Protective & Marine Coatings
Europe, Middle East, Africa & India

FIRETEX® M90 Series

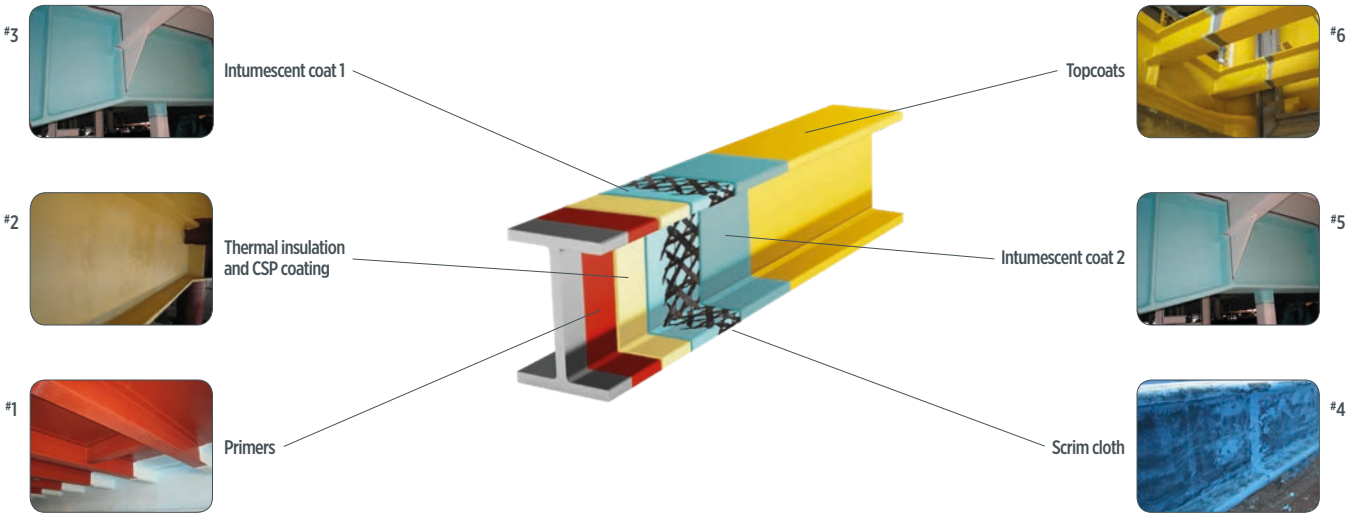
Hydrocarbon passive fire and cyrogenic spill protection solutions for oil & gas industries

FIRETEX®

INTUMESCENT PASSIVE FIRE PROTECTION

FIRETEX® FX

Hydrocarbon passive fire and cyrogenic spill protection solutions for oil & gas industries



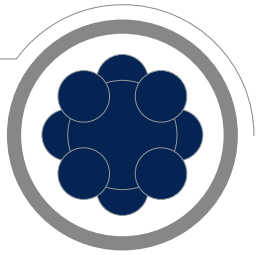
TOP COAT	TOP COAT	TOP COAT	TOP COAT
THERMAL INSULATION / CSP FIRETEX M89/02	PASSIVE FIRE PROTECTION FIRETEX M90/02 OR M93/02	PASSIVE FIRE PROTECTION FIRETEX M90/02 OR M93/02	PASSIVE FIRE PROTECTION FIRETEX M90/02
PRIMER	THERMAL INSULATION / CSP FIRETEX M89/02	PRIMER	PRIMER
	PRIMER		
Thermal insulation or cryogenic spill protection.	Thermal insulation or cryogenic spill protection and hydrocarbon fire protection.	Hydrocarbon pool fire protection.	Hydrocarbon pool and jet fire protection.

Suitable for use in the most severe conditions, consult your Sherwin-Williams representative for specification advice and details of approved primers and topcoats.

FIRETEX® FX

Hydrocarbon passive fire and cyrogenic spill protection solutions for oil & gas industries

Thermal barrier/ cryogenic spill protection 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.
- 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. Further, it allows the FIRETEX® M90 Series material to be used on surfaces which would be too hot for direct application of the intumescent coating.
- Offers cryogenic spill protection to structures which may be subject to the spillage of Liquid Natural Gas (LNG).
- 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.

Passive fire protection for hydrocarbon pool and jet fire M90/02

- FIRETEX® M90/02 provides up to four hours of hydrocarbon fire protection.
- Provides a corrosion resistant protective coating for the design life of the asset.
- Low spray applied density, reduced film build requirements and high performance properties, FIRETEX® M90/02 is highly recommended for both onshore and offshore structures.
- Blast resistance. Tested at 4 bar.
- 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.
- 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.

FIRETEX® FX

Hydrocarbon passive fire and cyrogenic spill protection solutions for oil & gas industries

Passive fire protection for hydrocarbon pool fire 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 perceived 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.

Primers, top coats and scrim

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

Primers

The key purpose of a primer is to protect blast prepared steel substrates from corrosion until the FIRETEX® product can be applied.

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.

Scrim

Provides mechanical reinforcement of the applied film in normal service and the intumescent char in the event of a fire.

- FIRETEX® J220 Jet fire scrim cloth.

FIRETEX® FX

Hydrocarbon passive fire and cyrogenic spill protection solutions for oil & gas industries

Word class epoxy fire protection solutions

With a solid 20 year track record the FIRETEX® M90 Series is blast resistant and formulated to protect structures from hydrocarbon pool fires, jet fires and cryogenic spills. The range of epoxy resin based intumescent and insulating coatings cover an industry leading range of steel sizes and offer improved char strength and greatly reduced dry film thickness (DFT).

Whether working independently or as part of a composite system the products in this range can be specified and tailored to meet both offshore and onshore requirements. When FIRETEX® is used in a duplex system with our thermal barrier products, assets are protected from cryogenic spill, hydrocarbon pool and jet fires as well as from corrosion that occurs under other types of insulation and fire protection.

A name you can trust

The FIRETEX® brand has been used on hundreds of projects around the world, protecting assets for over 20 years. Used on offshore platforms, FPSOs, refineries, petrochemical plants, LNG terminals and storage facilities globally, FIRETEX® has become the first choice for the oil, gas and petrochemical industry.

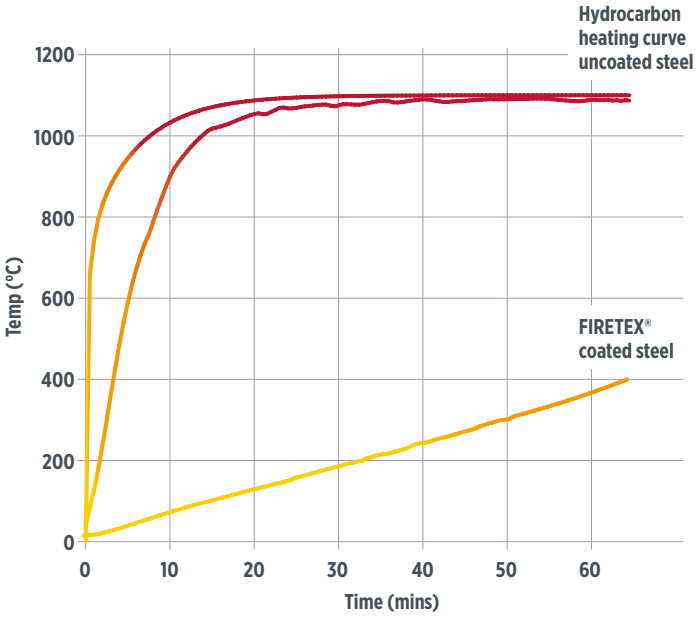
Offering you a complete system the products within the FIRETEX® M90 Series are supported by high performing primers and top coats, are designed, manufactured and distributed entirely by Sherwin-Williams to give you a reliable, quality assured, single source of supply.

Why choose intumescent coatings?

Designed to react in the most extreme fire scenarios the FIRETEX® coatings swell to many times the original thickness to produce a tough and resilient protective and insulating char. This char reduces the rate of temperature rise in the steel for up to four hours, thus extending the time to reach structural failure.

Hydrocarbon fire curve graph

Hydrocarbon pool fire test showing the difference between unprotected steel and the same steel element protected with FIRETEX®.



What is a hydrocarbon fire?

Hydrocarbon fire is the general description for a fire fueled by oil and oil derivatives or natural gas. These are characterised by a very rapid temperature rise and because the fuel for the fire is liquid or gas more fuel may leak allowing long durations before the fuel is exhausted.

If the fuel is at atmospheric pressure the resulting fire is referred to as a hydrocarbon pool fire, typically a pool of burning liquid.

If however the fuel is under pressure, which is very common in the hydrocarbon processing industry, then a leak which is ignited would create a hydrocarbon jet fire.

FIRETEX® FX

Hydrocarbon passive fire and cyrogenic spill protection solutions for oil & gas industries

Testing and approvals

Fully certified and tested to the highest international standards. All FIRETEX® materials are independently tested, verified and certified to the most stringent and up to date international standards, with full type approval from class organisations such as ABS, Lloyd's Register, Bureau Veritas and DNV GL.

Independently tested on structural steel, divisions and vessels, the FIRETEX® M90 Series has been subjected to testing under BS476 Part 20, Appendix D (hydrocarbon pool fire), UL1709 (Rapid Rise Fire Test), and IMO A754(18) (decks and bulkheads). The FIRETEX® M90 Series is put through the most stringent of tests to give you peace of mind including the latest jet fire standard ISO 22899 for up to 3.5 hours fire protection. The FIRETEX® M90 Series is explosion tested in excess of 4 bar over pressure and tested to IMO 61(67), with Class 1 surface spread of flame to BS476 Part 7.

Third party verified

FIRETEX® is fully compliant with NORSOK M501 System 5A, with pull-off adhesion values in excess of 3 Mpa when tested to ISO 20340; ensuring the integrity and durability of the range, to give you total confidence in its performance.

We have also tested against the affects of salt water immersion. Steel members coated with the FIRETEX® M90 Series system were immersed in salt water for 15 years, before being tested to the hydrocarbon fire curve, with no loss of fire resistance.

All FIRETEX® materials are independently tested, verified and certified to the most stringent international standards, including:

- ABS Type Approval
- Lloyd's Register
- DNV GL
- UL Listed.

Jet fire test

Jet fire testing of the FIRETEX® M90 Series product.

FIRETEX® FX

Hydrocarbon passive fire and cyrogenic spill protection solutions for oil & gas industries

Product overview

Criteria	FIRETEX® product		
	Thermal insulation	Passive fire protection	
	M89/02	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 3½ hrs	-
Fire testing: Jet fire (ISO22899-1)	-	Up to 3½ hrs	-
Fire Protection: Listed under UL1709	-	Up to 4 hrs	Up to 2 hrs
Fire protection: Type approval under Lloyd's Register	-	Up to 3½ hrs	-
Fire Protection: Type approval under DNV GL	-	Up to 3½ hrs	-
Fire Protection: Type approval under American Bureau of Shipping	-	Up to 3½ hrs	-
Blast resistance	Tested at 2 bar	Tested at 4 bar	Tested at 2 bar
Hose stream testing under NFPA 58-Appendix H	-	Pass	-
Cryogenic spill protection including under ISO20088-1	Up to 2 hrs	Up to 2 hrs*	Up to 2 hrs*
Thermal insulation	-75 to 150°C	-	-

*In conjunction with M89/02

Fire Engineering and Estimation Team

The Sherwin-Williams Fire Engineering and Estimation Team (FEET) offers expert advice on which coatings can be used in different sections of a building in order to optimise the passive fire protection of the structural steelwork. The team comprises of highly qualified engineers who are dedicated only to fire. The service offered by the team coupled with our third party verified design software solutions is unique within the industry and is available around the clock from our three separate global engineering offices.

The process

When a project's details are submitted, via almost any format (including 3D BIM Tekla Structures models), along with the specification for the environment, the highly trained engineers in Sherwin-Williams 'FEET' calculate thicknesses across multiple fire rating time frames against our extensive product range to provide the most economical, cost effective and fire safe solution for the project. This also includes advanced structural fire engineered approaches. The team design for both cellulosic and hydrocarbon fire scenarios. Data can be seamlessly shared back to the 3D BIM model for future building maintenance and fire management.

Services offered by our Fire Engineering and Estimation Team:

Technical advice	●
Training	●
Early concept advice	●
Bespoke fire protection calculating industry leading software	●
Standard FIRETEX® design	●
Fire engineering design	●

Fire engineering and estimation/ FIRETEX® thickness enquiries:

Tel: +44 (0)1204 556423

Email: feet.support@sherwin.com

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.

FIRETEX®

INTUMESCENT PASSIVE FIRE PROTECTION

To learn more, contact us

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

04/18 EMEA0122/V03