DNV·GL

Certificate No:
TAF0000175

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Class A and B Penetration

with type designation(s)
Multi Cable Transits - Fire Stop: CFS-T SS, CFS-T SSF, CFS-T SSR, CFS-T SSR/R30, CFS-T RR, CFS-T RRS

Issued to
Hilti AG
Schaan, Liechtenstein

is found to comply with
DNV GL rules for classification – Ships
DNV GL offshore standards
DNV GL class programme DNVGL-CP-0165 – Type approval – Cable and pipe penetrations

Application :

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

For further details see Application/Limitations on page 4 of this certificate.

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

Issued at **Hamburg** on **2019-05-08**

This Certificate is valid until **2024-05-07**.
DNV GL local station: **Augsburg**

Approval Engineer: **Carsten Hunsalz**

for **DNV GL**

Digitally Signed By: Schaarmann, Arne
Location: DNV GL SE Hamburg, Germany
Signing Date: 2019-05-20

Arne Schaarmann
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.

Product description

Multi Cable Transits - Fire Stop: CFS-T SS, CFS-T SSF, CFS-T SSR, CFS-T SSR/R30, CFS-T RR, CFS-T RRS

consisting of steel frames / sleeves:

- SS series: welded frame, in rectangular or rounded design
- SSF series: modified SS frame with butt–welded base flange, overall width 60 mm, in rectangular or rounded design
- SL series: welded sleeves, in round design
- SLF series: modified SL sleeve with butt–welded base flange, overall width 60 mm, in round design

Bolted or welded to the steel division (deck or bulkhead) and filled with a fire resistant, halogen-free elastomeric rubber.

A-0 Bulkhead penetration:

Fitted symmetrically, exposed or unexposed in the bulkhead.

Installation details according drawing No.
CFS-T_SSF001, CFS-T_SS002/003/004/005,
CFS-T_SSR/R30_006 to 009, CFS-T_SSR_010 to 013,
CFS-T_RR014 to 018, CFS-T_RRS019 to 023,

Application Bulkhead	Frame/Sleeve Size min.	Frame/Sleeve Size max.	Minimum filling rate (%)	Maximum filling rate (%)	Coaming position in bulkhead	Cables-Maximum Diameter (mm)
CFS-T SS	2x1	8x1	0	26	symmetrically, exposed or unexposed	47,3
CFS-T SSF	2x1	8x1	0	26	exposed or unexposed	47,3
CFS-T SSR	4x1	8x1	0	26	symmetrically, exposed or unexposed	47,3
CFS-T SSR/ R30	2x1	8x1	0	26	symmetrically, exposed or unexposed	47,3

Application Bulkhead	Frame/Sleeve Size min.	Frame/Sleeve Size max.	Minimum filling rate (%)	Maximum filling rate (%)	Coaming position in bulkhead	Cables-Maximum Diameter (mm)
CFS-T RR	50mm Ø	200mm Ø	0	48	symmetrically, exposed or unexposed	47,3
CFS-T RRS	50mm Ø	100mm Ø	0	100	symmetrically, exposed or unexposed	25

Optional: CFS-T EMC sealing solution

A-0 Deck penetration:

Fitted symmetrically, exposed or unexposed in the bulkhead.

Installation details according drawing No.
CFS-T_SSF001/002/006-D,
CFS-T_SS003/004/005/007/008-D,
CFS-T_SSR/R30_009-D to 013-D, CFS-T_SSR_014-D to 018-D,
CFS-T_RR019-D to 026-D, CFS-T_RRS027-D to 033-D

Application Bulkhead	Frame/Sleeve Size min.	Frame/Sleeve Size max.	Minimum filling rate (%)	Maximum filling rate (%)	Coaming position in bulkhead	Cables-Maximum Diameter (mm)
CFS-T SS	2x1	8x1	0	26	symmetrically, exposed or unexposed	47,3
CFS-T SSF	2x1	8x1	0	26	exposed or unexposed	47,3
CFS-T SSR	4x1	8x1	0	26	symmetrically, exposed or unexposed	47,3
CFS-T SSR/ R30	2x1	8x1	0	26	symmetrically, exposed or unexposed	47,3

Application Bulkhead	Frame/Sleeve Size min.	Frame/Sleeve Size max.	Minimum filling rate (%)	Maximum filling rate (%)	Coaming position in bulkhead	Cables-Maximum Diameter (mm)
CFS-T RR	50mm Ø	200mm Ø	0	48	symmetrically, exposed or unexposed	47,3
CFS-T RRS	50mm Ø	100mm Ø	0	100	symmetrically, exposed or unexposed	25

Optional: CFS-T EMC sealing solution

Application/Limitation

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

Pressure tests for rectangular frames listed in tables of page 2, 3 and 4 (except EMC Modules).

Approved for air tightness up to a design pressure of 0.1 MPa (1 bar), test pressure - 0.15 MPa (1.5 bar)

Approved for water tightness up to a design pressure of 0.3 MPa (3 bar), test pressure - 0.45 MPa (4.5 bar)

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 A0 Fire Class No.:
19288A dated 2018-11-20, 19289A dated 2018-11-20, 19290A dated 2018-11-20,
19444A dated 2019-01-16, 19540A dated 2019-03-14

Installation drawings No.:

Bulkhead, dated 2019-03-11
CFS-T_SSF001, CFS-T_SS002/003/004/005,
CFS-T_SSR/R30_006 to 009, CFS-T_SSR_010 to 013,
CFS-T_RR014 to 018, CFS-T_RRS019 to 023,

Deck, dated 2019-03-15
CFS-T_SSF001/002/006-D,
CFS-T_SS003/004/005/007/008-D,
CFS-T_SSR/R30_009-D to 013-D, CFS-T_SSR_014-D to 018-D,
CFS-T_RR019-D to 026-D, CFS-T_RRS027-D to 033-D

Pressure tests: Hilti Test Report No. WGT CFS-T-291018-01 dated 2018-10-29
WGT CFS-T-070219-01 dated 2019-02-07

Tests carried out

Fire Test acc. 2010 FTP Code, Annex 1: Part 3, IMO Resolution MSC.307(88)
Pressure tests with water and gas according to DNVGL-CP-0165 ch. 4.

Marking of product

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

Transport Canada Approval

Based on the procedures laid down in the Transport Canada Publication entitled "Approval Procedures for, Life Saving Equipment and Structural Fire Protection Products (TP 14612)", DNV GL confirms that the products listed in this certificate are in accordance with Transport Canada's requirements.

Periodical assessment

DNV GL'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 DNVGL-CP-0338 Section 4.