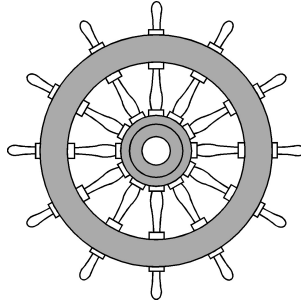


EC TYPE-EXAMINATION CERTIFICATE

according to Marine Equipment Directive (Module B)



NOTIFIED BODY 0809

This is to certify that Eurofins Expert Services Oy did undertake the relevant type approval procedures for the type of equipment identified below which was found to be in compliance with the requirements of Marine Equipment Directive (MED) 2014/90/EU and Commission implementing regulation (EU) 2018/773 subject to any conditions in the schedule attached hereto.

**A-30 Steel bulkhead,
Sea-teK WM 100 GGN wired mat, 30 mm and slab Sea-teK BD 100, 50 mm**

meet the requirements imposed in IMO 2010 FTP Code, Annex 1 Part 3
(IMO Resolution MSC.307(88) Annex 1 Part 3) on

Class A-30 bulkhead

and the provisions of Marine Equipment Directive 2014/90/EU, that apply to

fire integrity of A-30 Class division.

These products have been assigned a U.S. Coast Guard Module B number (**164.107 / EC0809**) to note type approval to Module B only as it pertains to obtaining U.S. Coast Guard approval as allowed by the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment" signed February 27th, 2004.

Manufacturer of the product is

Knauf Insulation d.o.o.

The Certificate is valid until January 16, 2024 unless suspended, expired or withdrawn, provided the conditions in this certificate are complied with and the equipment remains satisfactory in service.

Espoo January 17, 2019

This document is electronically approved

Tiina Ala-Outinen
Business Manager

Heli Välimäki
Senior Expert

Manufacturer	Knauf Insulation d.o.o. Varazdinska ul. 140 42220 Nova Marof Croatia
Regulation Item	MED 1/3.11a, "A" Class divisions, fire integrity.
Products	Class A-30 Steel bulkhead insulated with combination of Sea-teK WM 100 GGN wired mat, 30 mm and slab Sea-teK BD 100, 50 mm.
Product description	<p>"A" Class steel bulkhead, stiffeners insulated with 30 mm thick Sea-teK WM 100 GGN wired mat with nominal density of 100 kg/m³ and level insulated with 50 mm thick Sea-teK BD 100 insulation slabs with nominal density of 100 kg/m³.</p> <p>The insulation is applied in one minimum 50 mm thick insulation slab layer, Sea-teK BD 100, between the stiffeners on the level and stiffeners are insulated with minimum 30 mm thick wired mat layer, Sea-teK WM 100 GGN.</p> <p>Insulation is fastened by using steel pins (Ø 3mm) and steel washers (Ø 38mm) with maximum distance 300 mm to the nearest pin and 150 mm to the insulation joint. Insulation joints shall be compressed. Alternative pin pattern on the level insulation is presented on drawings. Minimum of 8 pins and washers are used for each slab (reference slab dimension 1200 x 600 mm).</p>
Approved application	A-30 class steel bulkhead with combination of insulation material and optional pin pattern used on level insulation as well as alternative stiffener insulation as presented in referred drawings.
Technical documents	Drawings 122018 (25.7.2018), 082018 (25.7.2018), 172018 (22.11.2018).
Test reports and assessments	<p>P 0679/17-530-2, 14.12.2017, ZAG, Slovenia.</p> <p>PGA11118A, 19.1.2018, DBI, Denmark.</p> <p>PHA11014A, 13.12.2018, DBI, Denmark.</p> <p>PHA11014C, 12.12.2018, DBI, Denmark.</p> <p>PHA11014B, 13.12.2018, DBI, Denmark.</p>
Test methods and standards	IMO 2010 FTP Code Annex 1 Part 3 (IMO Resolution MSC.307(88) Annex 1 Part 3).
Notes	<p>This certificate will not be valid if the manufacturer makes any changes or modifications to the approved equipment, which have not been notified to, and agreed with the notified body named on this certificate.</p> <p>Should the specified regulations or standards be amended during the validity of this certificate, the product is to be reapproved prior to it being placed on board vessels to which the amended regulations or standards apply.</p> <p>The Mark of Conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-control phase module (D, E or F) of Annex B of the Directive is fully complied with and controlled by a written inspection agreement with a notified body.</p>

END OF CERTIFICATE