

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Class H Fire Wall and Bulkhead

with type designation(s)
CHARREX PFP-1000 Bulkhead

Issued to

SAMHWA PAINTS INDUSTRIAL CO., LTD.
Gyeonggi-do, Republic of Korea

is found to comply with
Det Norske Veritas' Offshore Standards

Application :

Approved for use as fire retarding bulkhead of class H-0/H-60/H-120.
Restricted application: Fire against insulated side.

This Certificate is valid until **2019-08-10**.

Issued at **Høvik** on **2015-08-11**

DNV GL local station: **Seoul**

Approval Engineer: **Ragnar Tonjer**

for **DNV GL**

Petter Langnes
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

"CHARREX PFP-1000 Bulkhead"

composed of a steel bulkhead insulated on exposed side with an epoxy based intumescent coating consisting of a primer "Superpoxy 110F" and a protection material "CHARREX PFP-1000".

CHARREX PFP-1000 is a two component epoxy based intumescent coating.

Density: 1000 kg/m³.

Minimum dry film thickness including primer:

Rating	DFT	Comment
H-0	5.7 mm	No temperature limit
H-60	14.8 mm	Max temperature rise of 140 °C / 180 °C (avg. / single) after 60 min
H-120	21.1 mm	Max temperature rise of 140 °C / 180 °C (avg. / single) after 120 min

Application/Limitation

The approval refers only to the hydrocarbon fire resistance properties of the system. The protective coating "CHARREX PFP-1000" is not defined as non-combustible and should not be used in accommodation or in enclosed areas.

Application of the intumescent coating is to be performed in accordance with manufacturer's application guidelines.

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

Type Approval documentation

Certification in accordance with Standard for Certification No. 1.2, Type Approval, January 2013.

Test reports:

No. 340563 dated 2015-01-16 (H-0),

No. 340564 dated 2015-01-16 (H-60),

No. 340566 dated 2015-01-16 (H-120).

All test reports are issued by Exova Warringtonfire, United Kingdom.

Tests carried out

Tested according to IMO 2010 FTP Code with the furnace temperature following the hydrocarbon 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 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 Standard for Certification No. 1.2 Item 4.