DNV·GL

Certificate No:
TAF000004Z

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Class A Bulkhead

with type designation(s)
Naval Bulkhead Class A-60

Issued to
INDUSTRIAS BRASILEIRAS DE ARTIGOS REFRATARIOS - IBAR - LTDA
POA SAO PAULO, Brazil

is found to comply with
DNV GL offshore standards
DNV GL rules for classification – Offshore units

Application :

Approved for used as Class A-60 Bulkhead.
Restricted application: Fire from insulated side only.

This certificate is recognized by Transport Canada.

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

This Certificate is valid until **2021-01-13**.
Issued at **Høvik** on **2016-01-14**

DNV GL local station: **Rio de Janeiro, CMC**

Approval Engineer: **Tessa Biever**

for **DNV GL**

Digitally Signed By: Langnes, Petter
Location: DNV GL Høvik, Norway
Signing Date: 2016-01-27

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

"Naval Bulkhead Class A-60"
composed of a stiffened steel bulkhead insulated on stiffened side with 53 mm rock wool of type "Mineral Rock Wool Panel Biolã 128 kg/m3" (density 128 kg/m^3). Insulation of the same type is fitted in the cavity of the stiffeners (approximately 53 mm) and on top of the stiffeners (approximately 50 mm).

The insulation is fastened with ø3 mm steel pins and ø38 mm steel washers. Maximum distance between pins are 300 mm. Maximum distance from horizontal joint to nearest pin is 150 mm.

See drawing mentioned under Type Approval documentation below for further details.

Application/Limitation

Any surface materials used have to be approved for smoke and toxicity and low flame-spread characteristics (IMO 2010 FTP Code Annex 1 Parts 2 and 5) when required according to relevant rules.

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

Type Approval documentation

Certification in accordance with Class Programme DNVGL-CP-0338, October 2015.

Test report no. 1 072 992-203, dated 1st of September 2014, from IPT Technological Research Institute, São Paulo, Brazil.

Drawing no. BIS-002 (rev. No. 3) & BIA-002 (rev. No. 1), dated 17th of May 2012, from the manufacturer.

Tests carried out

Tested according to IMO 2010 FTP Code part 3.

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 product/s listed in this certificate is/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 Class Programme DNVGL-CP-0338, Section 4.