



MARINE DIVISION

Certificate number: 10462/C0 BV

File number: ACI 4000/050/003

Product code: 5301H

*This certificate is not valid when presented without the full attached schedule composed of 7 sections*

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## TYPE APPROVAL CERTIFICATE

*This certificate is issued to*

### ESSVE Produkter AB

Sollentuna - SWEDEN

*for the type of product*

### PIPE PENETRATIONS IN FIRE DIVISIONS

A-60 class pipe penetration for Bulkheads and Decks - Type "Pipelock PL 55, Pipelock PL 110 and Pipelock PL 160"

#### Requirements:

BV Rules, Part C, Chapter 4 - SOLAS 74 Convention, as amended, Reg. II-2 - IMO Resolution A754(18) - IMO Resolution MSC 61(67) Annex 1, Part 3 and Annex 2.

*This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

**This certificate will expire on: 16 Nov 2016**

**For BUREAU VERITAS,**

At BV GOTHENBURG, on 16 Nov 2011,

Magne MOLLER



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION :

**A-60 class pipe penetration for Bulkheads and Decks - Type "Pipelock PL 55", "Pipelock PL 110" and "Pipelock PL 160"**

Made up of a flanged sleeve with intumescent strips bolted or welded onto structural bulkhead or deck. Sealing consists in 100 mm (Pipelock PL55) or 145 mm (Pipelock PL 110 and PL 160) wide intumescent strip inside the sleeve as well as "Fire Stop Sealant 3000" in joint between pipe and division plate.

The bulkhead penetrations PL 55 and PL110 were tested for with the steel sleeve located on the fire insulation side of the A-60 class division. All other tests were made with the penetration units installed in exposed and in unexposed side.

	<b>Pipelock PL 55</b>	<b>Pipelock PL 110</b>	<b>Pipelock PL 160</b>
Pipe outer diameter (mm)	from 20 up to 55	110	160
Sleeve length (mm)	116	163	163
Sleeve thickness (mm)	6	6	1
Sleeve material	Phenolic Plastic	Phenolic Plastic	Steel
Outer diameter of the sleeve's flange (mm)	133	208	273
Outer diameter of the sleeve's aperture (mm)	57	113	162
Fire stop sealant 3000 thickness (mm)	> 7	> 7	>7
Intumescent strips	1 x 4 mm	2 x 4 mm	6 x 4 mm

#### **Other materials and/or components:**

- Plastic & PVC pipes to follow requirements of IMO Resolution A753(18).
- Fire Stop Sealant 3000.
- Intumescent strips manufactured by Fireseal Engineering AB - Document n° FSI-O-201-01.

### 2. DOCUMENTS AND DRAWINGS :

2.1 - As per the manufacturer's drawings n°s: FSD-C-116-00 F, FSD-C-117-00 F, FSD-C-134-00 F, FSD-C-135-00 F, FSD-C-174-07, FSD-C-183-07, FSD-C-208-07 and FSD-C-209-07.

2.2 - As per the Manufacturer's specifications FSH-O-081-04 Rev C dated 2011-08-02.

### 3. TEST REPORTS :

3.1- Test reports N°s P00 8522 and P00 8555 dated February 27, 2001 as per IMO FTP Code, Annex 1, Part 3 [testing standard: IMO Resolution A754(18)] from SP, Sweden.

3.2- Test reports N°s 103070.45 A1 and 103070.45 B dated April 4, 2008 as per IMO FTP Code, Annex 1, Part 3 [testing standard: IMO Resolution A754(18)] from Sintef, Norway.

### 4. APPLICATION / LIMITATION :

- Flame spread, smoke characteristics and calorific value of the lining to be as per Rule requirements.
- The fitting aboard to be the same as used for the test.

### 5. PRODUCTION SURVEY REQUIREMENTS :

The "Pipelock PL 55", "Pipelock PL 110" and "Pipelock PL 160" are to be manufactured, examined and tested by Essve Produkter AB in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.

Production sites are to be recognized by Bureau Veritas as per NR320 for HBV products. To this end Essve Produkter AB has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.

#### **6. MARKING OF PRODUCT :**

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

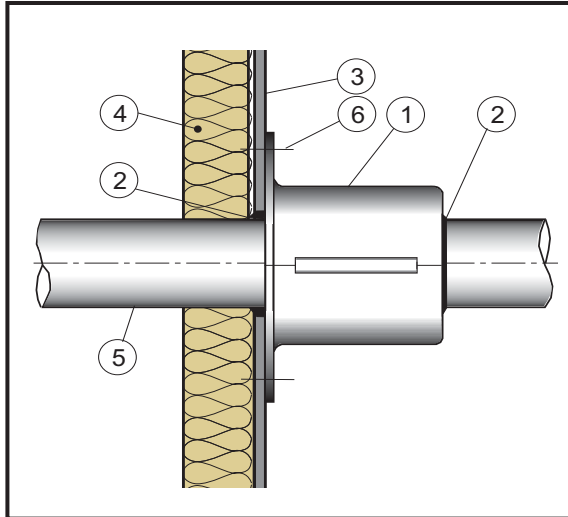
#### **7. OTHERS :**

7.1 - This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the units at any time and that Fireseal Engineering AB, will accept full responsibility for informing shipbuilders, shipowners or their sub-contractors of the proper methods of use and general maintenance of the units and the conditions of this approval.

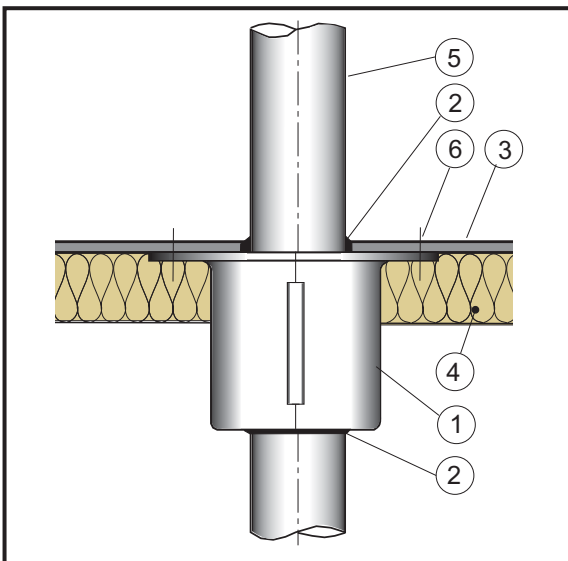
7.2 - This certificate supersedes the Type Approval Certificate N° 10462/B0 BV issued on 25/10/2006 by the Society.

**\*\*\* END OF CERTIFICATE \*\*\***

### Bulkhead Penetration - Type PP-B



### Deck Penetration - Type PP-D



#### Key

1. PipeLock PL
2. Firestop Sealant 3000 in joint
3. Division plate\*
4. Division insulation\*
5. Plastic pipe\*
6. Self tapping screws

\* Yard supply

PL Type	Measures in mm						
	A	B	C	D	E	F	G
55	86	57	105	133	6	116	4
82	118	84	140	168	6	134	8
110	165	113	180	208	6	163	8
160	219	162	245	273	1	163	24

## Pipelock PL

### Penetration for plastic pipes A0, A15, A30 & A60 class

#### Area of Use

Penetration in fire rated walls, bulkheads and decks both below and above the maximum flooded area.

#### Special Properties

Prefabricated seal in complete package.

Simple installation.

Can be used for different types of plastic pipes incl. drink dispensing lines.

Weather resistant.

5.5 x 32 mm self-tapping screws for attachment provided. Welding clamps optional.

#### Technical Data

Fire Rating	A0 - A60
Sizes	55, 82, 114 and 160 mm O.D. pipes
Material	Phenolic plastic cannister PL 160 made from steel
Activating Temperature	Approx. 120°C
Watertightness	300 kPa (30 mWC)*

#### Moisture Protection

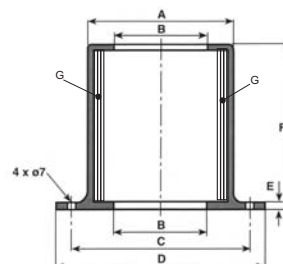
No moisture protection required.

#### Technical Support

Contact Fire Seal for specification, approval certification or any other details.

For A-0, A-15 and A-30 class, Pipelock PL are to be insulated as for A-60 and in addition the division is to be insulated with A-60 insulation at least 200 mm around the penetration.

\* In conjunction with Firestop Sealant 3000



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