

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Class A and B Penetration

with type designation(s)
Roxtec Sleeve-it Fire penetration seal

Issued to

Roxtec International AB
KARLSKRONA, Sweden

is found to comply with
DNV GL offshore standards
DNV GL rules for classification – Ships

Application :

Approved for use as pipe, Spiro-duct penetration system in class B-15 bulkheads
(see restrictions under application/limitation).

This certificate is recognized by Transport Canada.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed
by DNV GL.

This Certificate is valid until **2020-12-29**.

Issued at **Høvik** on **2015-12-30**

DNV GL local station: **Gothenburg**

Approval Engineer: **Ragnar Tonjer**

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

"Roxtec Sleeve-It Fire penetration seal"

The pipe penetration system is made of collar casing housing different numbers of 60 mm wide layers of Sleeve-It graphite intumescent material (2.5 thick Intumex L or 2 mm thick TRP 345).

The collars are fixed by bolt and nuts through B-class bulkhead made without steel plates on both sides and fixed by steel screws in common B-class bulkhead with steel plates on both sides.

Pipe collar types:

- "Sleeve-It Spiral Collar", composed of two tubular casing (60 mm or 120 mm long) made of 0.7 mm thick mild steel welded on both side of a continuous 3 mm thick flange.

- "Sleeve-It Fire Collar (MAR)", composed of 60 mm long tubular casing of 0.7 mm thick stainless steel with one break in the casing, welded to a splited 3 mm thick flange (3 mm thick), bolted with bolt and nuts through the bulkhead.

For further details see approved drawings listed below.

A – Plastic pipe penetration

Pipe material	Pipe outer diameter	Collar	Intumescent material	Fitting of fire collar to bulkhead	Fire rating
PE, PB, PPr, uPVC	125 mm	Fire Collar (MAR)	Intumex L / 5	Either side	B-15
Georg Fischer Multilayer Pipe (Pe/Alu)	16 mm	Fire Collar (MAR)	TRP 345 / 2	Either side	B-15
	32 mm		TRP 345 / 3		
"Valsir" PVC pipe	20 mm	Fire Collar (MAR)	TRP 345 / 3	Unexposed side	B-15
uPVC	16 mm	Fire Collar (MAR)	TRP 345 / 2 + Sleeve-It putty (red)	Unexposed side	B-15
PPr	16 mm	Fire Collar (MAR)	TRP 345 / 3	Unexposed side	B-15

B – Steel spiral pipe penetration

Pipe material	Pipe outer diameter	Collar	Intumescent material	Fitting of fire collar to bulkhead	Fire rating
Spiral steel pipe (Spiro duct)	250 mm	Spiral Collar	Intumex L / 8	Either side	B-15
Spiral steel pipe (Spiro duct)	100 mm	Spiral Collar	Intumex L / 4	Either side	B-15

PB = Polybutylene, PPr = Polypropylene, PE = Polyethylene, uPVC = unplasticized polyvinyl chloride
ABS = Acrylonitrile Butadiene Styrene

Application/Limitation

Approved for use as pipe, Spiro-ducts penetration system in class B-15 bulkheads.

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

Job Id: **262.1-016326-2**
Certificate No: **TAF0000067**

Type Approval documentation

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

Test reports No:

VTT-S-5026-10 dated 10 February 2011

VTT Statement VTT-S-6599-10 dated 27 August 2010

VTT Statement VTT-S-1678-11 dated 15 March 2011

Drawings No:

SLV 324 DNV dated 20 March 2011 from Sleeve-IT Fire System Ltd.

Tests carried out

Tested according to IMO FTP Code Part 3 (IMO Res. A. 754(18)) and in compliance with IMO 2010 FTP Code Ch. 8.

Marking of product

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

Transport Canada Approval

Based on the procedures laid down in the Transport Canada Publication entitled "Approval Procedures for, Life Saving Equipment and Structural Fire Protection Products (TP 14612)", DNV GL confirms that the products listed in this certificate are in accordance with Transport Canada's requirements.

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.