FIRETEX® Hydrocarbon overview

Comprehensive guide to passive fire protection coatings

Hydrocarbon fire protection **M90 Series**

FIRETEX® M90 Series offers **durable, epoxy fire protection products that are solvent free, and fast curing**, with fire protection for up to three and a half hours on structural steel, decks and bulkheads.

When used in conjunction with our thermal barrier product, the FIRETEX® M90 Series **can be used to provide protection to surfaces operating at above 80°C**. In addition the combined system offers protection for vessels and tanks, against both fire and cryogenic spillage.

FIRETEX® M90 Series is also tested for jet fire situations, and can be applied by spray (plural component), or trowel and may be installed as removable castings.

M93/02

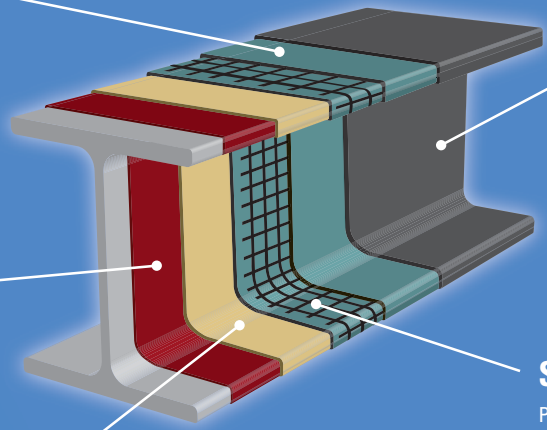
Epoxy resin based intumescent used on structures that require passive fire protection from hydrocarbon pool fires.

M90/02

Epoxy resin based intumescent used on structures that require passive fire protection from hydrocarbon pool and jet fires. It also has blast resistance.

Primers

Macropoxy™ C425V2
Macropoxy™ L425
Macropoxy™ L574
Please see a Sherwin-Williams representative for the full range of primers.



Topcoats

Acrolon™ 1850
Acrolon™ C137V2.

Scrim

Provides mechanical reinforcement of the char.

M89/02

Syntactic epoxy foam used as a thermal insulator and for cryogenic spill protection. It also allows intumescent products to be applied to surfaces operating at >80°C.

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Epoxy intumescent coating **M90/02**

FIRETEX® M90/02 provides up to **four hours of fire protection, whilst providing a corrosion resistant protective coating for the design life of the asset**. It is an Epoxy resin based intumescent used on structures that require passive fire protection from hydrocarbon pool and jet fires. It also has blast resistance. With low spray applied density, reduced film build requirements and high performance properties, **FIRETEX® M90/02 is highly recommended for both onshore and offshore structures**.

FIRETEX® M90/02 offers authorised installers the ability to provide asset owners with a durable finish, either in the shop or on site, using plural component, single leg airless and/or trowel application. **FIRETEX® M90/02 applies with ease, resistant to clogging spray units and spray guns with problematic fibers that lead to loss of production and material**.

Sherwin-Williams offers FIRETEX® M90/02 in large and small pack sizes to conveniently accommodate every project.

Epoxy intumescent coating **M93/02**

FIRETEX® M93/02 is a **highly durable, cost effective solution for hydrocarbon pool fire protection**.

It is designed for the onshore/downstream/UL1709 market. The dominant passive fire protection (PFP) solution for this market currently would be concrete or cementitious products due to their low upfront costs. With its **ease and speed of application, superior durability, substrate corrosion protection characteristics, lower maintenance requirements and costs**, FIRETEX® M93/02 represents a more cost effective solution.

For new construction **FIRETEX® M93/02 works excellently for in-shop application**, allowing the PFP application process to be removed from the project's critical path, **resulting in a more cost effective solution for providing PFP for the life of an asset**.

As users would expect from the FIRETEX® range, M93/02 has excellent application characteristics whether using a plural component PFP pump or applying the material manually.

Testing has been carried out to show that **in conjunction with FIRETEX® M89/02 it can be used to protect steel from cold induced brittle fracture** for up to two hours contact with cryogenic liquid and from the effects of a subsequent fire.

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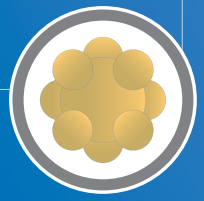
Thermal barrier/cryogenic spill protection **M89/02**

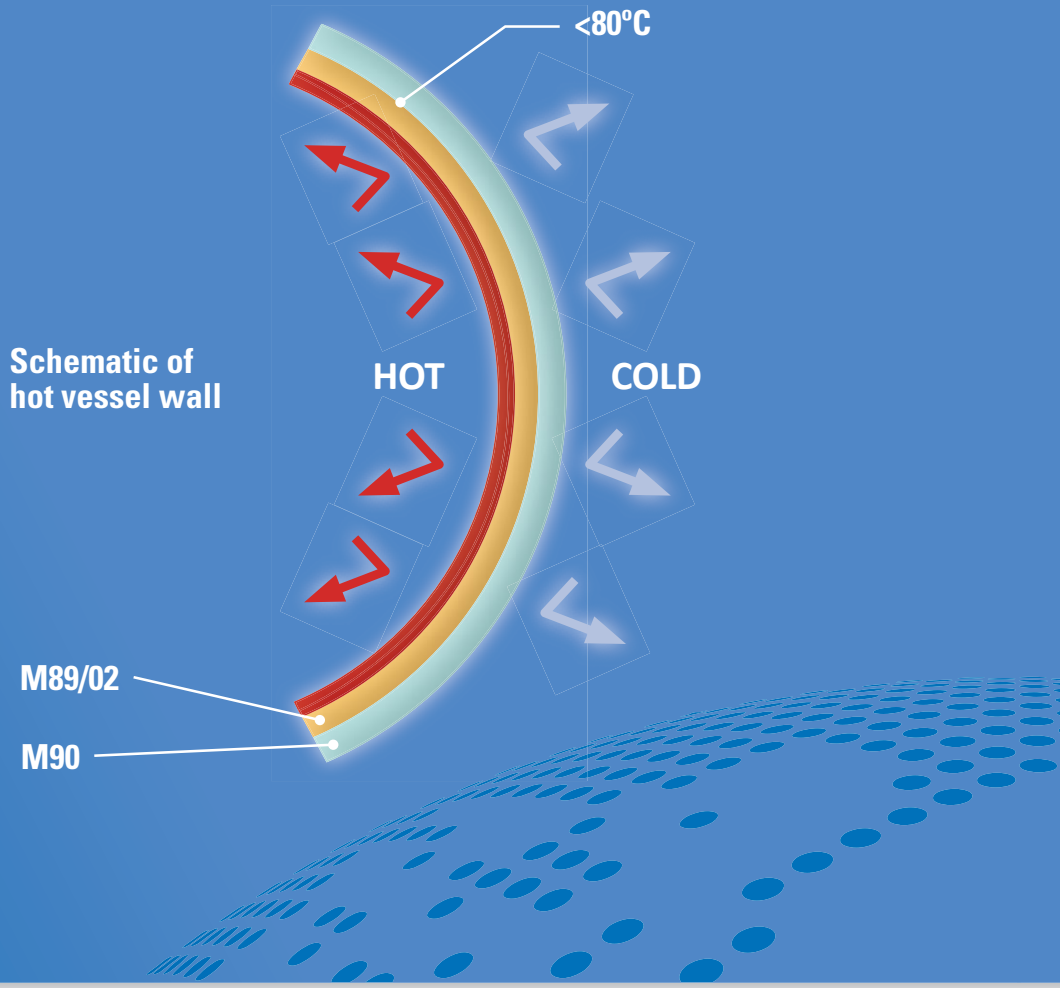
FIRETEX® M89/02 is a seamless, **100% solids, epoxy resin based insulation product** that can be used at operating temperatures **as low as -75°C and as high as +150°C**.

As a fully tested, fully compatible insulating layer, **FIRETEX® M89/02 can be used in conjunction with the FIRETEX® M90 Series** to provide protection against hydrocarbon fire, jet fire and cryogenic spillage.

FIRETEX® M89/02 offers both **cryogenic spill protection and fire protection to structures** which may be subject to the spillage of Liquid Natural Gas (LNG) and subsequent fire hazards.

It offers corrosion protection of surfaces under insulation and it may also be used as a **light weight deck filling product for use underneath Epidek™ M153 and Epidek™ M339 systems**.





TM = is a registered trademark in one or more countries.

FIRETEX® Hydrocarbon overview

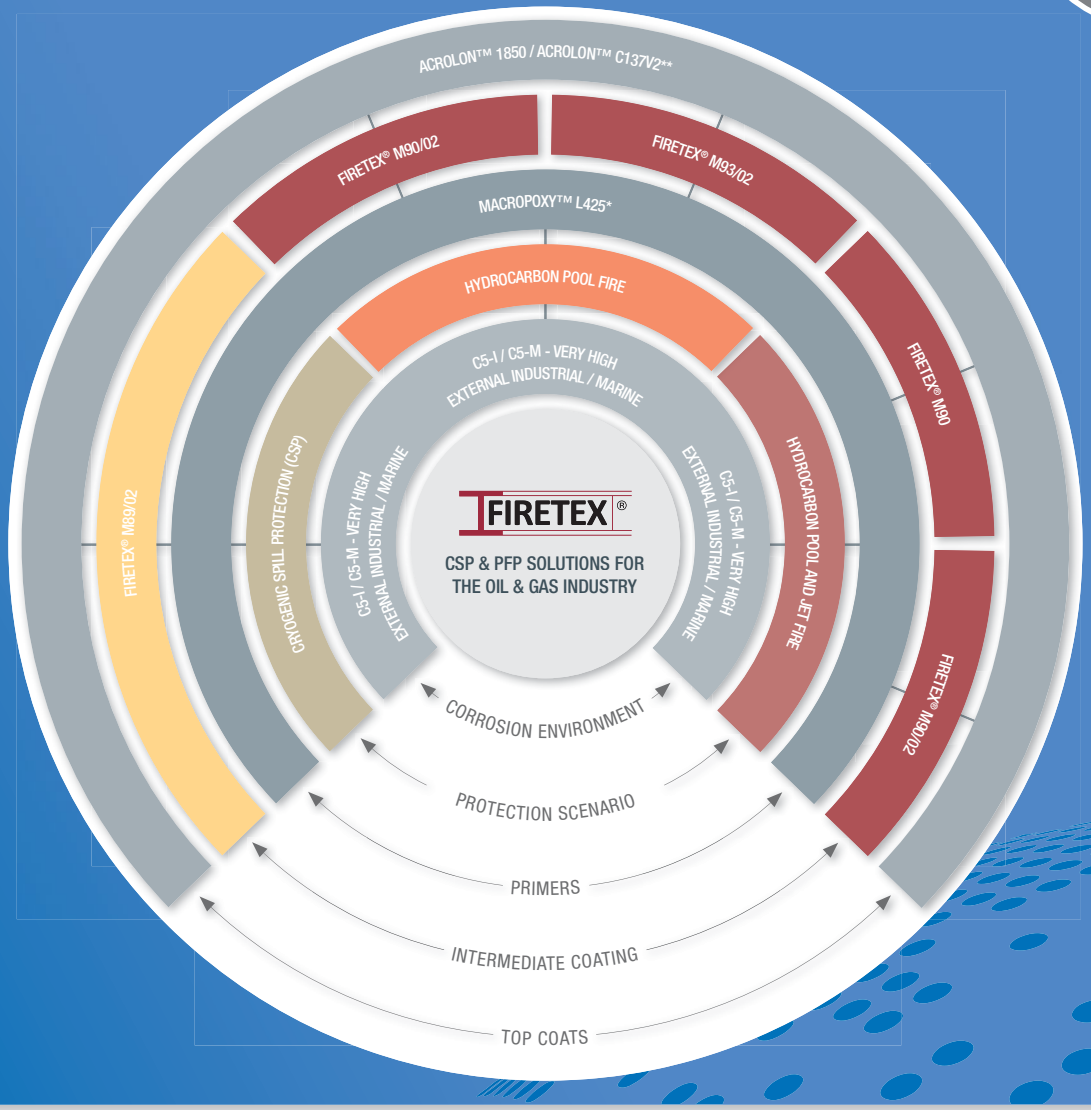
FIRETEX® Range for cryogenic spill and hydrocarbon fire protection

At Sherwin-Williams we want to help and support you every step of the way.

This chart depicts the systems and products we have here at Sherwin-Williams for cryogenic spill and hydrocarbon passive fire protection.

KEY:

- CORROSION ENVIRONMENT
- CYROGENIC SPILL PROTECTION
- HYDROCARBON POOL FIRE
- HYDROCARBON JET FIRE
- PRIMERS
- THERMAL INSULATION M89/02
- PFP M90/02
- PFP M93/02
- PFP M90



* Please see a Sherwin-Williams representative for the full range of primers.
** Please see a Sherwin-Williams representative for the full range of top coats.
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Product overview

Criteria	FIRETEX® Product			
	Thermal insulation	Passive fire protection		
	M89/02	M90	M90/02	M93/02
100% Solids	•	•	•	•
Epoxy intumescent	-	•	•	•
Epoxy syntactic insulation	•	-	-	-
Durability: Pre-qualified to System 5a under NORSOK M-501	•	•	•	•
Durability: Tested and approved/listed under UL1709	-	•	•	•
Fire testing: Pool fire (BS476-20&21, ISO834-3)	-	Up to 2 hrs	Up to 3½ hrs	-
Fire testing: Jet fire (ISO22899-1)	Up to 2 hours	-	Up to 3½ hrs	-
Fire Protection: Listed under UL1709	-	Up to 2½ hrs	Up to 4 hrs	Up to 2 hrs
Fire protection: Type approval under Lloyd's Register	-	Up to 2 hrs	Up to 3½ hrs	-
Fire Protection: Type approval under Det Norske Veritas	-	Up to 2 hrs	Up to 3½ hrs	-
Fire Protection: Type approval under American Bureau of Shipping	-	Up to 2 hrs	Up to 3½ hrs	-
Blast resistance	Tested at 2 bar	Tested at 4 bar	Tested at 2 bar	Tested at 2 bar
Hose stream testing under NFPA 58-Appendix H	-	-	Pass	-
Cryogenic spill protection	Up to 2 hrs	Up to 2 hrs	Up to 2 hrs	Up to 2 hrs
Thermal insulation	-75 to 150°C	-	-	-

Primers and top coats

Sherwin-Williams coatings have been designed for optimum use in conjunction with our specially formulated primers and top coats. See the chart for Sherwin-Williams certified protection systems.

Primers

The key purpose of a primer is to protect blast prepared steel substrates from decay and in the event of mechanical damage to the coating, a primer will stop the spread of corrosion.

Top coats

FIRETEX® epoxy intumescent and insulation products are highly durable, tested to the most demanding protocols and proven in the harshest environments know. Like all epoxy coatings the surface can be affected by UV radiation in sunlight leading to chalking and dirt retention.

Sherwin-Williams would always recommend the application of a high performance top coat to provide UV protection.

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The Sherwin-Williams Company

With over 150 years experience in the coatings industry we understand how critical it is that your investment gives you a quality, long term fire protection system, which performs in demanding environments.

Whether you specify FIRETEX® alone or in conjunction with Sherwin-Williams exceptional primers and topcoats, you can be assured that you are selecting a passive fire protection system that has been researched, developed and tested to the highest international standards.

Speak to your Sherwin-Williams representative to get an estimate on your next project using FIRETEX® intumescent materials.

To learn more, contact us

Europe, Middle East & Africa: +44 (0)1204 521771
North America: +1 800 524 5979
Asia: +8 621 5158 7798
sales.uk@sherwin.com
www.sherwin-williams.com/protectiveEMEA

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