



Certificate No:
TAF000018X

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Jet Fire Protection

with type designation(s)
“ContraFlame” and “ContraFlex” - Pipe

Issued to

Advanced Insulation Limited
Gloucester, United Kingdom

is found to comply with
DNV offshore standards

Application :

Approved for use as a jet fire protection of steel pipe.

Issued at **Høvik** on **2022-03-10**

This Certificate is valid until **2027-03-09**.

DNV local station: **Manchester**

for **DNV**

Approval Engineer: **Helge Bjørnarå**

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Helene David-Andersen
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees (“DNV”) arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: TA 251

Revision: 2021-03

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Product description

"ContraFlame" and "ContraFlex" - Pipe,
Alternative 1.

Steel pipe with outer diameter 219.1 mm and wall thickness 8.2 mm ($H_p/A = 127 \text{ m}^{-1}$) insulated as follows:
"ContraFlame" system composed of one layers of phenolic resin based syntactic foam PFP insulation (C50) with total thickness of 30 mm, laminated with 4 mm (nominal) thickness of phenolic based glass reinforced laminate system consisting of combination of 4 plies of CSM, Bi-axial cloth, CSM and Bi-axial cloth.

Alternative 2.

Steel pipe with outer diameter 219.1 mm and wall thickness 8.2 mm ($H_p/A = 127 \text{ m}^{-1}$) insulated as follows:
"ContraFlex" Jacket composed of (listed from outer to inner layer): 0.5 mm Silicone coated glass cloth, 0.3 mm stainless steel mesh, 10 mm micro porous silica insulation, 25 mm needle mat, 0.1 mm aluminium foil, 25 mm needle mat, 0.5 mm Silicone coated glass cloth. The jacket joint is composed of a weatherproof cover material and a wire used for securing butt joints.

The product may be manufactured at the following locations:

- AIS FZE - Advanced Insulation FZE, Dubai, UAE.
- Advanced Insulation Korea, Busan, Korea.

Application/Limitation

Approved for use as a jet fire pipe of rating (Type of fire/Type of application/Critical temperature rise ($^{\circ}\text{C}$)/Period of resistance (minutes)) for the alternatives above:

Alternative 1.

Alternative 2.

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.

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

Type Approval documentation

Certification in accordance with Class Programme DNV-CP-0338, September 2021.

Alternative 1.

Test report No. R 8261, Issue 01, dated 19 July 2005 from Advantica, Spadeadam, UK.

Application Procedure No. AP01.3, Issue 02, dated 22 June 2011 from maker.

Drawing No. R8261/001, Rev. 0, dated 28 June 2013 from maker.

Alternative 2.

Test report No. 8378, Issue 2.0, dated 9 October 2008 from Advantica, Leicestershire, UK.

Manufacturing and Installation Instruction No. JM01C_A, Issue 02, dated 13 June 2016 from maker.

Drawing No. CER008-037 (two pages), Rev.1, dated 20 April 2009 from maker.

Tests carried out

Tested according to OTI 95634 (Alternative 1).

Tested according to ISO 22899-1:2007 (Alternative 2).

Marking of product

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

Periodical assessment

DNV'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 DNV-CP-0338, Section 4.