



Confirmation of Product Type Approval

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product. This certificate reflects the information on the product in the ABS Records as of the date and time the certificate is printed.

Pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 08/JAN/2019. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until 18/NOV/2019 subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Product Name: Penetration Device for Bulkhead and Deck Firetight and Watertight Penetrations

Model Name(s): Sleeve-it marine penetration sealing systems

Presented to:
ROXTEC INTERNATIONAL AB
BOX 540
Sweden

Intended Service: Roxtec Sleeve-it Fire Penetration Seal and Roxtec Sleeve-it Watertight Penetration Seal for plastic pipe penetrations in A0, A15, A30 and A60 steel bulkheads and decks. Roxtec Sleeve-it transition collar for transitions between plastic- and steel pipe systems in A0, A15, A30 and A60 steel bulkheads and decks.

Description: Roxtec Sleeve-it marine penetration sealing system is divided into three different product groups. Roxtec Sleeve-it Fire Penetration Seal consist of an intumescent strip material inserted in an openable stainless steel casing, equipped with an openable flange, intended for bolted or spot welded installation onto steel divisions. Roxtec Sleeve-it Watertight penetration seal consist of an intumescent strip material inserted in a closed stainless steel casing, equipped with a closed flange with an EDPM rubber grommet, intended for fully welded installation onto steel divisions. Roxtec Sleeve-it Transition collar consist of an intumescent strip material inserted in an openable stainless steel housing, intended for protections of transitions between plastic pipe and steel pipe systems.

Tier: 3

Ratings: Fire Rating : A0, A15, A30 and A60 Bulkheads and Decks as per attachment for various sizes and pipe materials. Fire penetration Seal: Tested for air tightness up to 30 mbar for pipes with outer diameter 16- 160 mm diameter. Watertight penetration seal: Watertightness rating 1 bar and air tightness rating 0.5 bar for pipes with outer diameter 16- 110 mm .

Service Restrictions: a) Pipe materials and outside diameters specified in the attachment. b) Not for use in tank boundaries. c) The product or packing is to be marked with the name of the manufacturer and type designation d) When requested to be used in watertight bulkheads on passenger ships and Special Purpose Ships (SPS), the penetration system has to comply with the requirements given in SOLAS Ch.II-1 Reg. 13.2.3 (2009 issue). Penetrations passing through watertight bulkheads are subject for separate examination and approval by flag administration. e) Each product is to be supplied with its manual for installation and maintenance. f) Unit Certification is not required for this product. If the manufacturer or purchaser's request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Comments: a) All seal types should be installed in accordance with manufacturer's ABS approved installation drawings. b) Insulation material is to be A-60 approved type and properly installed to the satisfaction of the Surveyors. c) The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes / Documentation: a) Approval of the arrangements and materials based on; Bodycote Warringtonfire Test Reports: 164476B, 170080B, 175486A, 177105A, 180251A BRE Test Reports: 208971, 208972, 223968, 223969A Exova Warringtonfire Test Reports: 183387A, 190890A_2, 303584A, 307171A_2, 309638A, 309855A, 314669, 314670, 316943, 320402A, 324083, 325332, 329449, 330891, 334429, 337717 DGA Test Reports: 878/07/A/NP/R 102 Tightness Test Reports: DNV LDN-08-045 with Setup drawing Annex-1 & 2, Lloyds SOU 090158_1 with Setup drawing S1041742 rev.A ABS Approved drawings: S1026329 rev G, S1026339 rev D, S1026334 rev B., S1026337 rev.B Installation drawings: S1039663 rev.B, S1039664 rev.A, S1039703 rev.A, S1039696 rev.A, S1039702 rev.A b) This Product Design Assessment (PDA) is valid only for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

Term of Validity: This Product Design Assessment (PDA) Certificate 08-LD313198/5-PDA, dated 19/Nov/2014 remains valid until 18/Nov/2019 or until the Rules or specifications used in the assessment are revised (whichever occurs first). This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product. Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA. Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

ABS Rules: The Rules applicable to this assessment are: 2014 Steel Vessel Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-6-3/7.11; 2014 Offshore Units and Structures Rules 1-1-A2, 1-1-A3.

National Standards:
International Standards: SOLAS Ch. II-2, Reg. 9.3.1 (2000 Amendments); IMO Resolution A.754 (18)

Government Authority: This PDA conforms to Transport of Canada requirements

EUMED:
Others:

Model Certificate	Model Certificate No	Issue Date	Expiry Date
PDA	08-LD313198/5-PDA	19/NOV/2014	18/NOV/2019



ABS Programs

ABS has used due diligence in the preparation of this certificate and it represents the information on the product in the ABS Records as of the date and time the certificate was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey

procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.

A60 Steel Bulkhead (penetration seal can be fitted on either side blkhd)		
Type of plastic pipe	Pipe Ø [mm]	Installation drawing
ABS	114	S1039663
PB	15-125	S1039663
PE	50-225	S1039663
uPVC	50-160	S1039663
PE/ALU/PE	16-32	S1039663
PP	40-200	S1039663
PVDF	169	S1039663
PVC	200	S1039663
Multi pipe, PE pipes with thermal insulation *	100	S1039663

A0 Steel Bulkhead (penetration seal can be fitted on either side blkhd)		
Type of plastic pipe	Pipe Ø [mm]	Installation drawing
PB	160	S1039664
PE/ALU/PE	16-63	S1039664
PP	40-169	S1039664
PVC	20-160	S1039664

A60 Steel Deck (penetration seal fitted on exposed/lower side deck)		
Type of plastic pipe	Pipe Ø [mm]	Installation drawing
ABS	110	S1039663
PB	16.5-200	S1039663
PE	50-225	S1039663
uPVC	160	S1039663
PE/ALU/PE	16-32	S1039663
PP	40-320	S1039663
PVDF	48-166	S1039663
Multi pipe, PE pipes with thermal insulation *	75-100	S1039663

A60 Steel Deck (penetration seal fitted on unexposed/upper side deck)		
Type of plastic pipe	Pipe Ø [mm]	Installation drawing
PB	25-125	S1039663
PE	25-225	S1039663
uPVC	25-160	S1039663
PE/ALU/PE	16-32	S1039663
PP	20-110	S1039663
PVDF	48-166	S1039663
Multi pipe, PE pipes with thermal insulation *	75-100	S1039663

A0 Steel Deck (penetration seal fitted on exposed/lower side deck)		
Type of plastic pipe	Pipe Ø [mm]	Installation drawing
uPVC	25	S1039664
PE/ALU/PE	32-63	S1039664
PP	40	S1039664

A0 Steel Deck (penetration seal fitted on unexposed/upper side deck)		
Type of plastic pipe	Pipe Ø [mm]	Installation drawing
PE/ALU/PE	63	S1039664
PP	110	S1039664

Pipe materials and OD for Roxtec Sleeve-it Transition collar connected to steel pipe.

A60 Steel Bulkhead (transition collar can be fitted on either side blkhd)			
Type of plastic pipe	Plastic pipe Ø [mm]	Steel pipe Ø [mm]	Installation drawing
PP	50	50	S1039696
PPFR	90	75	S1039696

Pipe materials and OD for Roxtec Sleeve-it Transition collar connected to scupper.

A60 Steel Deck (transition collar fitted on exposed/lower side deck)			
Type of plastic pipe	Plastic pipe Ø [mm]	Steel pipe Ø [mm]	Installation drawing
PP (Straight scupper)	50-90	50-75	S1039702
PP (Elbow scupper)	75	75	S1039702

*Amaflex

Pipe material clarifications as per below definitions. Valid for all above tables.

ABS: Acrylonitrile butadiene styrene

PB: Polybutylene

PE: Polyethylene

uPVC: Unplasticised Polyvinyl Chloride

PE/ALU/PE: Multilayer pipe Polyethylene/Aluminum/Polyethylene

PP: Polypropylene (incl PP, PPr and three layer PP)

PVDF: Polyvinylidene,

PVC: Polyvinyl Chloride

PPFR: Polypropylene Fire Resistant (or FR=flame retardant)