DNV·GL

Certificate No:
TAF00000UG

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Jet Fire Protection

with type designation(s)
JET FIRE PIPE & CABLE PENETRATION SYSTEM

Issued to
Roxtec International AB
KARLSKRONA, Sweden

is found to comply with
DNV GL offshore standards

Application :

Approved for use as jet fire penetration system for pipes and cables.
Tested according to ISO 22899-1.

Issued at **Høvik** on **2017-12-07**
This Certificate is valid until **2022-12-06**.
DNV GL local station: **Malmö**

Approval Engineer: **Piotr Orzechowski**

for **DNV GL**

Mårten Schei-Nilsson
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

Roxtec Jet Fire Pipe & Cable Penetration System.

Pipe penetration:
The pipe penetration system consists of a ROXTEC SLFO/RI 400 sleeve and a ROXTEC SLFO/RI 400 extension frame and two ROXTEC RS 400 seal made of Roxylon rubber.
The ROXTEC SLFO/RI 400 sleeve is bolted on the exposed side of the bulkhead, and the ROXTEC SLFO/RI 400 extension frame is bolted on the non-exposed side. On each side of sleeve and extention frame an ROXTEC RS 400 is installed.
The extension frame and 300 mm of the penetrating pipe on the non-exposed side are insulated with 100 mm ceramic fibre (96 kg/m^3). The space between the pipe and the extension frame is filled with ceramic fibre (96 kg/m^3).

Cable penetration:
The cable penetration systems consists of S-series frames SK 8+8x2 (598x273x200 mm), filled with different types and size of Roxylon rubber modules to be adopted for a range of cable outer dimensions, with Roxtec wedge compression units and stayplates.
The frame are welded on the non exposed side of the bulkhead.
The frame are insulated with 100 mm ceramic fibre (96 kg/m^3), covering the frame edge (10 mm).

- Cable penetration system 1: The Roxylon modules installed towards the exposed side and the space behind the rubber modules filled with ceramic fibre insulation.
  The steel sleeve is fully insulated with division insulation.
- Cable penetration system 2: The Roxylon modules installed towards the non-exposed side.
  The steel sleeve is partly insulated with division insulation.

Application/Limitation

Pipe penetration system:
Approved for use as a jet fire barrier of rating "JF/pipe penetration seal/180/60".

Cable penetration system 1:
Approved for use as a jet fire barrier of rating "JF/cable transit system/180/60".

Cable penetration system 2:
Approved for use as a jet fire barrier of rating "JF/cable transit system/180/35" or "JF/cable transit system/205/60".

Restricted application: Jet fire against the bulkhead uninsulated side.

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

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.

Type Approval documentation

Test reports/drawings Nos.:

a. Pipe penetration:
- NBL F10106 dated 13 October 2010 from SINTEF NBL as (Norwegian Fire Research Laboratory), Trondheim, Norway
- S1021275 Rev. A
- S1006598 Rev. E
- S1018927
- S1017920 Rev. D

b. Cable penetration:

- NBL F10107 dated 15 November 2010 from SINTEF NBL as (Norwegian Fire Research Laboratory), Trondheim, Norway
- S1021120 Rev. C
- S1021098 Rev. C
- S1010162 Rev. A

Tests carried out

Tested according to ISO 22899-1 (2007), Determination of the resistance to jet fires of passive fire protection materials.

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 Class Programme DNVGL-CP-0338, Section 4.