

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00003T5
Revision No:
2

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of Norway.

This is to certify:

That the Non-combustible materials

with type designation(s)

Non-combustible materials

Issued to

KNAUF INSULATION d.o.o.
Novi Marof, Varaždinska, Croatia

is found to comply with the requirements in the following Regulations/Standards:

Regulation **(EU) 2018/773,**

item No. MED/3.13. SOLAS 74 as amended, Regulation II-2/3 II-2/5, II-2/9 & X/3, 2000 HSC Code 7 and IMO 2010 FTP Code

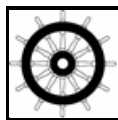
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2023-03-20.**

Issued at **Høvik** on **2018-11-30**

DNV GL local station:
Rijeka

Approval Engineer:
Helge Bjørnarå



Notified Body
No.: **0575**

for **DNV GL AS**

Roald Vårheim
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of Certificates of Conformity for Marine Equipment" signed 17 October 2005.

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-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.

This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL AS of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.

Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.



Job Id: **344.1-005117-8**
 Certificate No: **MEDB00003T5**
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Product description

Mineral wool insulation materials bonded with phenol formaldehyde resin or with ECOSE / E-Technology (carbohydrate) binder.

Products names ²⁾ :	Nominal Density [kg/m ³]:	Organic content ¹⁾ :		Description:
		PF resin	ECOSE (E-Technology)	
FM 070 FM 080 FM 100 FM 120	70 - 120	≤ 3%	≤ 3%	Felt mats
CR STD	40 - 400	< 1%	< 1%	Cords (ropes)
WM 620 GGN WM 640 GGN WM 660 GGN WM 680 GGN	65 - 120	≤ 3%	≤ 3%	Wired mats reinforced with galvanised knittings and trimmed with galvanised steel wire
WM 070 GGN WM 080 GGN WM 100 GGN WM 120 GGN	65 - 120	≤ 3%	≤ 3%	Wired mats reinforced with galvanised knittings and trimmed with galvanised steel wire
PS 680 PS Eco	90 - 160	≤ 4%	≤ 4%	Wound pipe section
LM Eco ALU LM Pro ALU LM 450 ALU LM 550 ALU LM 700 ALU	40 - 95	-	≤ 4%	Lamella felt mat
PS Eco ALU PS Pro ALU	80 - 130	-	≤ 4%	Wound pipe section (aluminium coated)
BD 035 ALU BD 040 ALU BD 050 ALU BD 060 ALU BD 070 ALU BD 080 ALU BD 090 ALU BD 100 ALU BD 110 ALU BD 120 ALU BD 130 ALU	35 - 130	-	≤ 4%	Fire protection boards (aluminium coated)
BD 035 BD 040 BD 050 BD 060 BD 070 BD 080 BD 090 BD 100 BD 110 BD 120 BD 135 BD 150 BD 160 BD 170 BD 180 BD 190 BD 200	35 - 200	≤ 3%	≤ 3%	Fire protection boards

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General note:

- 1) All Knauf Insulation products can be produced with Phenol Formaldehyde resin binder or with a binder based on ECOSE or E-Technology. If ECOSE or E-Technology is applied all product names can get ECOSE or E-Technology appendix.
- 2) All product names have always one of the following prefixes: Sea-teK, Power-teK, Thermo-teK, Fire-teK, Sound-teK.

Application/Limitation

Approved for use as non-combustible materials.

The product may be used as an integrated part of approved fire resisting divisions only when tested as such.

Insulation material with surface layer have to be approved for low flame spread characteristics (test for surface flammability) according to the Marine Equipment Directive and bear the Mark of Conformity.

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

Type Examination documentation

Test reports No.:

- I-2272/2003-3 dated 03 February 2004 (Tervol BS-9 = BD 090),
- I-2272/2003-4 dated 03 February 2004 (Tervol BS-15 = BD 150),
- I-2272/2003-6 dated 03 February 2004 (Tervol TDM-80 = WM 640 GGN),
- I-2520/06-2 dated 17 January 2006 (Tervol TDM-100 = WM 660 GGN),
- 3271/10-1 dated 24 February 2010 (Tervol TDM-120 = WM 680 GG),

all from LTM Zagreb, Croatia,

Test reports No.:

- P 0151/12-530-1 dated 17 February 2012 (Tervol Z = CR STD),
- P 0228/11-530-4 dated 11 May 2011 (MHTB 700 = BD 150),
- P 0228/11-530-6 dated 11 May 2011 (MHTB 450 = BD 050),
- P 1621/04-530-1 dated 4 January 2005 (Nobasil SH 35 = BD 035),
- P 1621/04-530-3 dated 4 January 2005 (Nobasil SH 120 = BD 120),
- P 1621/04-530-4 dated 4 January 2005 (Nobasil R-PPD 65 = WM 620 GGN),
- Summary of test reports No. 530/NOK/3 dated 14 January 2016,

all from ZAG Ljubljana, Slovenia.

Test reports No.:

- NN 10/6985.1 (Heralan HTB 550 = BD 060), dated 15 August 2011,
- NN 10/6985.2 (Heralan HTB D200 = BD 200), dated 15 August 2011,

all from DMT GmbH & Co. KG, Dortmund, Germany.

Test reports No.:

- P1709039 – Document DE/1 dated 21 March 2018 (LM/PS/BD+ALU: 40 kg/m³),
- P1709039 – Document DE/2 dated 21 March 2018 (LM/PS/BD+ALU: 130 kg/m³),

all from LNE Laboratoire De Trappes, France.

Tests carried out

Tested according to IMO FTP Code Part 1 and in compliance with IMO 2010 FTP Code Ch. 8 and according to IMO 2010 FTP Code Part 1.

Marking of product

The product or packing is to be marked with name and address of manufacturer, type designation, fire-technical rating, Mark of Conformity and USCG approval number if applicable (see first page).