

Selection Data

Generic Type A two pack, solvent free epoxy intumescent for fire protection of structural steel, up to 3 hours hydrocarbon fire rating.

- Features**
- U.L.I. Classified – tested to UL 1709 environmental test program. UL Design XR615.
 - Hydrocarbon Tested – tested for up to 3 hours in a hydrocarbon situation.
 - Independently tested & approved by various bodies, including Lloyds Register and Det Norske Veritas.
 - Durable Finish – provides an extremely hard, damage resistant surface.
 - Fast Application – can be applied up to 400 mils in one coat with airless spray.
 - Decorative – can be topcoated with an appropriate topcoat to give a decorative finish.
 - Lightweight – lightweight compared to other types of sprayed fire protection.
 - Chemical Resistant – Resistant to a wide range of chemicals and substances.

Recommended Uses

Nullifire System 'E' Intumescent Epoxy is designed to protect structural steel, bulkheads and deckheads in a hydrocarbon fire situation. It can also be used to protect valves, actuators, containers and pre-assembled units.

It can be applied by airless spray (plural component system) or by trowel. Precasting is also possible in certain circumstances.

Nullifire System 'E' is particularly suitable where a highly durable, low maintenance system is required.

Physical & Mechanical Properties

PROPERTY AND TEST METHOD	VALUE
Tensile Strength to ASTM D638	1,840 psi
Tensile Modulus to ASTM D638	260,000 psi
Compressive Strength to ASTM D695	4,100 psi
Compressive Modulus to ASTM D635	160,000 psi
Flexural Strength to ASTM D790	2,000 psi
Flexural Modulus to ASTM D790	360,000 psi
Lap Shear Strength to ASTM D1002	1,440 psi
Hardness (Shore D)	75
Normal Density	68.5 lb/ft ³
Thermal Expansion to ASTM C696#	16.8 x 10 ⁻⁶ in/in
Thermal Conductivity to ASTM C177	1.7 BTU in/°F ft. ² hr.
Specific Heat Capacity at 68°F.	144 cal/lb
Oxygen Index to ASTM D2832#	26.4%
Water Vapor Transmissions to ASTM E96-90(B)	0.0021g/h ft. ²
Flash Point for Separate and Mixed Components (closed cup)	Above 212°F
Pot Life at 68°F	40 minutes
Substrate Service Temperature (maximum)	151°F

NB: All ASTM and BS476 tests have been carried out at a NAMAS accredited laboratory unless indicated by #.

Nullifire® System 'E'

Approvals

Nullifire System 'E' has been tested by Underwriters Laboratory, Inc. and is classified for interior and exterior use.

It is listed under the following design:

UNDERWRITERS LABORATORY, INC.

UL 1709 – Rapid temperature rise which simulates a hydrocarbon fire exposure.

COLUMNS – XR 615

System 'E' is type approved by Lloyds Register, Underwriters Laboratory, Inc. and Det Norske Veritas for the protection of structural steel and fire divisions.

Decks and Bulkheads

Tested to BS476: Part 20:1987

Appendix D

Ratings: H0 H60 H120

Packaging, Handling & Storage

Shipping Weight (Approximate)	Part A: 37.1 lbs. Part B: 13.0 lbs. Total Weight: 50.1 lbs.
Storage (General)	Product should be kept closed in original containers.
Storage Temperature	40°F – 85°F (4° - 29°C) Note: At low temperatures product may need heating prior to use.
Shelf Life	12 months



350 Hanley Industrial Court, St. Louis, MO 63144-1599
314/644-1000 314/644-4617 (fax) www.carboline.com

An **RPM** Company

November 1999

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 Nullifire® are registered trademarks of Carboline Company.