

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Class H Fire Wall and Bulkhead

with type designation(s)
H60 ContraFlame MS400

Issued to

Advanced Insulation Systems Ltd.
GLOUCESTER, United Kingdom

is found to comply with
Det Norske Veritas' Offshore Standards

Application :

Approved for use as fire retarding bulkhead of class H-60.

Restricted application: Fire against insulated (MS400) side.

This Certificate is valid until **2019-09-03**.

Issued at **Høvik** on **2015-09-04**

DNV GL local station: **Southampton**

Approval Engineer: **Martin Gjelstad**

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

"H60 ContraFlame MS400"

Composed of a stiffened steel bulkhead insulated on exposed/stiffened side with 70 mm MS400. Additional 70 mm MS400 is fitted over the stiffeners. MS400 panels are made of phenolic syntactic foam from Advanced Insulation Systems with density 80-100 kg/m³.

The panels are fitted with an adhesive, and the stiffener cover panels are also fastened with helical screws at every 500 mm. An intumescent material (TECNOFIRE TFP) is fitted laterally between the panels and open side of stiffeners. A 2 mm thick laminate of type D2004 from Advanced Insulation Systems is fitted on the panels.

For further details see drawing mentioned under Type Approval documentation below.

Application/Limitation

The approval refers only to the hydrocarbon fire resistance properties of the system.

The insulation materials, "MS400" and "D2004", is not defined as non-combustible and should not be used in accommodation or in enclosed areas.

Any adhesive used, other than the one used during testing, has to be tested for low flame spread characteristics according to IMO 2010 FTP Code part 5.

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

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 report no. EFR-14-J-002305 dated 15 April 2015 from EFACTIS France, Les Avenieres, France.

Drawing no. R&D CER041-004 Rev. 3 (2 sheets) dated 2014-11-14 from Advanced Insulation Systems Ltd.

Tests carried out

Tested according to IMO 2010 FTP Code part 3 with the furnace temperature following the hydrocarbon curve specified in EN 1363-2:1999.

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.