

Selection & Specification Data

Generic Type	A single package, solvent 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 steelwork for up to a 3 hour fire rating, depending on the design. The recommended use for this product is fireproofing of interior steel beams, columns, tubes, and pipes.
Features	<ul style="list-style-type: none"> • UL/ULC listed – designs for many types of steel sections. Up to 3 hour fire ratings for both interior general purpose and interior conditioned space applications. • Decorative finish – provides a slightly textured, decorative finish. • Durable finish – provides a hard dust free surface resistant to normal wear. • VOC compliant • LEED compliant
Color	Light Grey
Finish	Slightly Textured
Primer	Product 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.
Fireproofing Wet Film Thickness	45 mils (1.14 mm) per coat During the drying process, the coating will shrink due to the evaporation of solvent. In order to calculate the wet film thickness required, the following formula can be used: $WFT=(DFT/.71)$
Fireproofing Dry Film Thickness	32 mils (0.81 mm) per coat Product 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.
Solids Content	By Volume 71%
Theoretical Coverage Rates	1139 ft ² at 1 mil (27.9 m ² at 25 microns) 38 ft ² at 30 mils (0.9 m ² at 750 microns)
VOC Values	As Supplied 1.18 lbs/gal (142 g/l) These are nominal values and may vary slightly with color. Product contains VOC-exempt dimethyl carbonate and t-butyl acetate. Check local regulations regarding product usage.
Mesh	Use High Temp Mesh for 3 hour hollow section ratings. Contact Carboline Technical Service for specific design details.
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.

Selection & Specification Data

Topcoats	For interior conditioned space, topcoats are optional. For interior general purpose, Carboline approved topcoats are 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. Epoxy topcoats will discolor when used over Thermo-Sorb VOC and are not recommended. 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 the product to the substrate.
----------------	--

Performance Data

Test Method	Results
ASTM D2240 Hardness	Shore D - 70 (fully cured) Shore D - 25 (for topcoating)
ASTM D2794 Impact	0.16 ft. lb./in.
ASTM D4541 Bond Strength	200 psi (1.3 MPa) minimum
ASTM D695 Compressive Strength	1,187 psi (8.1 MPa)
ASTM E84 Surface Burning	Class A
Density	79 pcf (1.26 g/cm ³)

All values derived under controlled laboratory conditions.

Mixing & Thinning

Mixer	Use 1/2" (12.7 mm) electric or air driven drill with a slotted paddle mixer (300 rpm under load).
Mixing	Product must be mixed using a 1/2" (12.7 mm) electric or air driven drill with a slotted paddle or Jiffy mixer blade. Mix material for a minimum of 5 minutes to achieve the necessary texture required before spraying.
Thinning	Thinning is not required. If desired, product may be thinned up to 5% with Plasite Thinner #19 or Thinner #242E maximum 16 oz. (0.4 L) per 5 gallons (18.9 L). Thinning will affect the film build properties and extend the cure time of the coating.

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 1.35 gal. (5.1 L) per minute electric airless (minimum) to provide an operating pressure of 3,000 psi (204 bar). Must have 30 mesh inline filter installed. Remove rock catcher from siphon tube.
Spray Gun	Silver Gun with gun swivel, Contractor Gun (with filter removed) or equivalent
Spray Tips	0.021" - 0.027" (Use Graco heavy duty RAC non diffuser tips and housing)

Thermo-Sorb[®] VOC

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.

Fan Size	4" - 10" (101 mm - 254 mm) depending on section being sprayed
Hose Length	150' (45 m)
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), the following application rates are applicable: Spray / trowel: 45 mils (1.14 mm) per coat (wet) Brush / roll: 10 mils (0.25 mm) per coat (wet) 4 hour recoat time between coats
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)	41 °F (5 °C)	41 °F (5 °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. Heavy rain or water running over the surface of recently applied material can cause surface patterning if the material has not formed a skin.

Curing Schedule

Surface Temp.*	Recoat
77 °F (25 °C)	4 Hours

For optimum curing, it is recommended to apply one coat at 45 mils (1,143 microns) wet per day. Drying Time will vary with temperature and humidity conditions. Material is ready to be topcoated when an average Shore D hardness of 25 is achieved. Air movement and thinner coats will assist drying. Higher film thicknesses will require longer drying times for topcoating. Consult Carboline Technical Service for specific details.

Cleanup & Safety

Cleanup	Pump, Gun, Tips and Hoses and mixer should be cleaned at least once per day with: Plasite Thinner #19, Thinner #242E, Thinner #2, Toluene, MEK, MIBK or Xylene.
----------------	---

Cleanup & Safety

Safety	Follow all safety precautions on the Material Safety Data Sheet.
Overspray	All adjacent and finished surfaces shall be protected from damage and overspray.
Ventilation	In enclosed areas, ventilation shall not be less than 4 complete air exchanges per hour until the material is dry.

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 product. The coating shall then be built back to the original thickness, allowed to dry, then over-coated with the specified topcoat or system.
----------------	---

Testing / Certification / Listing

Underwriters Laboratories, Inc.	Thermo-Sorb [®] VOC has been tested in accordance with ASTM E-119 (UL 263) at Underwriter's Laboratories, Inc. Thermo-Sorb [®] VOC is listed by UL and ULC for the following designs: Wide Flange Columns: X660 Tube Columns: X661 Pipe Columns: X662 Restrained and Unrestrained Beams: N619 Beams (Protected Deck): D946
--	--

The product should be applied in accordance with the appropriate design.

City of Los Angeles	Report: RR 25484
----------------------------	------------------

Packaging, Handling & Storage

Shelf Life	18 Months (when kept at recommended storage conditions and in original unopened containers).
Shipping Weight (Approximate)	11 lbs. (4.9 kg) per gallon (3.7 L)
Flash Point (Setflash)	23°F (-5°C)
Storage	Store indoors in a dry environment between 32°F - 100°F (0°C - 38°C)
Packaging	5 gallons (18.9 L)

January 2017

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 or injuries resulting from use. Liability, if any, is limited to replacement of products. 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. Carboline[®] and Carboguard[®] are registered trademarks of Carboline Company.



NC25