



MARINE DIVISION

Certificate number: 19954/A0 BV

File number: ACI 1000/353/021

Product code: 5080H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

ROCKWOOL A/S
Hedehusene - DENMARK

for the type of product

A60 CLASS DECKS

A-60 CLASS DECK

Requirements:

BV Rules Part C Chapter 4 - SOLAS 74, as amended, Chapter II.2

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 24 Aug 2015

For BUREAU VERITAS,

At BV FREDERICIA, on 24 Aug 2010,

Arne Madsen



This certificate is recognized by Transport Canada

This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

A-60 CLASS DECK

Structural steel deck insulated with either :

Common international solutions :

Construction	Product Description	Application / Limitations	Type Approval Documentation
Solution 1 A-60 Deck, Steel Rockwool Marine Firebatts 100 40 mm / 25 mm	A-60 Deck, Rockwool Marine Firebatts 100. Composed of steel deck insulated on the underside of the deck with minimum 40 mm mineral wool of type "Rockwool Marine Firebatts 100" of density 100 kg/m ³ between stiffeners, and minimum 25 mm mineral wool of type "Rockwool Marine Firebatts 100" around stiffeners. The deck insulation is mounted with standard 3 mm steel pins and 38 mm steel clips (spring washers) at intervals of approx 300 mm, according to drawing	Fire against either side.	Test report 96-DG-348-TO , 22 August 1996 RINA
Solution 2 A-60 Deck, Steel Rockwool Marine Firebatts 130 40 mm / 40 mm	A-60 Deck, Rockwool Marine Firebatts 130. Composed of steel deck insulated on the underside of the deck with minimum 40 mm mineral wool of type "Rockwool Marine Firebatts 130" of density 130 kg/m ³ between stiffeners, and minimum 40 mm mineral wool of type "Rockwool Marine Firebatts 130" around stiffeners. The deck insulation is mounted with standard 3 mm steel pins and 38 mm steel clips (spring washers) at intervals of approx 300 mm, according to drawing	Fire against either side.	Test report G 10141 / 6026 , 26 February 1996 , DIFT
Solution 3 A-60 Deck, Steel Rockwool Marine Firebatts 130 & Rockwool Marine Wired Mat 105 45 mm / 30 mm	A-60 Deck, Rockwool Marine Firebatts 130 & Rockwool Marine Wired Mat 105 Composed of steel deck insulated on the underside of the deck with minimum 45 mm mineral wool of type "Rockwool Marine Firebatts 130" of density 130 kg/m ³ between stiffeners plus infill for L-shape stiffener, and minimum 30 mm mineral wool of type "Rockwool Marine Wired Mat 105" of density 105 kg/m ³ around stiffeners. The deck insulation is mounted with standard 3 mm steel pins and 38 mm steel clips (spring washers) at intervals of approx 300 mm, according to drawing	Fire against either side.	Test report PG 10944 / 8276 , 31 October 2001 , DIFT

<p>Solution 4</p> <p>A-60 Deck, Steel</p> <p>Rockwool Marine Wired Mat 90 45 mm / 45 mm</p>	<p>A-60 Deck, Rockwool Marine Wired Mat 90</p> <p>Composed of steel deck insulated on the underside of the deck with minimum 45 mm mineral wool of type "Rockwool Marine Wired Mat 90" of density 90 kg/m³ between stiffeners and over stiffeners, as one layer. The deck insulation is mounted with standard 3 mm steel pins and 38 mm steel clips (spring washers) at intervals of approx 300 mm, according to drawing</p>	<p>Fire against either side.</p>	<p>Test report PG 10984 / 8384 , 14 March 2002 , DIFT</p>
<p>Solution 5</p> <p>A-60 Deck, Floating Floor , Steel</p> <p>Rockwool Marine Slab 200 2 x30 mm</p>	<p>A-60 Deck , Floating Floor , Rockwool Marine Slab 200</p> <p>Composed of steel deck insulated with a floating floor on top. The insulation on top of the deck consists of 2 x 30 mm "Rockwool Marine Slab 200" of density 200 kg/m³. Made with staggered and tight butt joints. Insulation installed floating without pin's/washer, and covered by minimum one layer of minimum 2 mm steel sheets spot welded together.</p>	<p>Fire against either side.</p>	<p>Test report 103020.44 , 18 February 2004 , SINTEF NBL</p>

Local National Solutions :

Construction	Product Description	Application / Limitations	Type Approval Documentation	National Country
<p>Solution A</p> <p>A-60 Deck, Steel</p> <p>Rockwool Marine Wired Mat 125 40 mm / 40 mm</p>	<p>A-60 Deck, Rockwool Marine Wired Mat 125</p> <p>Composed of steel deck insulated on the underside of the deck with minimum 40 mm mineral wool of type "Rockwool Marine Wired Mat 125" of density 125 kg/m³ between stiffeners and over stiffeners, as one layer. The deck insulation is mounted with standard 3 mm steel pins and 38 mm steel clips (spring washers) at intervals of approx 300 mm, according to drawing</p>	<p>Fire against either side.</p>	<p>Test Report 22N002.29.A SINTEF 11.01.2000</p>	<p>Norway :</p> <p>Rockwool Firemat 100 (Brannmatte)</p>
<p>Solution B</p> <p>A-60 Deck, Steel</p> <p>Rockwool Marine Firebatts 120 / Rockwool Marine Wired Mat 125</p> <p>50 mm + 30 / 30 mm</p>	<p>A-60 Deck, Rockwool Marine Firebatts 120 & Rockwool Marine Wired Mat 125</p> <p>Composed of steel deck insulated with minimum 50 mm mineral wool of type "Rockwool Marine Firebatts 120" of density 120 kg/m³ between stiffeners, and minimum 30 mm mineral wool of type "Rockwool Marine Wired Mat 125" of density 125 kg/m³ between stiffeners and around stiffeners. The bulkhead insulation is mounted with standard 3 mm steel pins and 38 mm steel clips (spring washers) at intervals of</p>	<p>Fire against either side.</p>	<p>Test Report 22N002.10b SINTEF 05.11.1998</p>	<p>Norway :</p> <p>Rockwool Firebatt 110</p> <p>Rockwool Firemat 100</p>

	approx 300 mm, according to drawing.			
Solution C A-60 Deck, Steel Rockwool Marine Firebatts 120 Alu 50 mm / 30 mm	A-60 Bulkhead, Rockwool Marine Firebatts 120 Alu Composed of steel deck insulated with minimum 50 mm mineral wool of type "Rockwool Marine Firebatts 120" of density 120 kg/m ³ between stiffeners, and minimum 30 mm mineral wool of type "Rockwool Marine Firebatts 120" around stiffeners. The insulation is covered by 0.2 mm aluminium foil. The bulkhead insulation is mounted with standard 3 mm steel pins and 31/38 mm steel clips (spring washers) at intervals of approx 300 mm, according to drawing.	Fire against either side.	Test Report 22N002.31 SINTEF 10.03.2000	Norway : Rockwool Alubatt 110
Solution D A-60 Deck, Floating Floor , Steel Rockwool Marine Slab 140 60 mm	A-60 Deck , Floating Floor , Rockwool Marine Slab 140 Composed of steel deck insulated with a floating floor on top. The insulation on top of the deck consists of 60 mm "Rockwool Marine Slab 140" of density 140 kg/m ³ . Insulation installed floating without pin's/washer, and covered by minimum two layers of minimum 1.5 + 3.0 mm steel sheets spot welded together or fastened together by pop rivets.	Fire against either side.	Test report 22N002.07 D SINTEF NBL 12.10.1998	Norway : Rockwool Slab FF 14
Solution E A-60 Deck, Steel Rockwool Marine Firebatts 100 40 mm / 25 mm	A-60 Deck, Rockwool Marine Firebatts 100 Composed of steel deck insulated on the underside of the deck with minimum 40 mm mineral wool of type "Rockwool Marine Firebatts 100" of density 100 kg/m ³ between stiffeners and minimum 25 mm mineral wool of type "Rockwool Marine Firebatts 100" over stiffeners. Cavities inside stiffeners are filled with same mineral wool as above. The deck insulation is mounted with standard 3 mm steel pins and 38 mm steel clips (spring washers) at intervals of approx 250 mm, according to drawing	Fire against either side.	Test Report 96.DG.348.TO RINA 22.08.1996	France Benelux : Rockwool 759
Solution F A-60 Deck, Steel Rockwool Marine Firebatts 100 40 mm / 40 mm	A-60 Deck, Rockwool Marine Firebatts 100 Composed of steel deck insulated on the underside of the deck with minimum 40 mm mineral wool of type "Rockwool Marine Firebatts 100" of density 100 kg/m ³ between stiffeners and minimum 40 mm	Fire against either side.	Test Report 98R1 3114A SP Laboratories 14.07.1998	France Benelux : Rockwool 759

	mineral wool of type "Rockwool Marine Firebatts 100" over stiffeners (U-shaped boxes) Cavities inside stiffeners are filled with same mineral wool as above. The deck insulation is mounted with standard 3 mm steel pins and 38 mm steel clips (spring washers) at intervals of approx 250 mm according to drawing			
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2. DOCUMENTS AND DRAWINGS :

As per Manufacturer's drawings attached in tests reports mentioned in § 1.

3. TEST REPORTS :

Test reports mentioned in § 1 (tests carried out as per IMO A.754(18) resolution).

4. APPLICATION / LIMITATION :

- 4.1- The fitting aboard to be the same as used for the test.
- 4.2- Flame spread, smoke characteristics and calorific value of the lining to be as per applicable regulations.
- 4.3- The insulating materials shall comply with the requirements of BV Rules, to the satisfaction of the Society for acceptance of the division on board the concerned ship.

5. PRODUCTION SURVEY REQUIREMENTS :

The products are to be manufactured, examined and tested by Rockwool A/S in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.

Production sites are to be recognized by Bureau Veritas as per NR320 for HBV products. To this end Rockwool A/S has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.

6. MARKING OF PRODUCT :

The product or packing is to be marked with manufacturer name, type, designation and fire-technical rating.

7. OTHERS :

This approval is given with the understanding that the manufacturer will accept full responsibility for informing shipbuilders, shipowners or their sub-contractors of the proper methods of fitting and general maintenance of the approved equipment and the conditions of this approval.

*** END OF CERTIFICATE ***