SHERWIN WILLIAMS®

FIRETEX® FX RANGE

INTUMESCENT PASSIVE FIRE PROTECTION SOLUTIONS

FROM SPEC TO PROTECT

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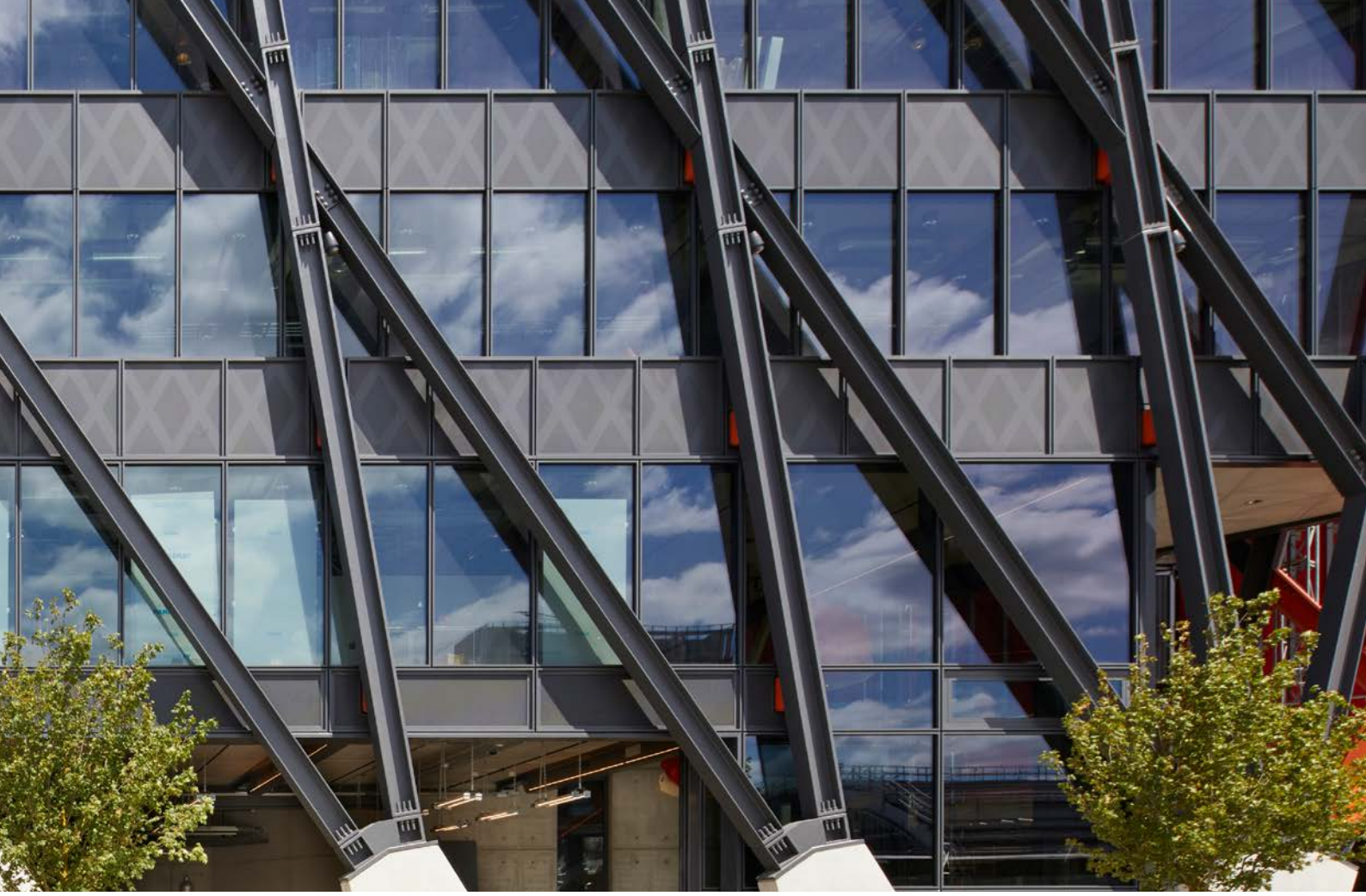
FIRETEX®
INTUMESCENT PASSIVE
FIRE PROTECTION

PERFORMANCE WITHOUT COMPROMISE

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

Our FIRETEX® range of intumescent passive fire protection coatings can provide a visually pleasing finish that allows for a creative usage of structural steel surfaces in building design, whilst offering essential protection of steelwork from 15 to 120 minutes. Whether you specify FIRETEX alone or in conjunction with our proven 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.



COMPLETE SOLUTIONS FOR EVERY NEED

At Sherwin-Williams, we understand how critical design, testing and manufacture of intumescent coatings are for fire protection of structural steelwork. This knowledge has enabled the company to produce a wide range of intumescent coatings that offer trusted and reliable solutions to mitigate fire risks.

Intumescent Solutions	Fire Rating	Area of Use	VOC Level
FIRETEX® FX2005 Solvent-based single-component technology, suitable for application all year round.	15 - 120 mins	On-site / Off-site	<272 g/L
FIRETEX® FX5090 Water-based intumescent technology that meets requirements of international environmental standards.		On-site	<25 g/L
FIRETEX® FX6002 Ultra-fast dry patented technology that optimizes workshop throughput and enhances durability with a high level of finish.		On-site / Off-site	<24 g/L

WHY CHOOSE INTUMESCENT COATINGS?

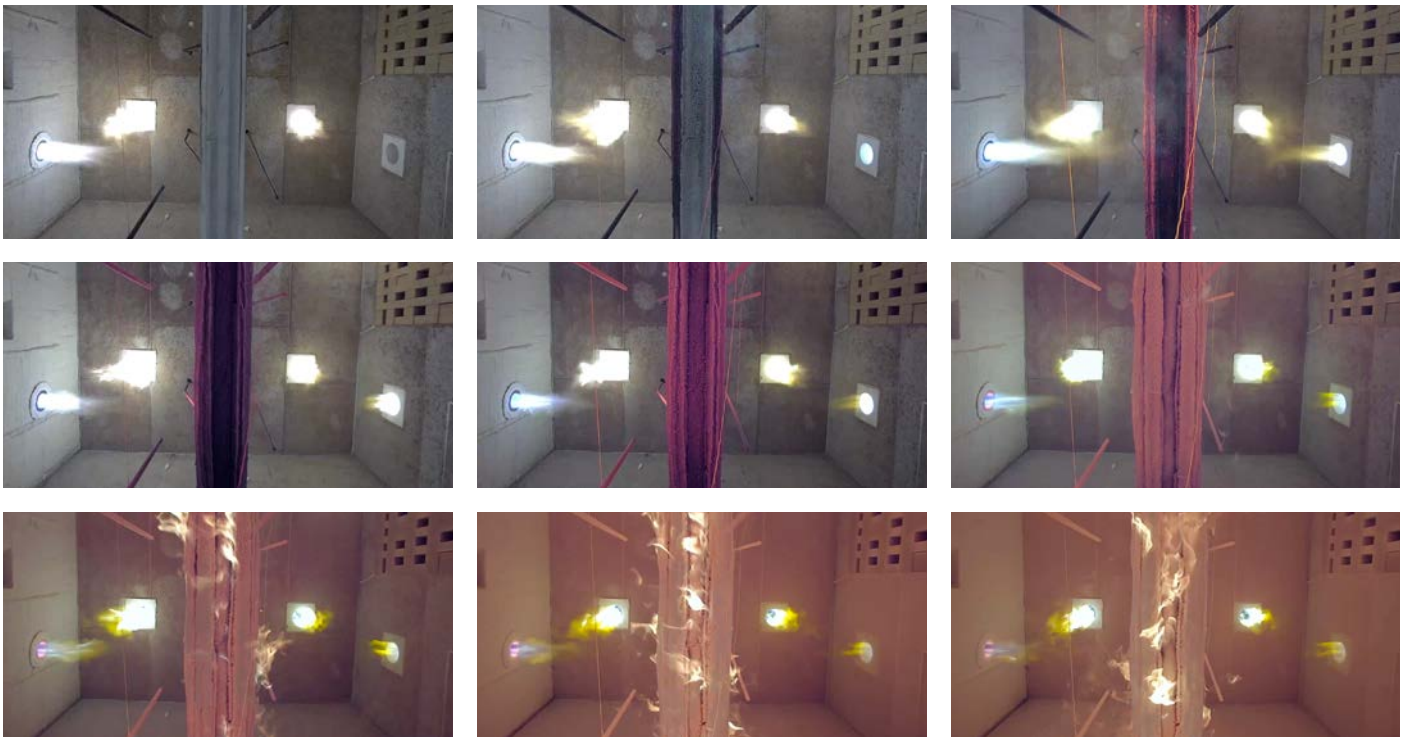
TIME-TESTED SOLUTIONS, PROVEN PERFORMANCE

The FIRETEX® FX range of intumescent coatings has been independently tested and assessed to the most stringent International Fire Testing Standards in order to provide our customers with unique and compliant fire protection solutions. Sherwin-Williams provides the expertise required to assist you in writing appropriate specifications at design stage, and will be there throughout the project to help ensure the solutions have been applied appropriately and successfully. Product application is carried out by our network of approved FIRETEX applicators.

ABOUT INTUMESCENT COATINGS

FIRETEX FX range intumescent coatings are designed to provide cellulosic fire protection for periods of up to two hours. Intumescent coatings react and expand in a fire event, providing an intumescent char which insulates the structural steel member and provides valuable time to evacuate buildings and fight the fire.

THE INTUMESCENT REACTION



The time-lapse images demonstates the apperance of the intumescent charring process over increased temperature on a FIRETEX-coated steel beam, in a controlled environment.

INTUMESCENT REACTION

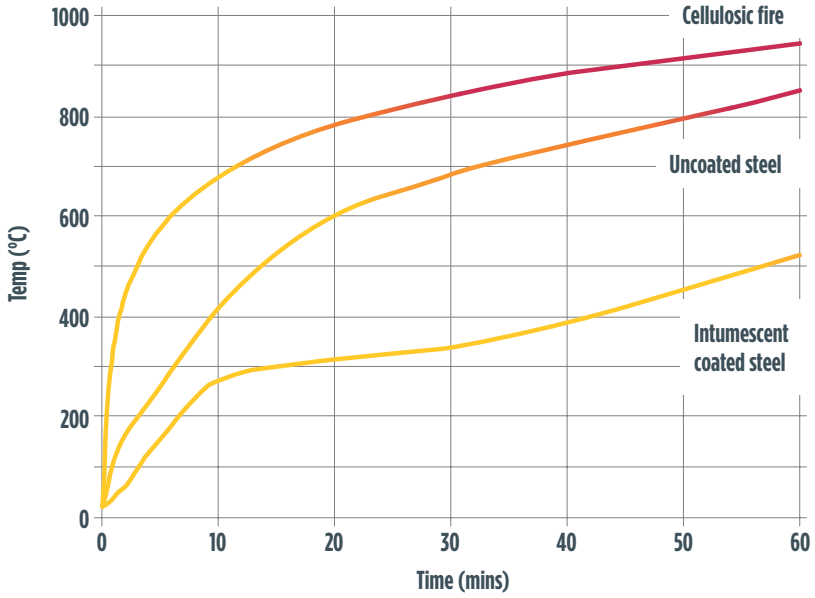
WHAT IS A CELLULOSIC FIRE?

A fire with a fuel source predominantly of cellulose (e.g., timber, paper, cotton).

These fires reach a temperature of 950°C after 60 minutes. With steel losing around 50% of its structural strength at 550°C, structural failure of unprotected steel could occur after as little as 15 minutes of fire exposure.

CELLULOSIC FIRE CURVE GRAPH

A standard fire curve graph depicting the rate of temperature rise over a one hour time period is presented in the figure below.



THIRD-PARTY VERIFIED

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

- AS4100-1998
- UL263/ASTM E119
- EN 13381-8 & 9
- BS476 Part 20/21
- DIN 4102 Part 2
- GOST 53295-2009
- The Certifire Scheme

FIRETEX FX RANGE PRODUCT GUIDE

FIRETEX FX2005

Solvent-based intumescent

Formulated using solvent-borne acrylic resin technology, this material offers a highly versatile solution to meet fire protection requirements from 15 to 120 minutes. The testing of this product includes elemental multi-temperature evaluation – meaning it can be used on simple rolled steel members and also beams including complex arrangements of openings (cellular beams).

FIRETEX FX2005 offers excellent application characteristics, providing quick and trouble-free application with an aesthetically pleasing standard of finish. FIRETEX FX2005 is suitable for application in both internal and external environments, up to C4 corrosivity category, as per ISO 12944-2.

Product	Fire Rating	Area of Use	Volume Solids	VOC	Dry to Touch @ 23°C	Dry to Recoat @ 23°C	Dry to Handle @ 23°C
FIRETEX FX2005	15 - 120 mins	On-site / Off-site	75%	<272 g/L	20 mins	4 hours	Depends on total applied thickness

FIRETEX FX5090

Water-based intumescent

The latest generation of water-based intumescent coating from Sherwin-Williams provides highly competitive solutions for the protection of structural steelwork for periods from 15 to 120 minutes. Designed for application to erected steelwork, it is suitable for use in internal environments, C1 and C2 categories as per ISO 12944-2. C3 categories can be achieved with appropriate Acrolon™ topcoat.

FIRETEX FX5090 provides a long-term, cost-effective fire protection solution for structural steel and cellular beams.

Product	Fire Rating	Area of Use	Volume Solids	VOC	Dry to Touch @ 23°C	Dry to Recoat @ 23°C	Dry to Handle @ 23°C
FIRETEX FX5090	15 - 120 mins	On-site	69%	<25 g/L	90 mins	4 hours	Depends on total applied thickness

FIRETEX FX6002

Ultra-fast drying intumescent – dry in one hour

We innovate to ensure that our customers are the first to benefit from pioneering advancements in products, coatings and their application.

This unique, patented technology offers a two-hour fire protection system to be applied in a single coat (FRL* / section size dependent) and be ready to handle and/or topcoat in as little as one hour.

Primarily designed for off-site application, FIRETEX FX6002 can be used in environments up to C5 category as per ISO 12944-2. It has excellent mechanical properties which minimise damage from handling and erection of the coated steelwork.

The coating features low volatile organic content (VOC) levels comparable with many of today's water-based intumescent products. It also dries leaving a smooth and aesthetically pleasing finish, offering a significant improvement on the finish quality typically achieved today.

* Fire rated level

Faster curing

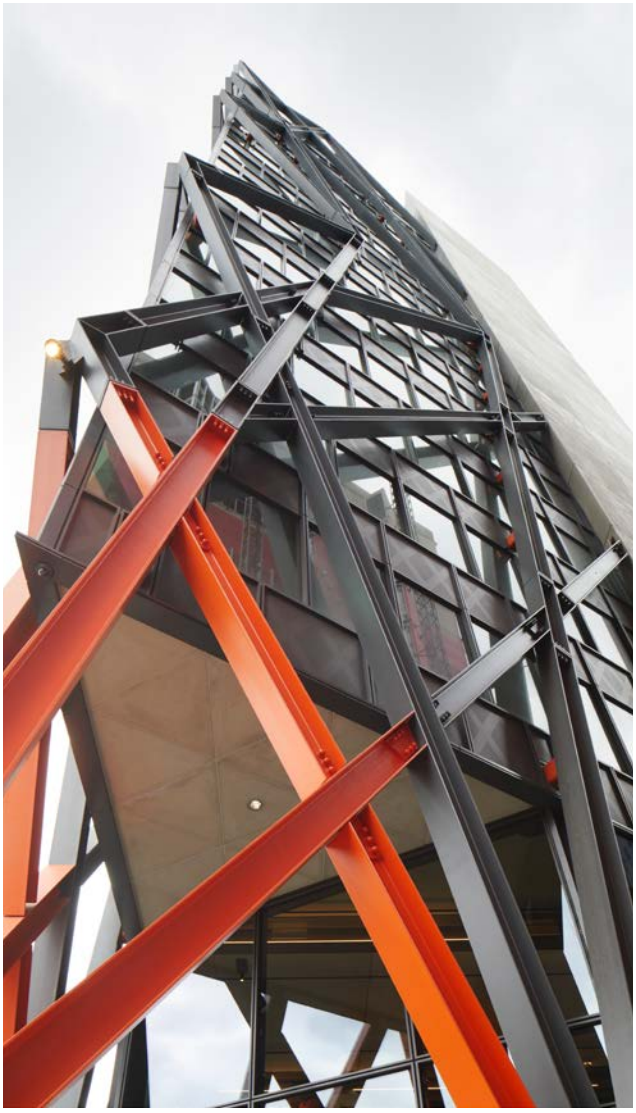
- Dry to handle in just one hour
- A 120-minute hollow section beam can be painted, cured, DFT-checked and topcoated in a single shift
- Can be exposed to weather after just four hours
- Mechanically tough and resilient to reduce risk of damage
- Optimise production throughput

Up to two hours protection

- Designed for cellulosic fire protection
- Competitive solutions from 15 to 120 minutes passive fire protection
- Highly durable, suitable for use in a C5 environment

Fully tested for your assurance

- C1 to C5 environments
- Tested to AS4100-1998 and international standards
- Assessed to ASFP Yellow Book 5th Edition
- Third-party certified under Certifire CF5644



Brunel Building, London, United Kingdom

Product	Fire Rating	Area of Use	Volume Solids	VOC	Dry to Touch @ 23°C	Dry to Recoat @ 23°C	Dry to Handle @ 23°C
FIRETEX FX6002	15 - 120 mins	On-site / Off-site	92%	<24 g/L	45 mins	1 hour	1 hour
FIRETEX FX6002 Repair Kit	15 - 120 mins	On-site / Off-site	92%	<24 g/L	45 mins	1 hour	1 hour

FIRETEX FX RANGE
INTUMESCENT SPECIFICATION GUIDE

Corrosivity Category	Internal / External	Application Environment	Surface Prep	Coat	Products	Nominal DFT (µm)
FIRETEX FX5090 - Water-borne						
C1 - C2	Internal	On-site	Sa2½	Primer[1]	Macropoxy™ 250	75
				Intumescent	FIRETEX FX5090	As per MTO[2]
				Topcoat	Acrolon™ 750 or Acrolon 775	75
FIRETEX FX2005 - Solvent-borne						
C1 - C2	Internal	On-site / Off-site	Sa2½	Primer[1]	Macropoxy 250	75
				Intumescent	FIRETEX FX2005	As per MTO[2]
				Topcoat	Acrolon 750 or Acrolon 775	75
C2 - C3	External	On-site / Off-site	Sa2½	Primer[1]	Macropoxy 250	75
				Intumescent	FIRETEX FX2005	As per MTO[2]
				Topcoat	Acrolon 750 or Acrolon 775	75
FIRETEX FX6002 - Patented ultra-fast dry						
C1 - C2	Internal	On-site / Off-site	Sa2½	Primer[3]	Macropoxy 250 or Zinc Clad® 6001 or Zinc Clad 1001	75
				Intumescent	FIRETEX FX6002	As per MTO[2]
				Topcoat[4]	Acrolon 750 or Acrolon 775	75
C3	Internal / External	On-site / Off-site	Sa2½	Primer[3]	Macropoxy 250 or Zinc Clad 6001 or Zinc Clad 1001	75
				Intumescent	FIRETEX FX6002	As per MTO[2]
				Topcoat	Acrolon 750 or Acrolon 775	75
C4	External	On-site / Off-site	Sa2½	Primer[1]	Macropoxy 250 or Zinc Clad 6001 or Zinc Clad 1001	75
				Intumescent	FIRETEX FX6002	As per MTO[2]
				Topcoat[5]	Acrolon 750 or Acrolon 775	75
C5	External	On-site / Off-site	Sa2½	Primer[1]	Zinc Clad 6001 or Zinc Clad 1001	75
				Intumescent	FIRETEX FX6002	As per MTO[2]
				Topcoat[5]	Acrolon 750 or Acrolon 775	150 (2 x 75)

Notes:

1. Primer mandatory.

2. MTO (Material Take Off) - which is provided on receipt of project material list, or BOQ (Bill of Quantities).

3. Primer optional, except where necessary for bolted connections. Ensure surface profile of 50-100µm is obtained when no using a primer.

4. Topcoat optional. Topcoat not required for non-visible areas.

5. For extended durability, two by 75µm of topcoat is required.

PRIMERS AND TOPCOATS

Sherwin-Williams coatings have been designed for optimum use in conjunction with our specially formulated primers and topcoats.

PRIMERS

- The key purpose of a primer is to protect blast prepared steel substrates from decay. In the event of mechanical damage to the coating, a primer will stop the spread of corrosion.
- **Macropoxy™ 250** – Universal epoxy primer which provides excellent application properties by airless spray, and can cure at low temperatures, down to 5°C. Suitable for use with both shop and site applied intumescent.
- **Zinc Clad® 1001** – A two-component polyamide cured zinc rich epoxy primer. Containing 87% zinc dust (by weight) in the dry film, this primer offers durability as part of a paint system in harsh climates.
- **Zinc Clad® 6001** – A two-component inorganic ethyl silicate zinc rich primer. Containing 78% zinc dust (by weight) in the dry film, this primer offers durability in harsh climates, and is also approved for slip grip.

TOPCOATS

- A topcoat keeps a coating looking at its best and ensures the full life of a coating is reached.
- All intumescent coatings contain certain key moisture-sensitive ingredients necessary for the intumescent reaction. Alongside careful formulation it is also essential to apply protective sealant coats to protect the properties of the fire protection from the weather. Sealer coats must be used for external environments to achieve durability. They also offer a decorative finish to intumescent coatings.
- **Acrolon™ 750** – High-performance, two-component, fast drying acrylic urethane gloss finish, for use where long-term exterior gloss and colour retention characteristics are required.
- **Acrolon™ 775** – High-performance, two-component, fast drying acrylic urethane semi-gloss finish, for use when a lower gloss finish is required.
- In corrosivity categories according to ISO 12944-2, a single component topcoat may be used. For C3 & C5 corrosivity categories, a two-component topcoat will be specified.

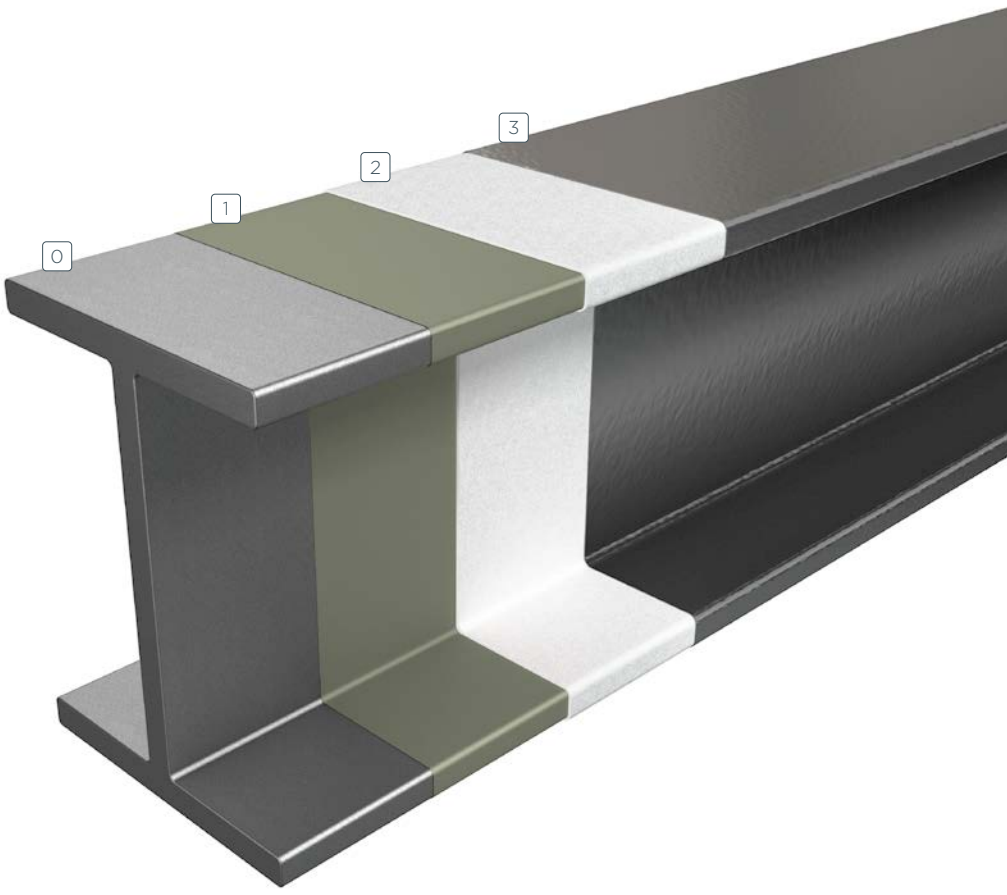
TYPICAL INTUMESCENT SYSTEM

0 **Substrate:**
Blast cleaned Sa2½ (ISO 8501-1:2007)

1 **Primer:**
Macropoxy 250

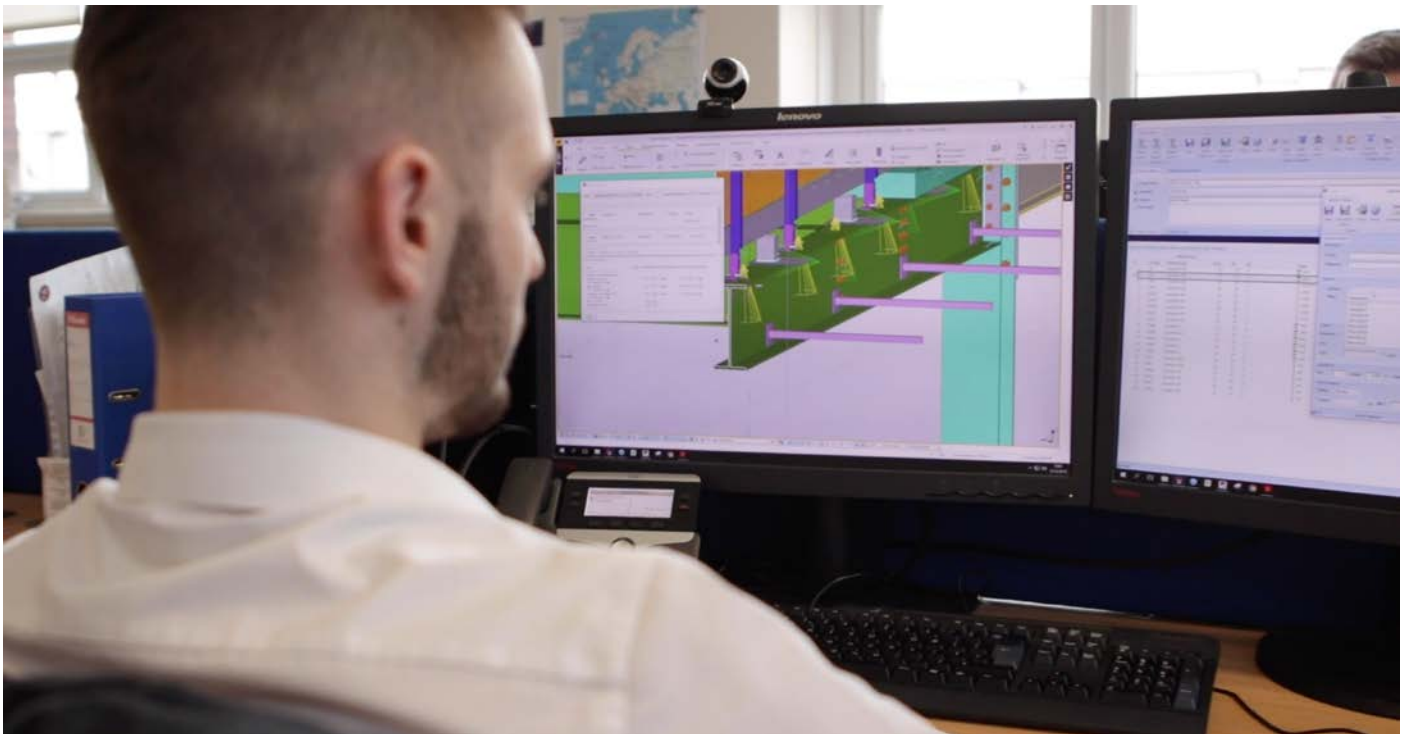
2 **Intumescent:**
FIRETEX FX6002

3 **Topcoat:**
Acrolon 750 or Acrolon 775



SHERWIN-WILLIAMS 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 is comprised of highly qualified engineers who are dedicated only to the fire protection field. 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 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.

Whether you are a specifier or an asset owner anywhere in the world, our technical service team is dedicated to provide consistent performance and quality across your project's global scope.

SERVICES OFFERED BY OUR FIRE ENGINEERING AND ESTIMATION TEAM:

Technical advice	●
Training	●
Early concept advice	●
Bespoke, industry-leading fire protection calculating software (FIRETEX Design Estimator or FDE)	●
Standard FIRETEX design	●
Fire engineering design	●

FIRETEX GLOBAL TRACK RECORDS

Product	Project Name	City	Country	Client	Market Segment	Year
FX6002	Sydney Modern Art Gallery	Sydney	Australia	Infrastructure New South Wales	Infrastructure	2020
FX6002	ANI Future Submarine Program Phase 1	Adelaide	Australia	ANI	Infrastructure	2020
FX2005	Sydney Opera House	Sydney	Australia	Sydney Opera House	Infrastructure	2020
FX6002	Jubilee Place	Brisbane	Australia	JGL Properties	Infrastructure	2020
FX6002	Point Lonsdale Surf Life Saving Club	Point Lonsdale	Australia	Point Lonsdale Surf Life Saving Club	Infrastructure	2020
FX2005	The Front Yard	Sydney	Australia	First Group	Infrastructure	2020
FX6002	Exo Building	Dublin	Ireland	Grant Thornton	Infrastructure	2019/2020
FX6002	Victoria Square Development- RED Car Park	Woking	United Kingdom	Bandstand Square	Infrastructure	2020
FX6002	Derwent London - Number One Oxford Street Site B AKA Soho Place	London	United Kingdom	Derwent London	Infrastructure	2020
FX6002	Tallaght Hospital - New Childrens Hospital	Dublin	Ireland	National Paediatric Hospital Development Board	Infrastructure	2020
FX6002	Madras College St Andrews	Fife	United Kingdom	Fife Council	Infrastructure	2020
FX6002	Paddington Central - Liverpool car park	Liverpool	United Kingdom	Liverpool City Council	Infrastructure	2020
FX6002	Newcastle Science Central- Plot 2 & 3 Offices and Car Park AKA The Spark	Newcastle	United Kingdom	Newcastle University	Infrastructure	2020
FX6002	Shoreditch Village AKA Project Barley Phase 2	London	United Kingdom	Lirastar Limited	Infrastructure	2020
FX6002	Moxy Hotel Freer Street Edinburgh	Edinburgh	United Kingdom	Vastint Hospitality B.V	Infrastructure	2020
FX6002	Google Data Center - Finland (CUB Building)	Hamina	Finland	Google Inc.	Infrastructure	2019
FX6002	Merck Millipore/Forde Steel Buildings	Cork	Ireland	Merck Millipore	Infrastructure	2019
FX6002	Malmo Project - Data Centre Sweden	Malmo	Sweden	Industrial & Protective Coatings Ltd	Infrastructure	2019
FX6002	Greenock Health - Wellington Street	Strathclyde	United Kingdom	NHS Greater Glasgow and Clyde Health Board	Infrastructure	2019
FX6002	1 Centenary Way - Roof Trusses	Birmingham	United Kingdom	Wintech Engineering Limited	Infrastructure	2019
FX6002	Horgans Quay	Cork	Ireland	HQ Developments	Infrastructure	2019
FX6002	Battersea Power Station Redevelopment - Battersea P2 South and South East	London	United	Kingdom T&T Group	Infrastructure	2019
FX6002	Manchester University New Engineering Campus Development AKA MECD	Manchester	United Kingdom	University of Manchester	Infrastructure	2019
FX6002	Hermes Building	Paris	France	Peintures Maestria	Infrastructure	2019
FX6002	Army Basing Programme	Salisbury	United Kingdom	Ministry of Defence Head Office	Infrastructure	2019
FX6002	Google Data Center - Finland (SSI Building)	Hamina	Finland	Google, Inc.	Infrastructure	2019

FIRETEX® FX RANGE

PERFORMANCE WITHOUT COMPROMISE

THE SHERWIN-WILLIAMS DIFFERENCE

Sherwin-Williams Protective & Marine delivers world-class industry subject matter expertise, unparalleled technical and specification service, and unmatched regional commercial team support to our customers around the globe. Our broad portfolio of high-performance coatings and systems that excel at combating corrosion helps customers achieve smarter, time-tested asset protection. We serve a wide array of markets across our rapidly growing international distribution footprint, including Oil & Gas, Water & Wastewater, Bridge & Highway, Steel Fabrication, Flooring, Food & Beverage, Fire Protection, Marine, Rail and Power.

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