



TYPE APPROVAL CERTIFICATE

Certificate No:
TAF00000SK
Revision No:
1

This is to certify:

That the Class H Penetration

with type designation(s)
GPG Marine

Issued to

Firesafe Energy AS
Lørenskog, Norway

is found to comply with
DNV offshore standards

Application :

Approved for use as cable penetration system in H-Class bulkheads and decks.

Restricted application: Fire hazard from the insulated side only.

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

Issued at **Høvik** on **2022-10-24**

This Certificate is valid until **2027-10-23**.

DNV local station: **Oslo Maritime and CAP**

Approval Engineer: **Izabela Misztal**



for **DNV**

Digitally Signed By: **Permoda, Jowita**
Location: **DNV Gdynia, Poland**
Signing Date: **25.10.2022**

Jowita Permoda
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: 2021-03

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Product description

"GPG Marine"

Is a cable penetration system composed of a 10 mm thick steel sleeve fitted with "GPGM Mortar" seal. The steel sleeve is symmetrically welded to the bulkhead/deck.

For further details see drawings listed under Type Approval documentation.

Application/Limitation

Approved for use as a cable penetration system in H-0, H-60 class bulkheads and H-0, H-60 and H-120 decks. Other applications are subject to case-by-case approval.

Type	Class	Size [mm]	Max. cable diameter [mm]	Filling rate [%] ¹⁾	Min. sleeve length [mm]	Min. sleeve thickness [mm]	Sleeve position	Sleeve insulation
Rectangular	H0 deck H0 bulkhead	116 x 116 – 532 x 240	55	0% - 35%	250	10	Symmetrical	-
Rectangular	H60 deck H-60 bulkhead	116 x 116 – 532 x 240	55	0% - 35%	200	10	Symmetrical	Partially insulated on the underside (deck) / Partially insulated at the insulated side (bulkhead)
Rectangular	H120 deck	116 x 116 – 532 x 240	55	0% - 35%	250	10	Symmetrical	Partially insulated on the underside (deck) / Partially insulated at the insulated side (bulkhead)

¹⁾Minimum distance between cables/cable and cables/sleeve: 16 mm and 20 mm (see drawings)

The penetration system is not to be used for penetrating boundaries of tanks.

Watertightness and gas tightness is not covered in this certificate.

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

Type Approval documentation

Certification in accordance with Class Programme DNV-CP-0338, September 2021.

Test report No.150072-05 Version 1 dated 12 June 2017 from RISE Fire Research, Norway.

Test report No.150072-03 Version 1 dated 6 January 2017 from RISE Fire Research, Norway.

Drawing Nos.:

CG-10 H0 Deck, CG-15 H120 Deck, CG-19 H-60 Deck, CG-23 H0 Bulkhead, CG-25 H-60 Bulkhead from manufacturer.

Tests carried out

Tested according to IMO 2010 FTP Code part 3 with the hydrocarbon time-temperature curve specified in ISO 834-3.

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 Class Programme DNV-CP-0338, Section 4.