

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Jet Fire Protection

with type designation(s)
Firetex M90/02 - Jet fire

Issued to

Sherwin-Williams Protective & Marine Coatings
Bolton, United Kingdom

is found to comply with
DNV GL offshore standards

Application :

Approved for use as a jet fire protection of structural sections (I and hollow sections) and H-class divisions.

This Certificate is valid until **2021-11-26**.

Issued at **Høvik** on **2016-11-27**

DNV GL local station: **Manchester**

Approval Engineer: **Helge Bjørnara**

for **DNV GL**

Petter Langnes
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Product description

"Firetex M90/02" - Jet fire

The system is composed by a primer (Firetex C69) covered by an epoxy based intumescent coating (Firetex M90/02). The epoxy based intumescent coating is reinforced mid depth with embedded fabric (Firetex J220).

The materials are manufactured at the following locations:

- Sherwin-Williams, Bolton, UK

Application/Limitation

The "Firetex M90/02" protective coating is approved for use as jet fire protection of structural sections (I and hollow sections) and H-class divisions.

Any project specific design solutions arrived at on basis of this certificate are to be further validated by project specific approvals carried out by the appointed verifying authority for each project in each case at the detail engineering stage.

Thickness of coating of "Firetex M90/02" for jet fire exposure may be determined by adding a "Jet fire erosion factor" as shown in Table 1-3, to the thickness required for hydrocarbon pool fire as given in the DNV Type approval certificates for structural sections (I and hollow sections) or H-class divisions.

Table 1: Additional thickness of "Firetex M90/02" to be applied to account for jet fire erosion for "I" sections:

Core temp. [°C]	Jet fire erosion factor [mm] *)						
	0-30 minutes	31-60 minutes	61-90 minutes	91-120 minutes	121-150 minutes	151-180 minutes	181-210 minutes
200							
250							
300							
350							
400							

*) Total minimum thickness shall not be less than 3,8 mm

Table 2: Additional thickness of "Firetex M90/02" to be applied to account for jet fire erosion for "hollow" sections:

Core temp. [°C]	Jet fire erosion factor [mm] *)				
	0-30 minutes	31-60 minutes	61-90 minutes	91-120 minutes	121-150 minutes
200					
250					
300					
350					
400					

*) Total minimum thickness shall not be less than 3,7 mm

Table 3: Additional thickness of "Firetex M90/02" to be applied to account for jet fire erosion for "H-class" division:

H-class	Jet fire erosion factor [mm] *)				
	0-30 minutes	31-60 minutes	61-90 minutes	91-120 minutes	121-150 minutes
Deck					
Bulkhead					

*) Total minimum thickness shall not be less than 3,8 mm.

Minimum fabric overlap shall be not less than 50 mm. Wet density of Firetex M90/02 is 1000 kg/m³.

The protective coating is not defined as non-combustible, and should not be used in accommodation or in enclosed areas.

Job Id:
Certificate No: **TAF00000GY**

The approval refers only to the fire resistance properties of the system.

The application of the protective coating is to be performed in accordance with the manufacturer's application manual. Alternative primers and topcoats may be used provided they have been tested and approved by the manufacture.

Each product is to be supplied with its manual for application and maintenance.

Type Approval documentation

Certification in accordance with Class Programme DNVGL-CP-0338, October 2015.

Assessment No. 312994 dated 2012-01-27 from Exova Warringtonfire, UK
Assessment No. 313202, issue 3, dated 2012-01-18 from Exova Warringtonfire, UK
Assessment No. 315153, issue 2, dated 2012-02-01 from Exova Warringtonfire, UK
Test report No. 11501 dated 2011-08-08 from GL Noble Denton, UK
Test report No. 12136 dated 2012-01-16 from GL Noble Denton, UK
Test report No. 12137 dated 2012-01-16 from GL Noble Denton, UK
Test report No. 12138 dated 2012-01-17 from GL Noble Denton, UK
Test report No. 12141 dated 2012-01-18 from GL Noble Denton, UK
Test report No. 12142 dated 2012-01-19 from GL Noble Denton, UK
Letter 309675 CL dated 2010-09-12 from Exova Warringtonfire, UK

Tests carried out

Tested according to ISO 22899-1:2007

Marking of product

The product or packing is to be marked with name of manufacturer and type designation.

Periodical assessment

DNV GL's surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in Class Programme DNVGL-CP-0338, Section 4.