

# TYPE APPROVAL CERTIFICATE

Certificate no.:  
**TAF000003X**  
Revision No:  
**2**

## This is to certify:

that the FRP Grating

with type designation(s)  
Intergrate PH-XFR-B, Intergrate VE-FR and moulded ISO-FR GRP

issued to

**Fiberstruct, s.r.o.**  
**STRAŽSKÉ, Slovakia (Slovak Republic)**

is found to comply with

**DNV statutory interpretations DNV-SI-0364 – SOLAS interpretations, Edition July 2021**  
**DNV offshore standards**  
**DNV rules for classification – Ships**

## Application:

**For use in locations according to enclosed Structural Fire Integrity Matrix.**

**Application is to be considered and accepted for each case/project.**

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

Issued at Høvik on **2025-04-08**

for DNV

This Certificate is valid until **2030-04-07**.

DNV local unit: **Site Office Komarno**

Approval Engineer: **Timo Linn**



Digitally Signed By:

Jowita Permoda

Location: DNV Høvik, Norway

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 USD 300 000.

## Product description

Intergrate® PH-XFR-B, Intergrate® VE-FR and moulded ISO-FR GRP, glass fibre reinforced plastic square mesh gratings.

This certificate covers the following grating types with achieved structural fire integrity level according to ASTM F3059-18:

Grating type	Resin	Structural Fire Integrity Level	Flame Spread Index (ASTM E84)	Smoke Developed Index (ASTM E84)
Intergrate® PH-XFR-B	Phenolic	L0	0	10
Intergrate® VE-FR	Vinylester	L0	10	400
Moulded ISO-FR GRP grating	Isophthalic Polyester	L0	10	20

## Application/Limitation

The FRP (GRP) grating is only evaluated in accordance with fire technical requirements. Other requirements such as strength etc. has to be evaluated in each case.

With reference to below Structural Fire Integrity Matrix (ASTM F3059-18) the grating is only approved for use in locations where L0 is acceptable.

Structural Fire Integrity Matrix (ASTM F3059-18):

Location	Service	Fire Integrity
Machinery Spaces	Walkways or areas which may be used for escape, or access for firefighting, emergency operation or rescue	L1 <sub>A</sub>
	Personnel walkways, catwalks, ladders, platforms or access areas other than those described above	L3
Cargo Pump Rooms	All personnel walkways, catwalks, ladders, platforms or access areas	L1
Cargo Holds	Walkways or areas which may be used for escape, or access for firefighting, emergency operation or rescue	L1
	Personnel walkways, catwalks, ladders, platforms or access areas other than those described above	L0
Cargo Tanks	All personnel walkways, catwalks, ladders, platforms or access areas	L0 <sub>B</sub>
Fuel Oil Tanks	All personnel walkways, catwalks, ladders, platforms or access areas	L0
Ballast Water Tanks	All personnel walkways, catwalks, ladders, platforms or access areas	L0
Cofferdams, void spaces, double bottoms, pipe tunnels, etc.	All personnel walkways, catwalks, ladders, platforms or access areas	L0 <sub>C</sub>
Accommodation, service, and control spaces	All personnel walkways, catwalks, ladders, platforms or access areas	Not permitted
Lifeboat embarkation or temporary safe refuge stations in open deck areas	All personnel walkways, catwalks, ladders, platforms or access areas	L2
Open Decks or semi-enclosed areas	Operational areas and access routes for deck foam firefighting systems on tank vessels	L2

	Walkways and areas that may be used for escape, or access for firefighting systems and AFFF hose reels, emergency operation, or rescue on MODUs and production platforms including <u>safe access to tanker bows</u>	L2D
	Walkways or areas that may be used for escape or access for firefighting, emergency operation or rescue other than those used above	L3
	Personnel walkways, catwalks, ladders, platforms or access areas other than those described above	L3
	Gangway for safe access to bow on tankers according to IMO MSC.62(67)	L2E

**Footnote:**

- A. If machinery space does not contain any internal combustion machinery, other oil burning, oil heating or oil pumping units, fuel oil filling stations, or other potential hydrocarbon fire sources and has not more than 2.5 kg/m<sup>2</sup> of combustible storage, gratings of L3 integrity may be used in lieu of L1.
- B. Gratings that are electrically conductive shall be required. Acceptance criteria for resistance per unit length and to earth is: < 0.1 M Ω to earth. Test standard ASTM D257-91, ref. DNV-CP-0070 "Fibre reinforced thermosetting plastic piping systems - Non-metallic materials".
- C. For passenger ships required to meet the safe return to port regulations, MSC.1/Circ.1369 Interpretation No. 8 to be specially considered to determine if it is a space in which the risk of a fire originating is negligible or not.
- D. Tested with furnace temperature curve according to ASTM E119 (i.e. not tested for Hydrocarbon or Jet fire exposure).
- E. Also required to be tested according to IMO 2010 FTP Code Part 5 and 2 for floor covering (IMO MSC.1/Circ.1504).

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

### Type Approval documentation

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

Test report No. 3091933SAT-002 dated 30 June 2006 from Intertek, Texas, USA. (PH-XFR)

Test report No. 103736887SAT-001B dated 2 August 2019 from Intertek, Texas, USA. (VF-FR)

Test report No. 191224009SHF-001 dated 7 January 2020 from Intertek, Shanghai, China. (ISO-FR)

### Tests carried out

Tested according to ASTM F3059 and ASTM E84.

### Marking of product

Each FRP grating shall be marked as a minimum with the brand and the appropriate fire rating (L1, L2, L3 or L0). The label shall be moulded into the grating or included on a permanently attached label.

### Periodical assessment

DNV 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.

### Manufactured by:

Fiberstruct, s.r.o., STRAŽSKÉ, Slovakia (Slovak Republic).