



# TYPE APPROVAL CERTIFICATE

Certificate No:  
**TAF00000R7**  
Revision No:  
**3**

## This is to certify:

**That the Class A and B Penetration**

with type designation(s)  
**GK MC FC ROUND 89/127/140/168/219/244 and**  
**GK MC FC OVAL 200x150/350x168/450x170/550x170**

Issued to

**Roxtec GmbH**  
**Hamburg, Germany**

is found to comply with

**DNV rules for classification – Ships**  
**DNV offshore standards**  
**DNV class programme DNV-CP-0165 – Type approval – Cable and pipe penetrations**

## Application :

**Approved for use as cable penetration system for ship cables in class A-60 and A-0 steel bulkheads and decks.**

**For further details see Application/Limitations on page 3 of this certificate.**

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

Issued at **Høvik** on **2023-05-15**

for **DNV**

This Certificate is valid until **2027-06-19**.

DNV local unit: **Hamburg – CMC North/East**

Approval Engineer: **Carsten Hunsalz**

.....  
**Frederik Tore Elter**  
**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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: TA 251

Revision: 2022-12

www.dnv.com

Page 1 of 4

## Product description

“GK MC FC Single- and Multiple Cable Penetration System (steel)” Consisting of circular or oval sleeve(s) with or without flange, one side circumferentially welded to a steel division. Sizes GK MC FC ROUND 89 to 244 (circular) and GK MC FC OVAL 200x150 to 550x170 (oval). The GK MC FC cable penetration system is filled with intumescent material and a glass fiber tissue hose, folded back on each side of the sleeves. The glass fiber tissue hose (with or without zipper) and the cable bundle is secured with a plastic covered metal strap on each side. On both sides of the cable transit, the cable bundle is secured with a cold smoke stop.

GK MC FC ROUND A-60:

The coaming is welded symmetrically of the deck/bulkhead.

Insulation details according drawings Roxtec No. S1523166

Application	Size (mm) (Ø x L)	Minimum filling rate (%)	Maximum filling rate (%)	Coaming position in deck/bulkhead	Cable maximum diameter (mm)
Bulkhead	89 x 205	0	77	symmetrically	16,5
Bulkhead	244 x 205	0	68	symmetrically	41,5
Deck	89 x 205	0	77	symmetrically	16,5
Deck	244 x 205	0	68	symmetrically	41,5

GK MC FC OVAL A-60:

The coaming is welded symmetrically of the deck/bulkhead.

Insulation details according drawings Roxtec No. S1523167

Application	Size (mm) (H x B x L)	Minimum filling rate (%)	Maximum filling rate (%)	Coaming position in deck/bulkhead	Cable maximum diameter (mm)
Bulkhead	150 x 200 x 205	0	67	symmetrically	29,5
Bulkhead	2x(170 x 250) x 205	0	68	symmetrically	41,5
Deck	150 x 200 x 205	0	67	symmetrically	29,5
Deck	2x(170 x 250) x 205	0	68	symmetrically	41,5

GK MC FC ROUND A-0:

The coaming is welded symmetrically of the bulkhead.

Insulation details according drawings Roxtec No. S1543896-A and S1543904-A

Application	Size (mm) (Ø x L)	Minimum filling rate (%)	Maximum filling rate (%)	Coaming position in deck/bulkhead	Cable maximum diameter (mm)
Bulkhead	89 x 205	0	68	symmetrically	50
Bulkhead	244 x 205	0	66	symmetrically	50

GK MC FC OVAL A-0:

The coaming is welded symmetrically of the bulkhead.

Installation details according drawings Roxtec No. S1543901-B, S1543903-B and S1543899-A

Application	Size (mm) (H x B x L)	Minimum filling rate (%)	Maximum filling rate (%)	Coaming position in deck/bulkhead	Cable maximum diameter (mm)
Bulkhead	150 x 200 x 205	0	66	symmetrically	50
Bulkhead	2x(170 x 250) x 205	0	67	symmetrically	50

Accessories:

Textile Hose with Zipper acc. drawing S1523158, dated 2017-05-31

## Application/Limitation

Approved for use as a single or multiple cables penetration system (combined in one or more cable bundle) in class A-60 steel bulkheads and decks. Other applications are subject to case-by-case approval. Approved for use in class A-0, A-15 and A-30 when the penetration system is insulated as A-60. In addition the division is to be insulated with A-60 insulation at least 200 mm around the penetration.

The insulation material used has to be approved according to the Marine Equipment Directive and bear the Mark of Conformity. Each product is to be supplied with its actual manual for installation and use.

Maximum filling ratio of 67%, the cable bundle shall be arranged in the centre of the sleeve.

In general approved maximum cable diameter: 41,5 mm.

In addition the system GK MC FC ROUND and OVAL is approved for class A-0 steel bulkheads without any insulation. Details see in tables on page 2 of this certificate.

The systems must not be installed in bulkheads and decks if water- and gas- tightness is required.

Penetration systems are not to be used for penetrating boundaries of tanks.

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

## Type Approval documentation

Test Reports A-60 Fire Class:

No. DMT-DO-53-056, date 2016-08-01; No. DMT-DO-53-060, date 2016-11-17; No. DMT-DO-53-064, date 2016-11-21; No. DMT-DO-53-065, date 2017-01-19; No. DMT-DO-53-068, date 2017-05-10;

Test Reports A-0 Fire Class:

DMT-DO-53-105, date 2019-02-18; DBI PGA11387A, date 2019-07-05

Test Reports Cold Smoke:

Roxtec No. 29092016-01, dated 2016-09-29; No. 22032017-01, dated 2017-03-22; No. 14122016-01, dated 2016-12-14

Insulation Drawings:

Roxtec No. S1523166 + S1523167, dated 2017-05-29;  
Roxtec No. S1543896, date 2019-05-22; S1543904 date 2019-05-23; S1543901, date 2019-06-27;  
S1543903, date 2019-06-27; S1543896, date 2019-05-22;

General Arrangement Drawings:

Roxtec No. S1523164, dated 2017-05-30

Sleeve Drawings:

Roxtec No. S1523137 and S1523655, dated 2017-05-31

## Tests carried out

Fire Test acc. 2010 FTP Code, Annex 1: Part 3, IMO Resolution MSC.307(88)



Job Id: **262.1-023296-4**  
Certificate No: **TAF00000R7**  
Revision No: **3**

## **Marking of product**

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

## **Periodical assessment**

DNV'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 DNV-CP-0338 Section 4.