



MARINE DIVISION

Certificate number: 19953/A0 BV

File number: ACI 1000/353/020

Product code: 5000H

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

www.veristar.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to

ROCKWOOL A/S

Hedehusene - DENMARK

for the type of product

A60 CLASS BULKHEADS

A-60 CLASS BULKHEAD

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 BULKHEAD

Structural steel bulkhead insulated with either :

Common international solutions :

Construction	Product Description	Application / Limitations	Type Approval Documentation
Solution 1 A-60 Bulkhead, Steel Rockwool Marine Firebatts 100 60 mm / 25 mm	A-60 Bulkhead, Rockwool Marine Firebatts 100. Composed of steel bulkhead insulated with minimum 60 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 bulkhead insulation is mounted with standard 3 mm steel pins and 38 mm steel clips (spring washers) at intervals of approx 300 / 400 mm, according to drawing.	Fire against either side.	Test report 2004CS01428/3 , 4 March 2004 , RINA
Solution 2 A-60 Bulkhead, Steel Rockwool Marine Firebatts 130 2 x 30 mm / 30 mm	A-60 Bulkhead, Rockwool Marine Firebatts 130. Composed of steel bulkhead insulated with minimum two layers of 30 mm mineral wool of type "Rockwool Marine Firebatts 130" of density 130 kg/m ³ between stiffeners, and minimum 30 mm mineral wool of type "Rockwool Marine Firebatts 130 " around stiffeners. The bulkhead 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 10096 / 5994 , 26 January 1996 , DIFT
Solution 3 A-60 Bulkhead, Steel Rockwool Marine Firebatts 130 & Rockwool Marine Wired Mat 105 65 mm / 30 mm	A-60 Bulkhead, Rockwool Marine Firebatts 130 & Rockwool Marine Wired Mat 105. Composed of steel bulkhead insulated with minimum 65 mm mineral wool of type "Rockwool Marine Firebatts 130" of density 130 kg/m ³ between stiffeners, and minimum 30 mm mineral wool of type "Rockwool Marine Wired Mat 105 " of density 105 kg/m ³ around stiffeners. The bulkhead 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 10842 / 8061 , 15 June 2001 , DIFT

<p>Solution 4</p> <p>A-60 Bulkhead, Steel</p> <p>Rockwool Marine Wired Mat 90 2x45 mm / 45 mm</p>	<p>A-60 Bulkhead, Rockwool Marine Wired Mat 90.</p> <p>Composed of steel bulkhead insulated with minimum 2 layers of 45 mm mineral wool of type "Rockwool Marine Wired Mat 90" of density 90 kg/m³ between stiffeners, and minimum 45 mm mineral wool of type "Rockwool Marine Wired Mat 90" around stiffeners. The bulkhead 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 2006CS013889-1 2007-02-07, RINA</p>
<p>Solution 5</p> <p>A-60 Bulkhead, Steel</p> <p>Rockwool Marine Wired Mat 105 75 mm / 30 mm</p>	<p>A-60 Bulkhead, Rockwool Marine Wired Mat 105.</p> <p>Composed of steel bulkhead insulated with 75 mm mineral wool of type "Rockwool Marine Wired Mat 105" of density 105 kg/m³ between stiffeners, and minimum 30 mm mineral wool of type "Rockwool Marine Wired Mat 105" around stiffeners. The bulkhead 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 2006CS013889-2 2007-02-07, RINA</p>
<p>Solution 6</p> <p>A-60 Bulkhead, Steel Restricted</p> <p>Rockwool Marine Firebatts 130 50 mm / 50 mm</p>	<p>A-60 Bulkhead Restricted , Rockwool Marine Firebatts 130.</p> <p>Composed of steel bulkhead insulated with minimum 50 mm mineral wool of type "Rockwool Marine Firebatts 130" of density 130 kg/m³ between stiffeners, and minimum 50 mm mineral wool of type "Rockwool Marine Firebatts 130" around stiffeners. The bulkhead 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>Restricted use : Only fire at the insulated side.</p>	<p>Test report G 10095 / 5993 , 26 January 1996 , DIFT</p>
<p>Solution 7</p> <p>A-60 Bulkhead, Steel Restricted</p> <p>Rockwool Marine Firebatts 100 40 mm / 40 mm</p>	<p>A-60 Bulkhead Restricted , Rockwool Marine Firebatts 100.</p> <p>Composed of steel bulkhead insulated with minimum 40 mm mineral wool of type "Rockwool Marine Firebatts 100" of density 100 kg/m³ between stiffeners, and minimum 40 mm mineral wool of type "Rockwool Marine Firebatts 100" around stiffeners. The bulkhead insulation is mounted with standard 3 mm steel pins and 38 mm steel clips (spring washers) at intervals of approx 300 / 400 mm, according to drawing.</p>	<p>Restricted use : Only fire at the insulated side.</p>	<p>Test report 2004CS014787 , 13 December 2004 RINA</p>

Local National Solutions :

Construction	Product Description	Application / Limitations	Type Approval Documentation	National Country
Solution A A-60 Bulkhead, Steel Rockwool Marine Firebatt 120 80 mm / 30 mm	A-60 Bulkhead, Rockwool Marine Firebatt 120. Composed of steel bulkhead insulated with minimum 80 mm mineral wool of type "Rockwool Firebatt 120" of density 120 kg/m ³ between stiffeners, and minimum 30 mm mineral wool of type "Rockwool Firebatt 120" around stiffeners. The insulation to be covered by galvanised wire mesh ¼". The bulkhead 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 250000.42/95.233 SINTEF 13.07.1995 and 846000.07/97.124 SINTEF 07.03.1997	Norway: Rockwool Firebatt 110
Solution B A-60 Bulkhead, Steel 50 mm + 40 / 40 mm	A-60 Bulkhead, Rockwool Marine Firebatt 120 & Rockwool Marine Wired Mat 125 Composed of steel bulkhead insulated with minimum 50 mm mineral wool of type "Rockwool Marine Firebatt 120" of density 120 kg/m ³ between stiffeners, and minimum 40 mm mineral wool of type "Rockwool Marine Wired Mat 125" of density 125 kg/m ³ 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 approx 300 mm, according to drawing.	Fire against either side.	Test Report 22N002.40 SINTEF 04.12.2000	Norway : Rockwool Firebatt 100 (Branmatte)
Solution C A-60 Bulkhead, Steel Rockwool Marine Firebatts 120 Alu 80 mm / 30 mm	A-60 Bulkhead, Rockwool Marine Firebatts 120 Alu. Composed of steel bulkhead insulated with minimum 80 mm mineral wool of type "Rockwool Marine Firebatts 120 Alu" of density 120 kg/m ³ between stiffeners, and minimum 30 mm mineral wool of type "Rockwool Marine Firebatts 120 Alu" 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 250000.49/95.233 SINTEF 17.07.1995	Norway : Rockwool Alubatt 110
Solution D A-60 Bulkhead, Steel Restricted	A-60 Bulkhead, Rockwool Firemat 100. Composed of steel bulkhead insulated with minimum 60 mm	Restricted use : Only fire at the insulated side.	Test Report 22N002.07 C SINTEF 12.10.1998	Norway : Rockwool Firemat 100 (Branmatte)

Rockwool Marine Wired Mat 125 60 mm / 60 mm	mineral wool of type "Rockwool Marine Wired Mat 125" of density 125 kg/m3 between stiffeners, and minimum 60 mm mineral wool of type "Rockwool Marine Wired Mat 125" around stiffeners. The bulkhead 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.			
Solution E A-60 Bulkhead, Steel Rockwool Marine Firebatt 100 75 mm / 25 mm	A-60 Bulkhead, Rockwool Marine Firebatt 100 Composed of steel bulkhead insulated with minimum 75 mm mineral wool of type "Rockwool Marine Firebatt 100" of density 100 kg/m3 between stiffeners, and minimum 25 mm mineral wool of type "Rockwool Marine Firebatt 100" around stiffeners. The bulkhead 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.813.TO RINA 24.02.1997	France Benelux : Rockwool Slab 759
Solution F A-60 Bulkhead, Steel RTD-S / Marine Wired Mat 90 90 mm / 30 mm	Composed of steel bulkhead insulated with minimum 90 mm mineral wool of type RTD-S / Marine Wired Mat 90 , density 90 kg/m3 between stiffeners, and minimum 30 mm on top of stiffeners of the same mineral wool.	Fire against either side.	Test Report GV01.50.1 TUV Nord 05.07.2001	Germany : RTD-S Marine Wired Mat 90

2. DOCUMENTS AND DRAWINGS :

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

3. TEST REPORTS :

As per tests 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.