



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. F-19127
This Certificate consists of 7 pages

This is to certify that the
Class A and B Penetration

with type designation(s)
**Squeezer A Plastic Pipe Penetration and
Squeezer B Plastic Pipe Penetration**

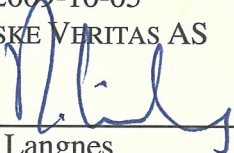
Manufactured by
ESSVE Produkter AB
SOLLENTUNA, Sweden

is found to comply with
Det Norske Veritas' Offshore Standards
Det Norske Veritas' Rules for Classification of Ships
Det Norske Veritas' Interpretation of SOLAS 1974 Convention as Amended

Application
Approved for use as a pipe penetration system in class A-60 bulkheads and decks.

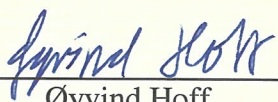


Place and date
Høvik, 2009-10-05
for DET NORSKE VERITAS AS


Petter Langnes
Head of Section

Local Office
DNV Stockholm

This Certificate is valid until
2013-12-31


Øyvind Hoff
Surveyor

**Notice: 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.**

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Cert. No.: F-19127
File No.: 471.19
Case No.: 262.1-007912-1

Product description

“Squeezer A Plastic Pipe Penetration”

composed of min. 45 mm long prefabricated steel sleeve with thickness 1.0 mm screwed to the bulkhead/deck. 4 – 12 mm thick lining of intumescent strips to be fitted to the inside of sleeve. Joint between pipe and bulkhead/deck plate are sealed with FireStop 3000. The penetration is to be fully insulated by the bulkhead/deck insulation according to the manufacturer's instructions document FSI-O-203-01A (see Appendix).

Bulkhead

Approved for use with single PP, PVC and PEH pipes with max. O.D. 110 mm.

Deck

Approved for use with single PP, PVC and PEH pipes with max O.D. 110 mm.

“Squeezer B Plastic Pipe Penetration”

composed of a min. 100 mm long steel sleeve with thickness 0.9 mm screwed or welded to the bulkhead/deck. 3 x 4 mm thick and 85 mm wide intumescent strip is to be wrapped around each pipe. Voids between pipe and sleeve packed with “Blanket D-24B”. Seal surfaces coated with 7 mm "FireStop Sealant 3000" on both sides. The sleeve is to be insulated with approved mineral wool of density 80-110 kg/m³ according to manufacturer's instruction document FSI-O-204-01A (see Appendix).

Bulkhead

Size of steel sleeve: Oval 80 x 40 mm to 550 x 150 mm.

Approved for use with max. 4 PP, PEH or PVC pipes with max. O.D. 110 mm.

Deck

Size of steel sleeve: Oval 80 x 40 mm to 550 x 150 mm.

Approved for use with max. 4 PP, PEH or PVC pipes with max. O.D. 110 mm.

Applications/Limitations

Approved for use as a pipe penetration system in class A-60 bulkheads and decks. For other fire ratings, A-60 insulation is to be used as manufacturer's instructions document attached to this certificate.

Watertightness

When **Squeezer A Plastic Pipe Penetration** is sealed with FireStop Sealant 3000 it is approved for watertightness limited to a pressure of 2 bar. (Not to be used at boundaries of tanks). Maximum gap (to be sealed) between division and pipe: 10 mm.

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





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Type Approval documentation

Certification in accordance with Standard for Certification No. 1.2, Type Approval, April 2009.

Test reports P008555 and P008522 dated 27 February 2001 from SP, Borås, Sweden.

FireSeal information documents FSI-O-203-01A dated 03 April 2009 and FSI-O-204-01A dated 08 April 2009, both from the manufacturer (see Appendix).

Assessment Report nos. P403477A and P403477B dated 25 October 2004 from SP, Borås, Sweden.

Pressure test certificate no SKM 0100608/1 dated 3 September 2001 from Lloyd's Register.

Retention Survey Report dated 01 June 2009 from DNV Stockholm.

Tested according to IMO FTPC Part 3 (IMO Res. A.754(18)).

Marking of product

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

Certificate retention survey

Det Norske Veritas' surveyor is to be given permission to perform Certification Retention Surveys at any time during the validity period of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in Standard for Certification No. 1.2 item 4.

