Protective & Marine Coatings

FIRETEX M90/02
EPOXY INTUMESCENT COATING

PART A	B59W550	WHITE
PART B	B59LV550	BLUE ADDITIVE
SCRIM	B59J220	

Revised: November 17, 2020

PRODUCT INFORMATION

PRODUCT DESCRIPTION

FIRETEX M90/02 is a two pack, solvent free, thick film epoxy intumescent coating that provides passive hydrocarbon fire protection for up to 4 hours on structural steel, decks and bulkheads. FIRETEX M90/02 is an exterior durable coating that is tested and approved for both pool and jet fire situations. It has resistance to the following:

- Moisture
- Alkali spillage
- Aliphatic solvents
- Weather
- Acid spillage
- Petroleum solvents
- Abrasion

PRODUCT CHARACTERISTICS

Color:	Pale Blue (white base plus blue additive)
Volume Solids:	100%, mixed
VOC:	0 g/L ; 0 lb/gal 42 g/L ; 0.35 lb/gal when thinned 5% with Thinner No. 9
Mix Ratio:	2:1 by volume 2.40:1 by weight
Applied Density:	1.00 g/cm^3 (8.35 lb/gal) Independently tested (see Additional Notes)

Typical Thickness:
Material can be specified from 120 mils (3mm) to 1120 mils (28mm). Please refer to FIRETEX M90/02 thickness tables for specific details.

Recommended Spreading Rate per coat:

	Plural Component Spray	
Wet mils (mm)	**120** (3)	**1120** (28)
Dry mils (mm)	**120** (3)	**1120** (28)
~Coverage sq ft/gal (m^2/L)	**14.7** (0.3)	**1.75** (0.036)

Maximum sag tolerance with overlap typically 275.0 mils (7mm) dry by plural component spray.
Spread rate quoted refers to unthinned application.

Drying Schedule:

	@ 50°F/10°C	@ 73°F/23°C	@ 104°F/40°C
To touch:	8 hours	3 hours	90 mins
To handle:	18 hours	9 hours	4 hours
To recoat:			
minimum:	8 hours	3 hours	90 mins
maximum:	7 days	7 days	7 days

Drying time is temperature, humidity, and film thickness dependent.
Drying times quoted refer to unthinned application.

Pot Life: 60 minutes*

*Trowel Application: At 73°F (23°C), pot life is 60 minutes and at 95°F (35°C), pot life is 30 minutes. For working time under Plural Application, consult your Sherwin-Williams Fire Protection Representative regarding the FIRETEX M90/02 Application Manual.

Sweat-in-time: None

Shelf Life:	24 months
Flash Point:	Above 131°F (55°C)
Clean Up:	Thinner No. 9
Reducer:	Thinner No. 9

RECOMMENDED USES

FIRETEX M90/02 has type approvals and listings from numerous Classification Societies and Authorities, and is recommended for use on both onshore and offshore structures. It has been extensively tested and approved for durability under NORSOK M501 and UL1709. Typical examples of use are:

- Decks and bulkheads
- Structural steel support members
- Pipe racks
- Vessel skirts and saddles
- Tanks
- Vessels
- Steel structures exposed to potential blast

FIRETEX M90/02 is also recommended for use in LNG and cryogenic applications when applied as a duplex system using FIRETEX M89/02.

ENDORSEMENTS

- BS476 Part 20 and 21 Appendix D – Hydrocarbon Pool Fire Testing
- ISO 22899-1 Jet Fire Resistance
- Type Approved by Lloyds Register of Shipping
- Type Approved by Det Norsk Veritas
- Type Approved by American Bureau of Shipping
- Approved by Underwriters Laboratory to UL1709 (design number XR632)
- BAM vessel test reference 3.2/8945
- Resistant to blast overpressure
- NORSOK M501 Revision 6 System 5A
- NFPA 58 Annex H Hose Stream Test
- IMO Resolution MSC61 (67) Annex 1, Part 2 – Toxicity Test
- Tested and assessed to EN13381-8
- European Technical Approval ETA 13/0676
- Zulassung No. Z200 474.

PHYSICAL PROPERTIES

The test results below have been determined in third party testing

Test Name	Test Method	Results
Abrasion Resistance	ASTM D4060	Wear Index 182
Tensile Strength	ISO 527	15.5 MPa
Coefficient Thermal Expansion	ASTM E831	81 µm/m°C
Hardness	ASTM D2240	73 Shore D

APPLICATION EQUIPMENT

Plural Component Spray
A comprehensive, FIRETEX M90/02 Application Manual is available and will be provided to contractors by your Sherwin-Williams Fire Protection Representative. All application equipment needs to be approved by Sherwin-Williams.

The application of epoxy intumescent materials requires equipment with specific performance characteristics. Please refer to the FIRETEX M90/02 Application Manual for a list of equipment that has been tested for these types of applications.

Airless Spray
Consult your Sherwin-Williams Fire Protection Representative regarding the FIRETEX M90/02 Application Manual for details on single leg airless spray application.

Trowel and Preformed Castings
The material may be applied by trowel. It is also suitable for the manufacture of preformed castings.

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RECOMMENDED SYSTEMS

The following typical systems are recommended for application on to suitably prepared carbon steel:

	DFT (mils)	DFT (microns)
Macropoxy 646	2-5	50-125
FIRETEX M90/02	As per requirement of project	
Hi-Solids Polyurethane	3	75
or		
Epigrip L425	3	75
FIRETEX M90/02	As per requirement of project	
Resistex C137V2	2.5	60

Note: FIRETEX J220 reinforcement cloth must be installed into the FIRETEX M90/02 in accordance with the FIRETEX M90/02 Application Manual. Further primers and topcoats have been approved by Sherwin-Williams. Consult your Sherwin-Williams Fire Protection Representative regarding the FIRETEX M90/02 Application Manual and the Primer and Topcoat Approval Lists.

ADDITIONAL NOTES

Overcoating should take place within seven days of application of the previous coat of FIRETEX M90/02. If seven days is exceeded, mechanical abrading of the FIRETEX surface is required to ensure proper adhesion.

Drying times, curing times and pot life should be considered as a guide only.

The curing reaction of epoxies begins immediately when the two components are mixed, and since the reaction is dependent on temperature, the curing time and pot life will be approximately halved by a 10°C (20°F) increase in temperature and doubled by a 10°C (20°F) decrease in temperature.

Normal in service temperature range for FIRETEX M90/02 is between -20°C (-4°F) and 80°C (176°F). Consult your Sherwin-Williams Fire Protection Representative regarding the TAD0040 Technical Advice document for temperatures below this range.

Where substrate operating temperatures fall in the 80°C (176°F) to 150°C (302°F) range a layer of FIRETEX M89/02 syntactic insulation is required to preserve the long term fire performance of the material.

There may be slight variations in color from batch to batch. Any variations in color, when using plural component spray, may indicate a fault with the spray equipment and this should be checked to ensure the correct ratio of base and additive are being delivered.

Applied density is dependent on many variables such as temperature, test method and application method and as such will always fall within a range.

CLEAN UP INSTRUCTIONS

Clean spills and spatters immediately with Thinner No. 9. Clean tools immediately after use with Thinner No. 9. Follow manufacturer's safety recommendations when using any solvent.

SAFETY PRECAUTIONS

Refer to the SDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

FIRETEX M90/02 is designed for use over a suitably prepared and primed substrate.

It is possible to apply FIRETEX M90/02 to bare steel. Consult your Sherwin-Williams Fire Protection Representative regarding the FIRETEX M90/02 Application Manual for detailed surface preparation information.

Minimum recommended surface preparation:

Steel	SSPC-SP10 (Sa 2.5), 2-3 mils (50-75 microns) profile
Galvanising	SSPC-SP16, 1-2 mils (25-50 microns) profile

APPLICATION CONDITIONS

Temperature:	10°C (50°F) minimum, 55°C (131°F) maximum (air) Minimum 3°C above dew point, 75°C maximum (substrate)
Relative Humidity:	85% maximum

Consult your Sherwin-Williams Fire Protection Representative regarding the FIRETEX M90/02 Application Manual for detailed information.

In order to achieve optimum water and chemical resistance, temperature needs to be maintained above 10°C (50ºF) during curing.

ORDERING INFORMATION

Packaging:	A two component material supplied in separate containers to be mixed prior to use.
Pack Size:	60kg (132.2 lbs) and 20kg (44.09 lbs) units when mixed.

WARRANTY

Any person or company using the product without first making further enquiries as to the suitability of the product for the intended purpose does so at their own risk, and Sherwin-Williams can accept no liability for the performance of the product, or for any loss or damage arising out of such use.

The information detailed in this Data Sheet is liable to modification from time to time in the light of experience and of normal product development, and before using, customers are advised to check with Sherwin-Williams, quoting the reference number, to ensure that they possess the latest issue.