

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV GL SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

That the Penetrations through "A" class divisions: pipe, duct, trunk, etc penetrations

with type designation(s)

GK Packing System - GK-SPK, GK-RM - Class A60 - Steel Bulkhead and Deck

Issued to

**Roxtec GmbH
Hamburg, Germany**

is found to comply with the requirements in the following Regulations/Standards:

Regulation **(EU) 2018/773,**

item No. MED/3.26b. SOLAS 74 as amended, Regulation II-2/9, IMO MSC.1/Circ.1276, IMO 2010 FTP Code and IMO MSC.1/1488

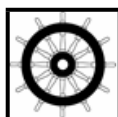
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2024-09-26**.

Issued at **Hamburg** on **2019-09-27**

DNV GL local station:
Hamburg

Approval Engineer:
Hagen Markus



Notified Body
No.: **0098**

for **DNV GL SE**

Gerhard Aulbert
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment", signed February 27th, 2004.

The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.

This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL SE of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.

Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.



Product description

GK-SPK System

Pipe penetration system consisting of rectangular shaped frames, compression-wedge seal, standard modular pipe and/or filling modules (green colour), accessories and metal/plastic anchor plates. Module System length is 60mm.

Frame Type ¹	Frame Sizes and types	Fixing Method
SPK	Single and group frames in nominal sizes 2, 4, 6 and 8. Chamber width(s) of 60mm and 120mm. Frames available in different combinations and back to back arrangement (BTB). Minimum frame depth of 60mm. Bolted frames are available in aluminium and steel.	welded
SPK-S30		welded
SPK-S50		welded
SPK- F, - R		welded + bolted
SPK-BTB		welded
SPK-h	Single frames in nominal sizes 2, 4, 6 and 8 with chamber width(s) of 120mm and 180mm and BTB. Minimum frame depth is 60mm.	welded
Maximum frame size		SPK-8x4

Notes

¹ Empty frame types SPK, SPK-F, SPK-S30, SPK-S50, SPK-F-R intended to be installed in non-watertight bulkhead or decks may be closed by using blank covers of type GK-BD.

Packing Modules - GK-SPK System

Halogen-free (green colour) pipe modules, filling modules and accessories (Standard 3-Rib). GK-SPK-Frames may also be fitted with Roxtec international (blue) modules, compressions system and stay plates, however mixing of GK-components and Roxtec-Modules in one opening is not permitted.

GK-RM System

Pipe and bundle tube penetration system consisting of Circular Sleeves², Round Module type RM (Halogen-free, green colour) with square packing space including compression function and modular pipe and/or filling modules. Module System length is 60mm.

Frame Type	Frame Sizes	Fixing Method
SLRM	Nominal sizes 50, 70, 100, 125, 150 and 200 and back to back arrangement (BTB). Maximum frame size: SLRM 200	welded
SLRM-F		welded + bolted
SLRM-BTB		welded
SLRM-RED	Nominal sizes 50, 70 and 100	welded + bolted

Notes

² Minimum length of 65mm and minimum wall thickness of 4mm.

Application/Limitation

Class A-60 Steel Bulkheads and Decks, general application.

For application on A-0, A-15 and A-30 divisions, the penetration system shall be insulated as approved for class A-60. The penetrated division is to be insulated as for A-60 at least 200 mm around the penetration. Other applications are subject to case-by-case approval.

The insulation material used has to be approved according to the Marine Equipment Directive, bearing the Mark of Conformity.

Each pipe penetration system is to be supplied with its actual manual for installation and use.

Minimum Filling Rate 0%: no pipe installed - all modules are empty.

Maximum Filling Rate 100%: multiple pipes installed - pipe installed in every module.

Penetration systems are generally not to be used for penetrating boundaries of tanks. Approval may be given on a case by case basis. The use in dry void spaces is approved.

Size range of penetration pipes (media pipe)

Pipe material	Outer diameter	Frame types
Carbon, Stainless Steel and Copper	6 - 108mm	Rectangular, Circular
	6 - 51	SLRM-Red
Bundle tubes	max. 29mm	Rectangular

GK Packing System - Installation

The installation and insulation of the GK-Packing System is to be carried out according to the following manufacturer`s instructions, actual versions apply.

Welding and mounting instructions

Document title
GK Welding Instructions Steel and Aluminium
GK-SPK Mounting Instructions
GK-RM Mounting Instructions

Insulation instructions

Drawing Title	Drawing	Transit
Steel Pipe Rectangular A-60 Steel B & D	Z2019005	Rectangular
Steel Pipe Circular A-60 Steel B & D	Z2019006	Circular
Copper Pipe Rectangular A-60 Steel B & D	Z2019007	Rectangular
Copper Pipe Circular A-60 Steel B & D	Z2019008	Circular
Blind Cover BD Rectangular A-60 Steel B & D	Z2019019	Rectangular
Routing Combination Frames A-60 Steel B & D	Z2019030	Rectangular
Routing BTB Frames A-Class Steel B & D	Z2019032	Rectangular / Circular

Tests carried out

- Fire tests according to IMO Res.MSC.307(88)-(2010 FTP Code).
- IMO MSC.1/Circ.1488

Type Examination documentation

Marking of product

Job Id: **344.1-008403-1**
Certificate No: **MEDB00004AZ**

Scope	Packaging unit – Modules	Frames
	Example	Example
Manufacturer name	Roxtec GmbH	Roxtec GmbH
Type designation	GK Packing System FM-30/00 HF	GK Marine Packing System SPK-S50-6x2/1.0570-Sigmaweld
Fire Rating	A0, A15, A30, A60	A0-A60
Mark of Conformity	 0098/2019	

Job Id: **344.1-008403-1**
Certificate No: **MEDB00004AZ**

APPENDIX

Additional application / information for water tightness/gas tightness (not part of the Marine Equipment Directive requirement)

GK Packing System	Water Pressure		Gas Pressure (air)	
	Test pressure	Approved pressure	Test pressure	Approved pressure
GK-SPK (with metal stay-plates)	3.8 bar	2.5 bar	0.3 bar	0.2 bar
GK-RM, size 50 up to size 150	3.0 bar	2.0 bar	0.3 bar	0.2 bar
GK-RM, size 200	2.0 bar	1.3 bar	0.3 bar	0.2bar

Test carried out

Pressure tests according to DNV GL CP-0165, Sec. 2 - Ch.4 Water tightness and gas tightness.

Type Approval documentation

End of certificate