DNV·GL

Certificate No:
TAF000001A

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Jet Fire Protection

with type designation(s)
Jet Fire Pro Flexible Fire Protection Jacket

Issued to
Advanced Industrial Solutions
North Shields, United Kingdom

is found to comply with
Det Norske Veritas' Offshore Standards

Application :

Approved for use as jet fire protection of steel pipes.

This Certificate is valid until **2021-05-17**.

Issued at **Høvik** on **2016-05-18**
DNV GL local station: **Newcastle-upon-Tyne** for **DNV GL**

Approval Engineer: **Ragnar Tonjer**

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.

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Product description
"Jet Fire Pro Flexible Fire Protection Jacket"
Steel pipe (OD 219.1 mm and wall thickness 12.7 mm) insulated with "Jet Fire Pro" jacket. "Jet Fire Pro" is a 6 layered passive protection system with total thickness of 35 mm.

The jacket is fastened to the steel pipe with 19 mm wide stainless steel strappings, max. centres 250 mm along the pipe.

See drawing mentioned under Type Approval documentation for further details.

Application/Limitation
Approved for use as a jet fire pipe jacket of rating (Type of fire/Type of application/Critical temperature rise (°C)/Period of resistance (minutes)):
JF/pipes/400/95.

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.

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

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

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.

Test Report No. 16409 Rev 1. dated 2015-05-05 from DNV GL Oil and Gas, Spadeadam Testing and Research, Brampton, UK.

Drawing No. AIS-FP 002-01 dated 2011-12-02 from manufacturer.

Tests carried out
Tested according to ISO 22899-1.

Marking of product
The product or packing is to be marked with name of manufacturer, type designation and fire technical rating.

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 DNVGL-CP-0338 Section 4.