spray / trowel: no more than 40 mils (1.0 mm) per coat (wet) Brush / roll: 10 mils (0.25 mm) per coat (wet) 4 hour recoat time between coats (2 coats per day)
Wet Film Thickness	Frequent thickness measurements with a wet film gauge are recommended during the application process to ensure uniform thickness.
Dry Film Thickness	Final thickness must be measured using an electronic dry film thickness gauge. For method of thickness determination and tolerances refer to: AWCI Technical Manual 12-B (Standard Practice for the Testing and Inspection of Field Applied Thin Film Intumescent Fire Resistive Materials).

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	70°F (21°C)	50°F (10°C)	50°F (10°C)	0%
Maximum	100°F (38°C)	125°F (52°C)	110°F (43°C)	85%

*Steel surface temperature should be a minimum of 5°F (3°C) above the dew point. Product is sensitive to water and must be protected from exposure to weather and moisture. Protect from freezing.

DRYING SCHEDULE

Surface Temp.	Dry to Recoat
70°F (21°C)	4 Hours

For optimum drying, it is recommended to apply two coats at 40 mils (1.0 mm) wet per day at 70°F (21°C) and 50% R.H. Allow 4 hours between coats. Drying time will vary with temperature and humidity conditions. Air movement and thinner coats will assist drying. Material is ready to be topcoated when an average Shore D hardness of 50 is achieved.

TESTING / CERTIFICATION / LISTING

Intertek	Tested in accordance with ASTM E119, UL 263 and CAN/ULC S101-14 at Intertek Laboratories. Listed by Intertek for the following designs: Wide Flange Columns: CC/IF 120-02 Hollow Section Columns: CC/IF 180-04 NOTE: The product should be applied in accordance with the appropriate design.
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CLEANUP & SAFETY

Cleanup	Pump, Gun, Tips and Hoses and mixer should be cleaned at least once per day with water.
Safety	Read and follow all caution statements on this product data sheet and on the SDS for this product. Employ normal workmanlike safety precautions. Use adequate ventilation. Keep container closed when not in use.
Overspray	All adjacent and finished surfaces shall be protected from damage and overspray.
Ventilation	When used in enclosed areas, thorough air circulation must be used during and after application until the coating is dried.

MAINTENANCE

General	If coating becomes damaged, rebuild required thickness by spray or trowel. When dry, smooth and finish with approved topcoat to match. Damaged areas must be abraded back to a firm edge by sanding or scraping. The topcoat should be abraded back by 1" (25.4 mm) from the damaged area. The surface must be clean and dry before re-applying. The coating shall then be built back to the original thickness, allowed to dry, then overcoated with the specified topcoat or system.
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PACKAGING, HANDLING & STORAGE

Packaging	5 gallons (18.9 L)
Shelf Life	9 months (when kept at recommended storage conditions and in original unopened container).
Storage	Store indoors in a dry environment between 33-100°F (0.56-38°C). Protect from freezing.
Shipping Weight (Approximate)	65 lb. (29.5 kg) per 5 gallon pail (18.9 L)

WARRANTY

To the best of our knowledge the technical data contained herein is true and accurate on the date of publication and is subject to change without prior notice. User must contact Carboline Company to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. We guarantee our products to conform to Carboline quality control. We assume no responsibility for coverage, performance, injuries or damages resulting from use. Carbolines sole obligation, if any, is to replace or refund the purchase price of the Carboline product(s) proven to be defective, at Carbolines option. Carboline shall not be liable for any loss or damage. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY CARBOLINE, EXPRESS OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. All of the trademarks referenced above are the property of Carboline International Corporation unless otherwise indicated.