



JOTUN

Jotachar

JF750
mesh free

*Revolutionary mesh free
epoxy passive fire protection*



A GLOBAL PROVIDER OF COATINGS



Jotun is one of the world's leading manufacturers of paints, coatings and powder coatings.

We have 71 companies and 36 production facilities on all continents, and are represented in more than 90 countries with our network of agents, branch offices, distributors and sales offices around the world.

Our operations cover development, production, marketing, R&D and sales of paints and coatings to protect and decorate surfaces in residential, shipping and industrial markets.

Jotun is organised in four segments and seven geographical regions with its head office located in Sandefjord, Norway.

MARINE COATINGS

As the world's leading provider of marine coatings we supply to ship owners, management companies and others for both newbuilding and dry-dock.

PROTECTIVE COATINGS

Our protective coatings are protecting assets in industries such as offshore, energy, infrastructure and hydrocarbon processing.

POWDER COATINGS

Our powder coatings are supplied to manufacturers of appliances, furniture, building components, pipelines and general industries.

DECORATIVE PAINTS

Our interior and exterior paints are being used by consumers and professionals worldwide, for protection and decoration.

UNIFORM STANDARD ACROSS THE GLOBE

- Easy to exchange trained technical personnel across national borders and multi-national projects. 
- Compulsory training for all technical and sales personnel in marine and protective segments. Most of our coating advisors and technical personnel have FROSIO and/or NACE certification.
- Same competence in maintaining company standard procedures globally.

Jotun GreenSteps

FOR A MORE COLOURFUL WORLD, WE ALL NEED TO BE A LITTLE GREENER

Jotun recognises the responsibility it has to the environment and has established its own GreenSteps programme.

Through the GreenSteps programme we address market demand for more sustainable coatings solutions.



THE CHALLENGE

Offshore and onshore assets in the oil & gas industry are at risk from explosions and hydrocarbon fires. Without passive fire protection (PFP) measures, these incidents can escalate rapidly, leading to catastrophic loss of life, assets and inventory.

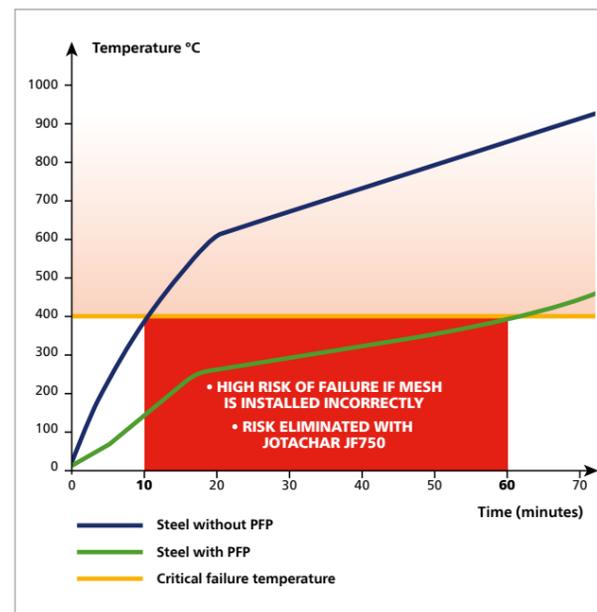
Steel strength reduces dramatically as temperature increases. Epoxy PFP systems are designed to prevent or delay collapse of the structure by reducing the rate of steel temperature rise.

Until now, the industry has depended upon epoxy PFP systems that require additional mesh reinforcement. To avoid any risk of failure when exposed to fire, reinforcement mesh must have been correctly installed in accordance with the product's certification.

The consequences of incorrectly installing mesh could be devastating, leading to:

- Loss of life
- Serious incident escalation
- Blocked escape routes
- Loss of asset
- Environmental catastrophe
- Loss of inventory
- Huge financial impact on the asset owner

The industry's challenge has been to design an epoxy PFP system for hydrocarbon that no longer relies on mesh, the primary source of the inherent risks with mesh containing systems.



THE SOLUTION

Jotun introduces Jotachar JF750, the industry's first mesh free next generation solution for hydrocarbon and jet fires. Jotachar JF750 incorporates an advanced fibre matrix, eliminating the need for complex mesh reinforcement. When exposed to a fire, Jotachar JF750 produces a robust and temperature stable insulating char whilst risks associated with incorrect mesh installation are eliminated.

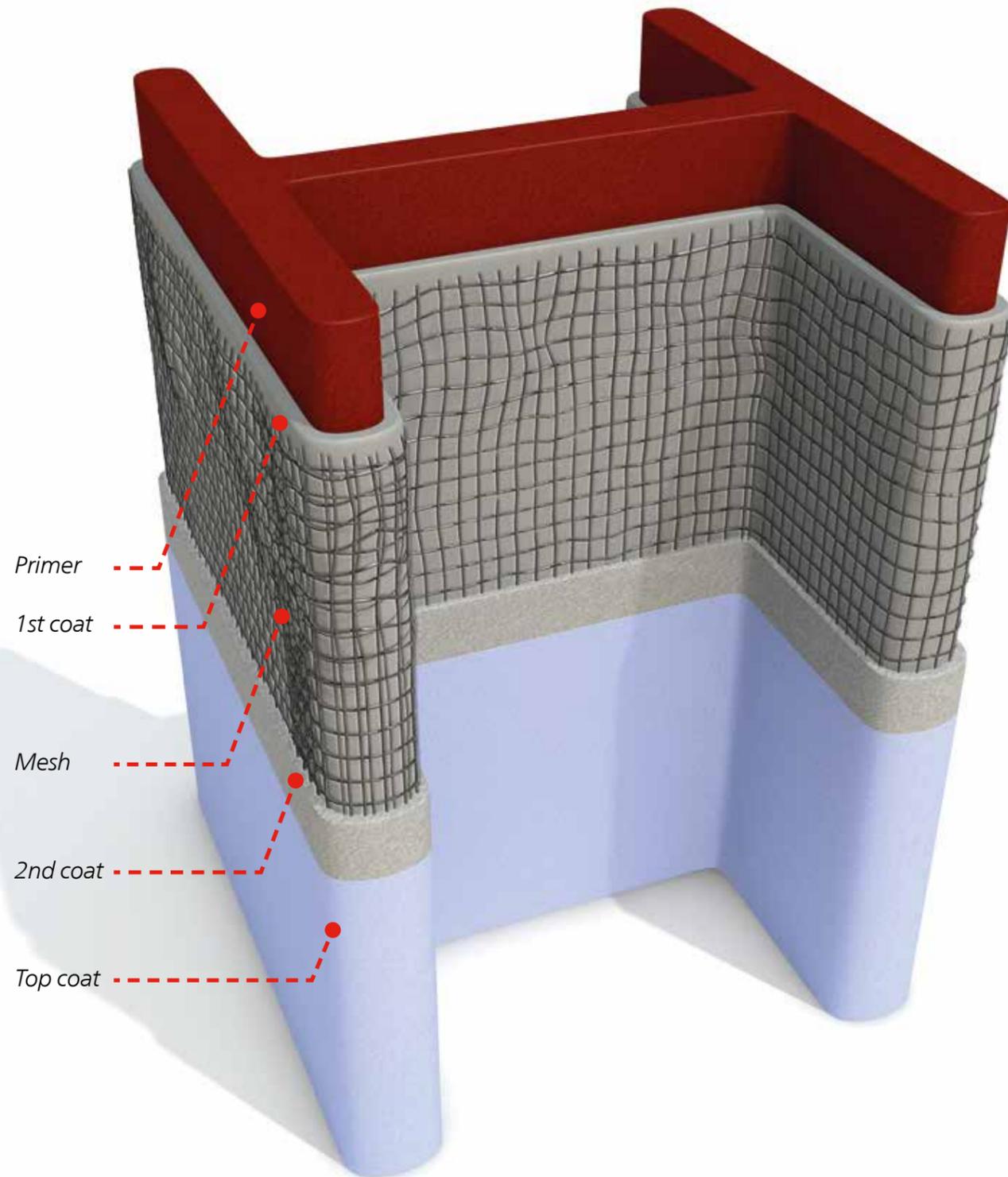
Without the need for additional mesh reinforcement, installation time is significantly reduced, combined with the additional benefit of substantial material and labour savings for your project.



Jotachar
the time saving solution



Traditional Mesh containing Epoxy PFP



Traditional Mesh containing Epoxy PFP COMPLEX, HIGH RISK APPLICATION

PROCESS	THE CHALLENGE
1 Check product certification rules for installation of the mesh-containing PFP	Complex and time consuming
2 Assemble sufficient manpower to apply both PFP coating and mesh	Availability and cost of manpower
3 Measure and cut mesh as required for the project fire scenario	Time consuming Risk of error leading to non-compliance
4 Determine the thickness required for the 1st coat of PFP to comply with mesh depth rules required for certification	Risk of error leading to non-compliance
5 Apply the 1st coat of epoxy PFP accurately to the correct thickness	Risk of error leading to non-compliance
6 Apply mesh ensuring it is embedded correctly into the 1st coat of PFP correctly rolling and trowelling as necessary. Ensure mesh overlap rules are followed	Risk of error leading to non-compliance and failure
7 Inspection hold for correct mesh installation	Crew downtime and project delay
8 Re-work of any non-conforming mesh installation.	Cost and project delay
9 Wait for product to cure, up to 12 hours	Crew downtime and project delay
10 Apply second coat of PFP often next day at the earliest	Crew downtime and project delay
11 Final inspection of PFP	

Mesh Free Jotachar JF750

CONSISTENT, RISK-FREE APPLICATION

PROCESS

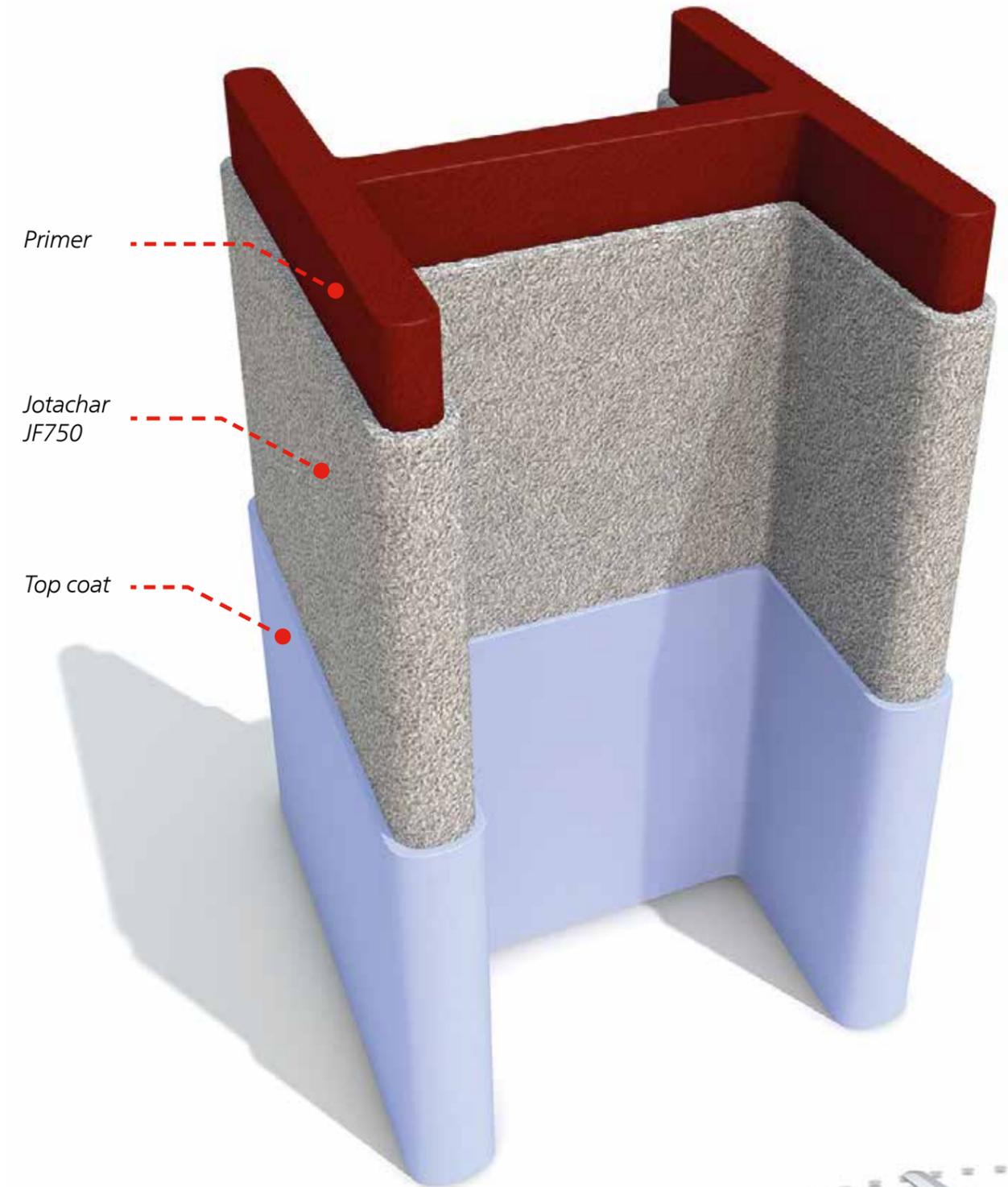
- 1 Check certification rules for PFP application
- 2 Assemble sufficient manpower to apply Jotachar JF750 mesh free
- 3 Continuous application of Jotachar JF750
- 4 Final inspection of Jotachar JF750

BENEFIT USING JOTACHAR JF750

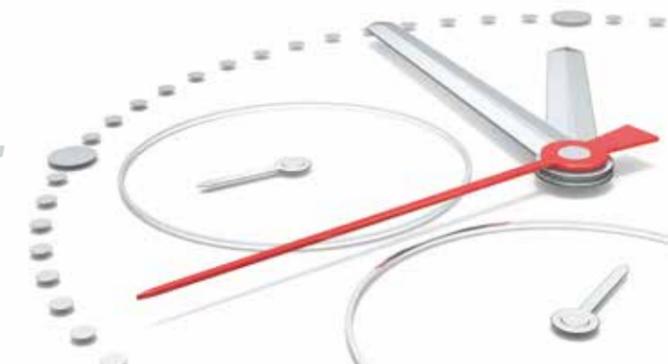
- Establish PFP thickness only
- Reduced manpower requirement
- No stopping for mesh installation



Mesh Free Jotachar JF750

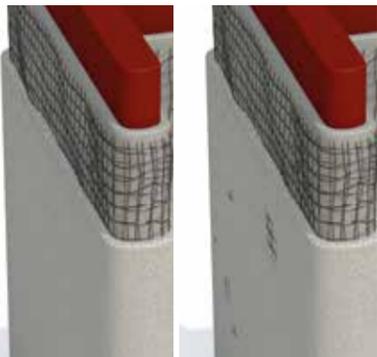


Jotachar
the time saving solution



MESH FREE – LESS RISK

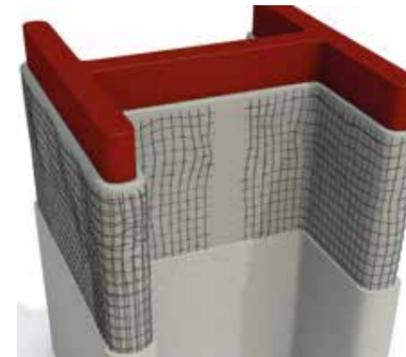
NO MESH DEPTH RULES TO FOLLOW



Certification rules dictate that mesh reinforcement has to be installed at a specific depth within the PFP coating, typically at the middle. If the mesh is not installed at the correct depth, the applied system will not meet the requirements of the product's fire certification.

(Left) Mesh embedded at the correct depth in the coating
(Right) Mesh embedded too close to the coating surface

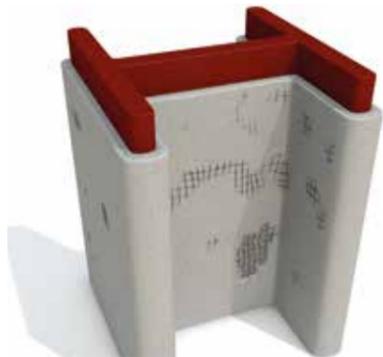
MESH INCORRECTLY INSTALLED OR OMITTED



The mesh reinforcement has to be installed in accordance with strict certification rules depending on fire scenario. Following system installation it is very difficult to observe if the mesh has been installed in compliance or installed at all. Incorrect overlaps or lack of mesh will result in unpredictable fire performance.

← Lack of overlap of mesh results in failure to comply with certification and risks unpredictable fire performance

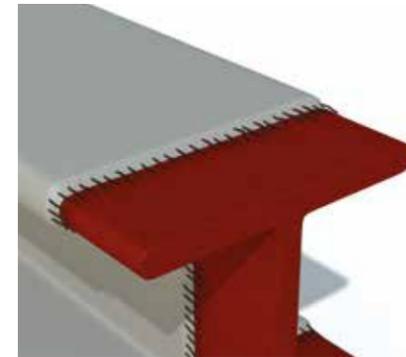
NO EPOXY PFP DETACHMENT FROM THE MESH LAYER



Incorrectly installed reinforcement mesh can significantly reduce the cohesive properties between the mesh and the final coat of epoxy PFP. This can lead to detachment and system failure in a fire scenario. Jotachar JF750's continuous mesh free application eliminates this risk.

← Poor installation of mesh with mesh exposed and detachment of the final coat

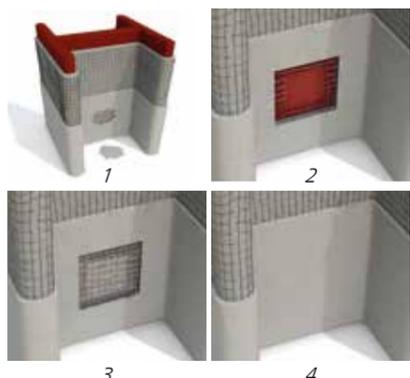
NO WATER INGRESS AT MESH TERMINATIONS



If system terminations are not completed correctly, mesh strands can protrude from the termination point. These exposed strands provide a path for moisture into the coating, leading to poor adhesion, water uptake and reduced fire performance through the life of the system.

← Mesh strands exposed – offering a route for moisture to enter the coating

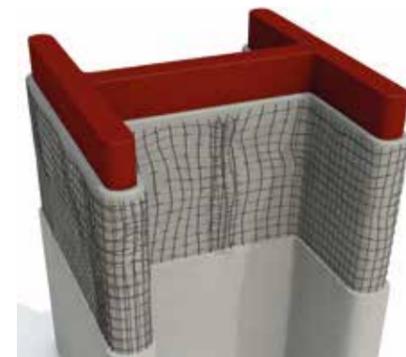
NO COMPLICATED REPAIRS OR UPGRADES



Mesh containing systems can be difficult to repair as the replacement mesh layer has to follow the same certification rules. For repair this means cutting back to expose undamaged mesh then overlapping with a new mesh layer. Should an area require a fire scenario upgrade, the mesh should be completely removed and replaced in accordance with the certification rules.

1. Damage repair required
2. Remove PFP back to primer, step back 2nd coat of PFP to expose sound mesh layer
3. Apply 1st coat of PFP, apply new mesh
4. Apply 2nd coat of PFP then topcoat

NO MESH DETACHMENTS FROM OVERLAPS



At mesh joints, an overlap must be introduced according to certification rules. If the overlapping mesh is not correctly installed with adequate adhesion, the upper layer of mesh will lift. This will cause project delay due to rework of the mesh and the subsequent coats.

← Poor adhesion at mesh overlaps – the result of incorrect installation and the source of delays and reworking

JOTACHAR JF750 – THE TIME SAVING SOLUTION



Increased productivity – no mesh installation



Faster project completion



Less downtime, no mesh inspection points



Continuous application



Up to 60% reduction in time and costs

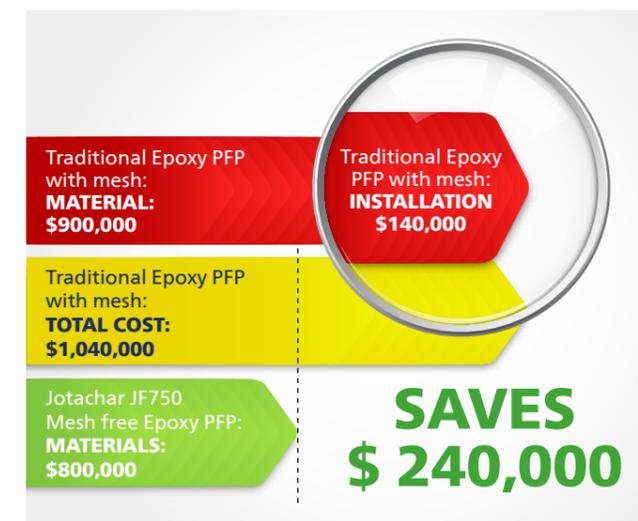


Potential one coat system for 30 or 60 minute jet fire scenarios

Jotachar JF750 mesh free benefits help owners, fabricators and applicators significantly reduce installation time, cut material costs and reduce risks compared to systems that require mesh reinforcement. The product also makes maintenance and repair much simpler, requiring significantly less time and cost.

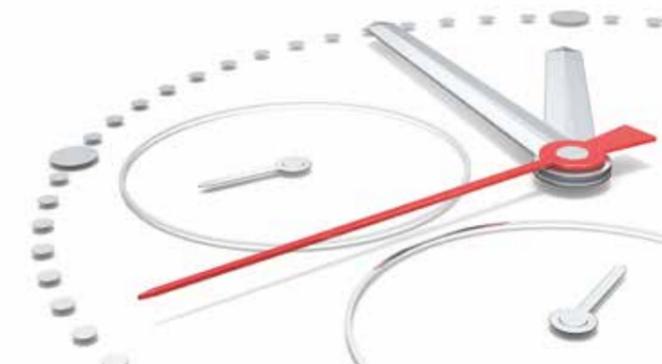
Mesh containing systems require a larger installation crew to complete the project. In addition, more frequent inspections are required to ensure the complex mesh overlap and depth rules are in compliance with product and project certification rules. These factors will add time and cost to any project. With Jotachar JF750's continuous application process, projects are completed more rapidly, with significant saving in man hours and cost.

Jotachar JF750 is the only mesh free epoxy intumescent coating solution available to the market where jet fire protection is required for safety critical steel structures, divisions and vessels.



* based on a typical 6,000m² project: 60 minute jet fire scenario

Jotachar
the time saving solution



TESTED, PROVEN, CERTIFIED

Jotachar JF750 has been extensively and independently tested to all the key industry standards and witnessed by Lloyd's Register of Shipping, providing confidence that long lasting fire performance is assured even in the most severe conditions.

The rigorous testing program and independent product assessment undertaken by Jotun is recognised by all the leading classification societies such as; Lloyd's Register of Shipping (LRS), DNV (Det Norske Veritas), ABS (American Bureau of Shipping), BV (Bureau Veritas) and USCG (United States Coast Guard)

Description	Test method
Fire Resistance	
Jet fire structural	ISO 22899
Hydrocarbon fire resistance test – Structural	BS 476/ISO 834
Hydrocarbon fire resistance – Divisions	BS 476/ISO 834 in accordance with IMO 754 (18)
Environmental	
Corrosion and durability	ISO 20340
NORSOK	M-501 Rev.6 System 5A
Smoke & toxicity	NES 711, NES 713
Flame spread	ASTM E84, BS 476 part 7
Physical Testing	
Hose stream test	NFPA 290
Tensile modulus, strength & strain	ASTM D638
Compressive modulus, strength & strain	ASTM 695
Flexural modulus, strength & strain	ASTM D790
Impact resistance	ASTM D2794
Shore D hardness	ASTM D2240
Blast overpressure	Confirming robust adhesion on structures and divisions when subject to extreme deflections or vibration



Fully compliant to
NORSOK M-501, Rev 6
with no reduction in fire
performance after exposure.



The highest number
of world class
technical personnel
in the industry

GLOBAL EXPERIENCE – LOCAL PRESENCE

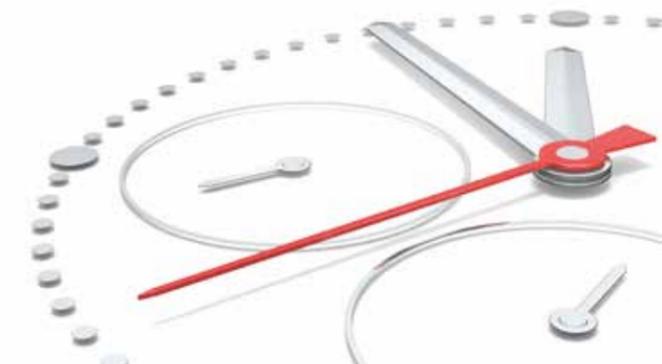
Jotun provides a comprehensive technical support function.

At every Jotun location there are highly trained and experienced coatings specialists available to assess and analyse each customer's particular protective coating requirements. They work as a team, in close communication, both together and with the customers.

With direct access to the Jotun technical department, they bring an unrivalled wealth of knowledge and experience to solve even the most complex protection problems.

They apply the same uncompromising standards, whether selecting a range of alternative basic systems or tailor-made solutions.

Jotachar
the time saving solution



Jotun Marine Coatings and Jotun Protective Coatings offices worldwide

Legal Jotun entities world wide are listed. For details of Branch offices and Jotun representation in countries not listed, please visit jotun.com

AUSTRALIA

Jotun Australia Pty. Ltd.,
P.O. Box 105, Altona North,
9 Cawley Road,
BROOKLYN, VIC 3025
Tel: +61 3 9314 0722
Fax: +61 3 9314 0423

BRAZIL

Jotun Brasil Ltda.
Av Santa Luzia, 2084 - Santa Luzia
24.722-315 São Gonçalo
RIO DE JANEIRO
Tel: +55 21 3147 3850
Fax: +55 21 3147 3861

CYPRUS

Jotun Cyprus Ltd.
56 Theodorou Potamianou
Aphrodite Court, 1st Floor
4155, Kato Polemidia
LIMASSOL
Tel: +357 25 374455 / 374440 / 374477
Fax: +357 25 374400

P.R. of CHINA

Jotun Coatings (Zhangjiagang) Co. Ltd.
Jotun COSCO Marine Coatings
(Qingdao) Co. Ltd.
Floor 20, Jiu Shi Mansions,
No. 28 Zhong Shan Road (South)
SHANGHAI 200010
Tel: +86 21 6333 080 0
Fax: +86 21 6326 968 6

Jotun Coatings (Zhangjiagang) Co. Ltd.
Jotun COSCO Marine Coatings
(Qingdao) Co. Ltd.
Room 709-12, Goldlion Digital Network
Centre, 138 Tiyu Road East,
GUANGZHOU, 510620
Tel: +86 20 38 78 07 49
Fax: +86 20 38 78 19 66

HONG KONG

Jotun COSCO Marine Coatings (H.K.) Ltd
Room 902, 9/F,
101 King's Road, North Point
HONG KONG
Tel: +852 2527 6466
Fax: +852 2861 1307

DENMARK

Jotun Danmark A/S Jotun Coatings
Columbusvej 5, 2860 Søborg,
COPENHAGEN
Tel: +45 4492 9400
Fax: +45 4492 9401

EGYPT

El Mohandes Jotun S.A.E.
El Sheikh Aly Gad El Haq Street
Florida Mall,
Masaken Sheraton – 4th Floor
CAIRO
Tel: +20 2265 1800
Fax: +20 2265 1801

FINLAND

Nor-Maali OY
Vanhatie 20, 15240 LAHTI
Tel: +358 3 874 650
Fax: +358 3 874 6550

FRANCE

Jotun France S.A.
22/24 Rue du President Wilson, Bat.A
92300 LEVALLOIS PERRET
Tel: +33 1 4519 3882
Fax: +33 1 4519 3894

GERMANY

Jotun (Deutschland) GmbH
Haferweg 38
22769 HAMBURG
Tel: +49 40 851 960
Fax: +49 40 856 234

GREAT BRITAIN

Jotun Paints (Europe) Ltd.
Stather Road, Flixborough,
SCUNTHORPE DN15 8RR
Tel: +44 1724 400 000
Fax: +44 1724 400 100

GREECE

Jotun Hellas Ltd.
18, Vouliagmenis Avenue,
Glyfada
ATHENS 16675
Tel: +30 210 42 85 980-82
+30 210 42 86 035-37
Fax: +30 210 42 85 983/
+30 210 42 87 237

INDIA

Jotun India Pvt. Ltd.
502, 5th Floor,
Boston House,
Suren Road,
Behind Cinemax Theatre,
Andheri East,
Mumbai – 400 093
Tel: +91 22 2822 4600
+91 22 2820 5900 (+fax)
Fax: +91 22 2820 5900

INDONESIA

P.T. Jotun Indonesia Paints and Chemicals
Kawasan Industri MM2100
Blok KK-1, Cikarang Barat
Bekasi 17520
Tel: +62 21 8998 2657
Fax: +62 21 8998 2658

IRELAND

Jotun (Ireland) Ltd.,
Unit K7, Marina Commercial Park,
Centre Park Road, CORK
Tel: +353 214 965955
Fax: +353 214 965992

ITALY

Jotun Italia S.P.A.
Via Petronio, 8, Zona Ind. Noghese
34147 - MUGGIA (TRIESTE)
Tel: +39 040 23 98204
Fax: +39 040 23 98222

JAPAN

NKM Coatings Co., Ltd.
12-1, Minamirokugo 3-chome,
Ota-ku,
TOKYO 144-0045
Tel: +81 3 6758 2212
Fax: +81 3 6758 2213

KOREA (SOUTH)

Chokwang-Jotun Ltd.
30th Block Jisa Science Park,
1205 Jisa-dong, Gangseo-gu,
BUSAN 618-230
Tel: +82 517 976 000
Fax: +82 517 117 735

LIBYA

Jotun Libya J.S.Co
Almumtaz Co. S.A. (Jotun).
Aalseka Street
P.O. Box 6850
TRIPOLI
Tel: +218 214777811
Fax: +218 214780718

MALAYSIA

Jotun (Malaysia) Sdn. Bhd.
Lot 7 Persiaran Perusahaan,
Section 23, P.O. Box 7050
40700 SHAH ALAM
Tel: +60 351 235 500
Fax: +60 351 235 632

THE NETHERLANDS

Jotun B.V.
Postbus 208
3200 AE SPIJKENISSE
Visiting address:
Curieweg 11b, 3208 KJ Spijkenisse
ROTTERDAM
Tel: +31 181 678 300
Fax: +31 181 617 899

NORWAY

Jotun A/S
P.O. Box 2021,
3202 SANDEFJORD
Visiting address:
Hystadveien 167, 3209 Sandefjord
Tel: +47 33 45 70 00
Fax: +47 33 45 79 00

OMAN

Jotun Paints Co. LLC
Rusayl Ind. Estate, Road No.10
P.O. Box 672 Code 111, MUSCAT
Tel: +968 2444 6100
Fax: +968 2444 6105

PAKISTAN

Jotun Pakistan (Pvt.) Limited
Plot no. 2-H, Sector 5
Korangi Industrial Area, KARACHI
Tel: +92 213 5121 491-2
Fax: +92 213 5121 493

PHILIPPINES

Jotun (Philippines) Inc.
846 West Service Road, Km.18
South Super Highway
Paranaque City,
METRO MANILA 1714
Tel: +63 2239 1032-34
Fax: +63 2822 0760

POLAND

Jotun Polska Sp.zo.o.
ul. Magnacka 15,
80-180 GDAŃSK KOWALE
Tel: +48 58 555 1515
Fax: +48 58 781 9692

RUSSIA

Jotun Paints O.O.O.
Varshavskaya Str., 23/2, Office 53
196128 ST. PETERSBURG
Tel: +7 812 640 00 80
Fax: +7 812 640 00 81

SAUDI ARABIA

Jotun Saudia Co. Ltd.
Jeddah Industrial City, Phase 3,
P.O. Box 34698, JEDDAH 21478
Tel: +966 2635 0535 / 2636 1271
Fax: +966 2636 2483

SINGAPORE

Jotun (Singapore) Pte. Ltd.
37 Tuas View Crescent
Singapore 637236
Tel: +65 650 882 88
Fax: +65 6265 7484

SOUTH AFRICA

Jotun Paints South Africa (PTY) Ltd.
Wimbledon Road, P.O.Box 187
BLACKHEATH 7581
Tel: +27 21 905 1070
Fax: +27 21 905 1652

SPAIN

Jotun Iberica S.A.
Poligon Santa Rita,
Calle Estatica no. 3,
08755 Castellbisbal,
BARCELONA
Tel: +34 937 711 800
Fax: +34 937 711 801

SWEDEN

Jotun Sverige AB
P.O. Box 151, Klangfärgsgatan 13,
421 22 VÄSTRA FRÖLUNDA
Tel: +46 3169 6300
Fax: +46 3169 6397

THAILAND

Jotun Thailand Ltd
Amata Nakom Ind. Estate (BIPII)
700/353 Moo 6 Tumbol
Donhualoh, Amphur Muang
CHONBURI 2000
Tel: +66 38 214 824-6/214 347-51
Fax: +66 38 214 373/375

TURKEY

Jotun Boya San. ve Ticaret. A.S.
Hilpark Suites Sitesi No.10,
Istinye,
34460 Sariyer - ISTANBUL
Tel: +90 21 2279 7878
Fax: +90 21 2279 2549

U. A. E.

Abu Dhabi
Jotun Abu Dhabi (LLC)
P.O. Box 3714, Mussafah
ABU DHABI
Tel: +971 2691 0700
Fax: +971 2551 0232

DUBAI

Jotun U.A.E. Ltd. (LLC)
P.O. Box 3671,
Al Quoz Industrial Area
DUBAI
Tel: +971 4339 5000
Fax: +971 4338 0666

USA

Jotun Paints, Inc.
9203 Highway 23, P.O. Box 159,
Belle Chasse, LA 70037
Tel: +1 800 229 3538 /
+1 504 394 3538
Fax: +1 504 394 3726

VIETNAM

Jotun Paints (Vietnam) Co. Ltd.
Song Than Industrial. Zone,
No.1 Street 10,
Di An District, Binh Duong Province
Tel: +84 650 3742206
Fax: +84 650 374 2205

YEMEN

Jotun Yemen Paints Co. Ltd
P.O. Box 70183, Al Alam
ADEN
Tel: +967 2820 546-9
Fax: +967 2249 362

Jotun A/S

P.O. Box 2021,
N-3202 Sandefjord, Norway
Tel: +47 33 45 70 00
jotun.com



Jotun Protects Property