DNV·GL

Certificate No:
MEDB00003HE

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV GL SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

That the "A" Class divisions, fire integrity

with type designation(s)
Steel Bulkhead A-60

Issued to
Saint-Gobain Isover G+H AG
Ludwigshafen am Rhein Rheinland-Pfalz, Germany

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2017/306,**
item No. MED/3.11a. SOLAS 74 as amended, Regulation II-2/3.2 & II-2/9, IMO 2010 FTP Code, IMO MSC/Circ.1120 and IMO MSC.1/Circ.1434

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

This Certificate is valid until **2023-01-21**.

Issued at **Hamburg** on **2018-01-22**

DNV GL local station:
Augsburg

Approval Engineer:
Timo Linn

Notified Body
No.: **0098**

for **DNV GL SE**

Sven Dudszus
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 European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment", signed February 27th, 2004.

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 SE 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.

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Product description
"Steel Bulkhead A-60"
Steel bulkheads with different insulation construction are listed in enclosed appendix.

(For latest revision of the appendix, see https://approvalfinder.dnvgl.com).

Application/Limitation
Approved for use as vertical fire retarding division of class A-60. Applications/Limitations see Appendix.

The insulation materials and adhesives used have to be approved according to the Marine Equipment Directive and bear the Mark of Conformity. This requirement may also be applicable for surface materials used, if required by relevant rules and regulations.

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

Type Examination documentation
Test report nos. :
PGA11096A dated 12 Oktober 2017
PGA10226 dated 7 March 2013,
PGA10223 dated 23 July 2013,
PGA10454 dated 21 July 2014 and
PGA10457 dated 24 July 2014, all from Danish Institute of Fire and Security Technology (DBI), Hvidovre, Denmark.

Assessment report nos. PHA10498b (alternative insulation on stiffeners) dated 15 January 2015,
PHA10498c (minimum thickness and density) dated 13 October 2014,
PHA10498d (position of joints) dated 16 December 2014,
PHA10498e (mounting methods for insulation on stiffeners) dated 24 November 2014,
PHA10498f (washers diameters 30mm) dated 15 July 2014,
PHA10498g (pin pattern) dated 28 November 2014.
All from Danish Institute of Fire and Security Technology (DBI), Hvidovre, Denmark.

Drawing no. AK2304 (4 pages) dated 11 December 2014 from SAINT-GOBAIN ISOVER G+H AG.

Tests carried out
Tested according to IMO 2010 FTP Code part 3.

Marking of product
The product or packing is to be marked with name of manufacturer, type designation, fire technical rating, the MED Mark of Conformity and USCG Approval Number if applicable (see first page).

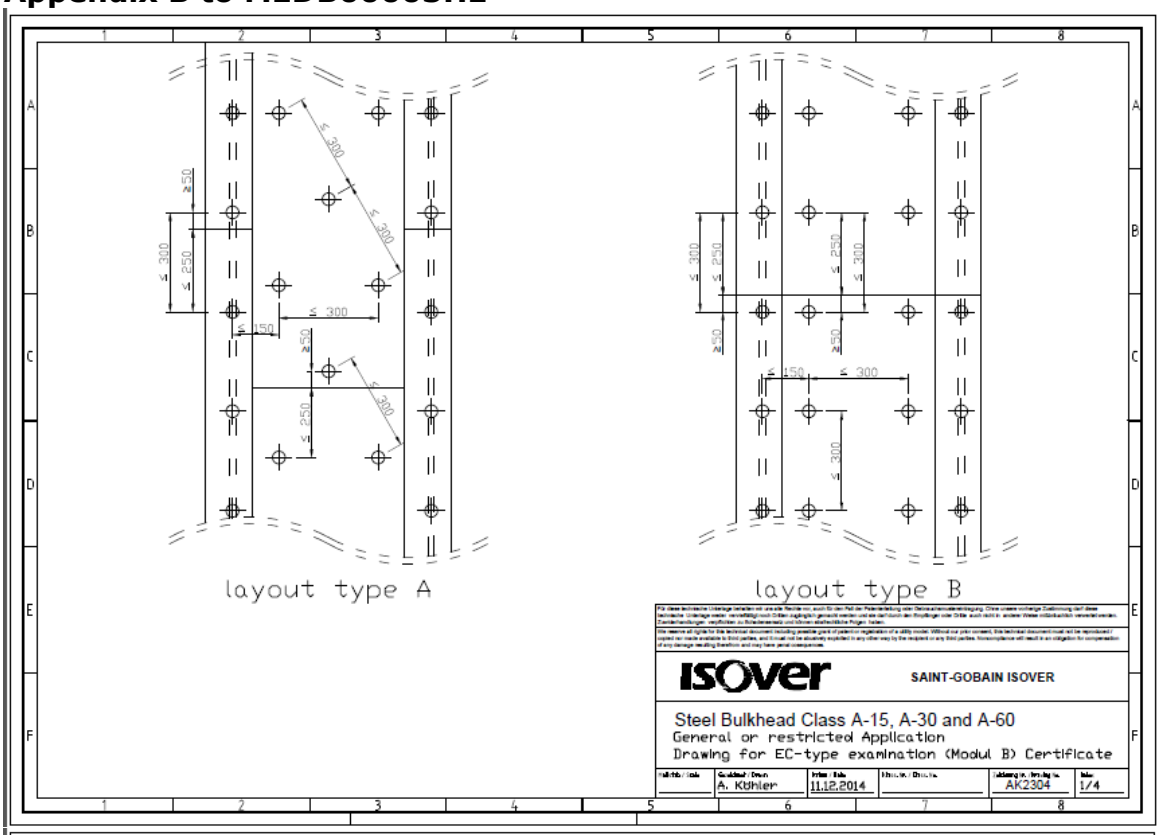
Appendix A to MEDB00003HE
Alternative constructions:

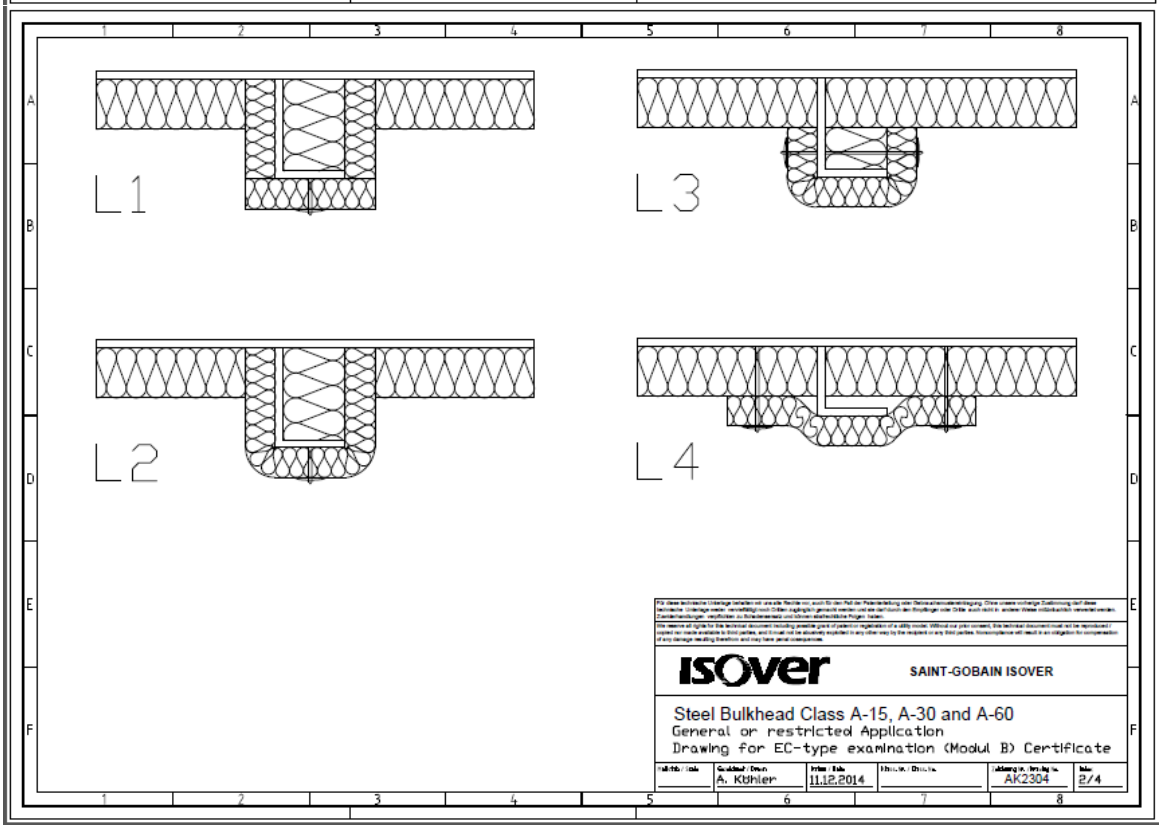
	Product Description	Application / Limitations	Type Approval Documentation
1	**"U SeaProtect 56/70 + 56/30"** Composed of a stiffened steel bulkhead insulated on stiffened side with min. 70 mm mineral wool of type U SeaProtect 56 (density 56 kg/m^3) from SAINT-GOBAIN ISOVER G+H AG. Min. 30 mm U SeaProtect 56 is fitted around the stiffeners. Insulation (U SeaProtect 56) is fitted inside the void of the stiffeners. The insulation is fasten with 3 mm steel pins and 30 or 38 mm steel washers. Distance between pins is maximum 300 mm. See drawing in appendix B for further details.	**Approved for use as a Class A-60 Bulkhead.** General application: Fire against either side. Insulation of same type (U SeaProtect from SAINT-GOBAIN ISOVER G+H AG) with density up to 86 kg/m^3 may be used.	Test report no. PGA10223 Assessment report nos. PHA10498c (minimum thickness and density) PHA10498d (position of joints) PHA10498e (mounting methods for insulation on stiffeners) PHA10498f (washers diameters 30mm) PHA10498g (pin pattern) Drawing no. AK2304
2	**"U SeaProtect 56/70 + 76/20"** Composed of a stiffened steel bulkhead insulated on stiffened side with min. 70 mm mineral wool of type U SeaProtect 56 (density 56 kg/m^3) from SAINT-GOBAIN ISOVER G+H AG. Min. 20 mm U SeaProtect 76 is fitted around the stiffeners. Insulation (U SeaProtect 56) is fitted inside the void of the stiffeners. The insulation is fasten with 3 mm steel pins and 30 or 38 mm steel washers. Distance between pins is maximum 300 mm. See drawing in appendix B for further details.	**Approved for use as a Class A-60 Bulkhead.** General application: Fire against either side. Insulation of same type (U SeaProtect from SAINT-GOBAIN ISOVER G+H AG) with density up to 86 kg/m^3 may be used.	Test report no. PGA10223 Assessment report nos. PHA10498b (alternative insulation on stiffeners) PHA10498c (minimum thickness and density) PHA10498d (position of joints) PHA10498e (mounting methods for insulation on stiffeners) PHA10498f (washers diameters 30mm) PHA10498g (pin pattern) Drawing no. AK2304
3	**"U SeaProtect 86/50 + 76/25"** Composed of a stiffened steel bulkhead insulated on stiffened side with min. 50 mm mineral wool of type U SeaProtect 86 (density 86 kg/m^3) from SAINT-GOBAIN ISOVER G+H AG. Min. 25 mm U SeaProtect 76 (density 76 kg/m^3) is fitted around the stiffeners. Insulation (U SeaProtect 76) is fitted inside the void of the stiffeners. The insulation is fasten with 3 mm steel pins and 30 or 38 mm steel washers. Distance between pins is maximum 300 mm. See drawing in appendix B for further details.	**Approved for use as a Class A-60 Bulkhead.** General application: Fire against either side. Insulation of same type (U SeaProtect from SAINT-GOBAIN ISOVER G+H AG) with density up to 86 kg/m^3 may be used.	Test report no. PGA10454 Assessment report nos. PHA10498b (alternative insulation on stiffeners = 56/30) PHA10498c (minimum thickness and density) PHA10498d (position of joints) PHA10498e (mounting methods for insulation on stiffeners) PHA10498g (pin pattern) Drawing no. AK2304

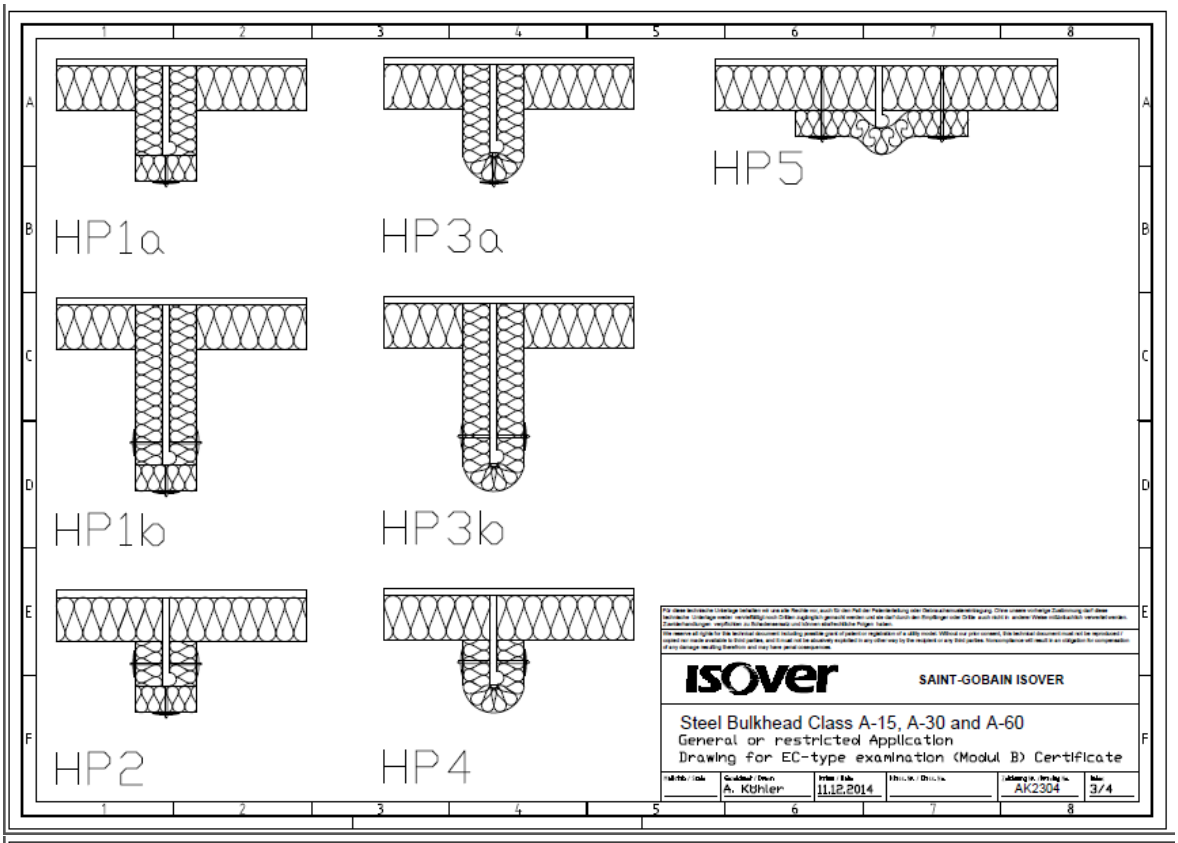
4	**"U SeaProtect 46/30 both sides + 46/30"** Composed of a stiffened steel bulkhead insulated on stiffened side with min. 30 mm mineral wool of type U SeaProtect 46 (density 46 kg/m^3) from SAINT-GOBAIN ISOVER G+H AG. Min. 30 mm U SeaProtect 46 is fitted around the stiffeners. Insulation (U SeaProtect 46) is fitted inside the void of the stiffeners. In addition the bulkhead is insulated with min. 30 mm U SeaProtect 46 on non-stiffened side. The insulation is fasten with 3 mm steel pins and 30 or 38 mm steel washers. Distance between pins is maximum 300mm. See drawing in appendix B for further details.	**Approved for use as a Class A-60 Bulkhead.** General application: Fire against either side. Insulation of same type (U SeaProtect from SAINT-GOBAIN ISOVER G+H AG) with density up to 86 kg/m^3 may be used.	Test report no. PGA10226 Assessment report nos. PHA10498c (minimum thickness and density) PHA10498d (position of joints) PHA10498e (mounting methods for insulation on stiffeners) PHA10498f (washers diameters 30mm) PHA10498g (pin pattern) Drawing no. AK2304
5	**"U SeaProtect 36/70 + 76/25"** Composed of a stiffened steel bulkhead insulated on stiffened side with min. 70 mm mineral wool of type U SeaProtect 36 (density 36 kg/m^3) from SAINT-GOBAIN ISOVER G+H AG. Min. 25 mm I U SeaProtect 76 (density 76 kg/m^3) is fitted around the stiffeners. Insulation (U SeaProtect 76) is fitted inside the void of the stiffeners. The insulation is fasten with 3 mm steel pins and 30 or 38 mm steel washers. Distance between pins is maximum 300 mm. See drawing in appendix B for further details.	**Approved for use as a Class A-60 Bulkhead.** Restricted application: Fire from insulated side only. Insulation of same type (U SeaProtect from SAINT-GOBAIN ISOVER G+H AG) with density up to 86 kg/m^3 may be used.	Test report no. PGA10457 Assessment report nos. PHA10498c (minimum thickness and density) PHA10498d (position of joints) PHA10498e (mounting methods for insulation on stiffeners) PHA10498g (pin pattern) Drawing no. AK2304
6	**"U SeaProtect 36/70 + 36/70"** Composed of a stiffened steel bulkhead insulated on stiffened side with min. 70 mm mineral wool of type U SeaProtect 36 (density 36 kg/m^3) from SAINT-GOBAIN ISOVER G+H AG. Min. 70 mm U SeaProtect 36 (density 36 kg/m^3) is fitted around the stiffeners. Insulation (U SeaProtect 76) is fitted inside the void of the stiffeners. The insulation is fasten with 3 mm steel pins and 30 or 38 mm steel washers. Distance between pins is maximum 300 mm. See drawing in appendix B for further details.	**Approved for use as a Class A-60 Bulkhead.** Restricted application: Fire from insulated side only. Insulation of same type (U SeaProtect from SAINT-GOBAIN ISOVER G+H AG) with density up to 86 kg/m^3 may be used.	Test report no. PGA10457 Assessment report nos. PHA10498b (alternative insulation on stiffeners) PHA10498c (minimum thickness and density) PHA10498d (position of joints) PHA10498e (mounting methods for insulation on stiffeners) PHA10498g (pin pattern) Drawing no. AK2304

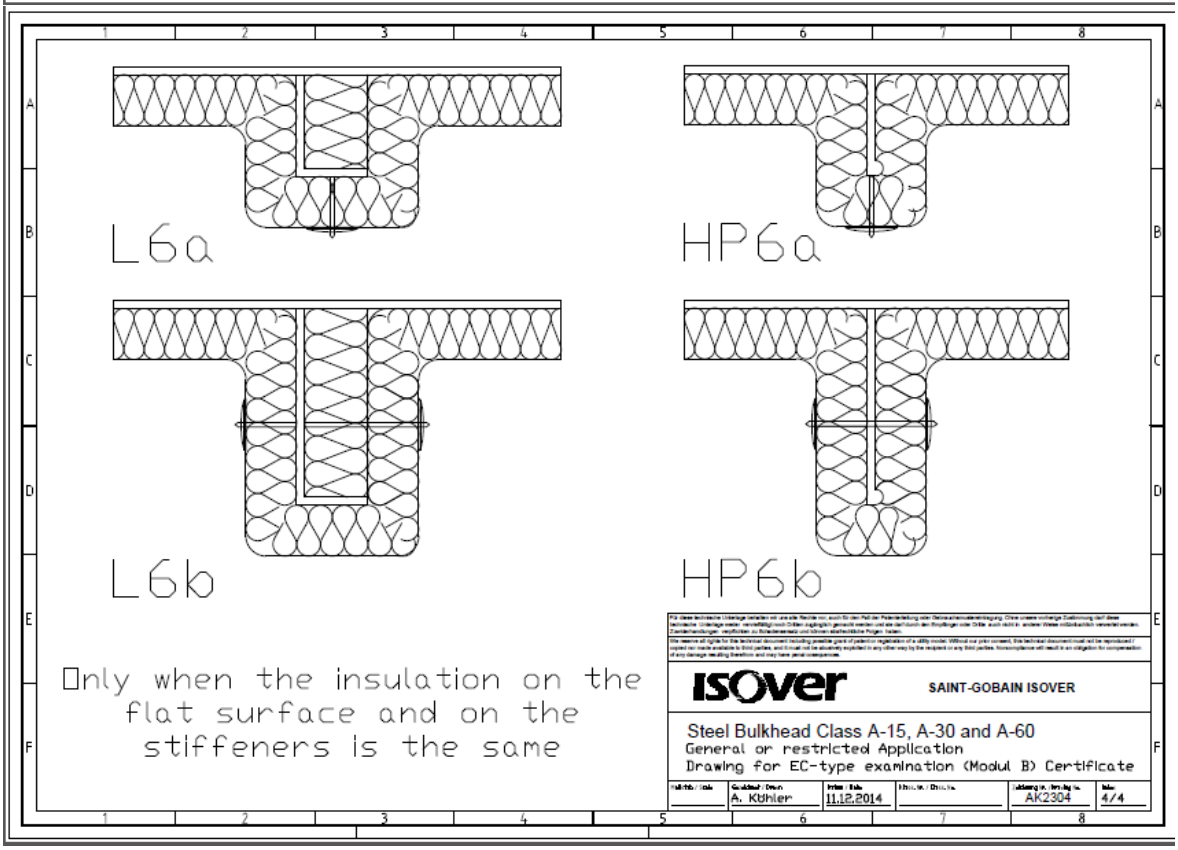
7	"U SeaProtect 56/60 + 76/20" Composed of a stiffened steel bulkhead insulated on stiffened side with min. 60 mm mineral wool type U SeaProtect 56 (min. density 56 kg/m^3). Min. 20 mm U SeaProtect 76 (min. density 76 kg/m^3) is fitted around the stiffeners. The insulation is fasten with 3 mm steel pins and 30 or 38 mm steel washers. Distance between pins is maximum 300 mm.	Approved for use as a A-60 Class Bulkhead, General application (fire against either side) Insulation of same type U SeaProtect with density up to 86 kg/m^3 may be used.	Test report PGA11096A Assessment report nos. PHA10498c (minimum thickness and density) PHA10498d (position of joints) PHA10498e (mounting methods for insulation on stiffeners) PHA10498f (washers diameters 30mm) PHA10498g (pin pattern) Drawing no. AK2304

Appendix B to MEDB00003HE






HP1a
HP3a
HP5
HP1b
HP3b
HP2
HP4
ISOVER
SAINT-GOBAIN ISOVER
Steel Bulkhead Class A-15, A-30 and A-60
General or restricted Application
Drawing for EC-type examination (Modul B) Certificate
A. Kühler
11.12.2014
AK2304
3/4


L6a
HP6a
L6b
HP6b
Only when the insulation on the flat surface and on the stiffeners is the same
ISOVER
SAINT-GOBAIN ISOVER
Steel Bulkhead Class A-15, A-30 and A-60
General or restricted Application
Drawing for EC-type examination (Modul B) Certificate
A. Kühler
11.12.2014
AK2304
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