

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00000AT
Revision No:
4

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 corrugated bulkhead

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) 2019/1397**,
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, IMO MSC.1/Circ.1435.

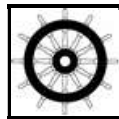
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2025-02-04**.

Issued at **Hamburg** on **2020-06-25**

DNV GL local station:
Augsburg

Approval Engineer:
Timo Linn



Notified Body
No.: **0098**



for **DNV GL SE**
Digitally Signed By: Mydlak-Röder, Christine
Location: DNV GL Hamburg, Germany
on behalf of

Gerhard Aulbert
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, and amended by Decision No 1/2018 dated February 18th, 2019.

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Job Id: **344.1-004262-25**
Certificate No: **MEDB00000AT**
Revision No: **4**

Product description

"Steel corrugated bulkhead"

Composed of a corrugated steel bulkhead made of 2 mm steel core with corrugation dimensions: 58.49x175.47x35 mm, pitch 233.96 mm. The bulkhead is insulated with two layers of mineral wool of type U SeaProtect 66 (density 66 kg/m³) from SAINT-GOBAIN ISOVER G+H AG. Each layer is min. 40 mm thick, and is fitted on top of the corrugations with staggered joints.

30 mm thick additional insulation may be fitted inside the corrugation of the bulkhead.

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 mentioned under Type Examination documents for further details

Application/Limitation

Approved for use as a non-loadbearing fire retarding vertical division of class A-60.

Insulation of the same type (U SeaProtect from Saint-Gobain Isover G+H AG) with density up to 86 kg/m³ may be used.

The use of this product shall be limited to applications specifically approved by the Administration in question, see IMO 2010 FTP Code part 3, Appendix 1, items 1.12 and 1.13. The construction shall in any case not be used as part of main fire zone bulkheads and stairways enclosures on passenger ships (see also IMO MSC/Circ.1005).

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. PGA10522 dated 29 September 2014 from Danish Institute of Fire and Security Technology (DBI), Hvidovre, Denmark.

Supplement to test Report PGA10522 dated 10th of May 2017 from Danish Institute of Fire and Security Technology (DBI), Hvidovre, Denmark.

Assessment report no. PHA10498c dated 16 December 2019 and no. PHA10699A (no insulation in corrugation) dated 3 August 2015 both from Danish Institute of Fire and Security Technology (DBI), Hvidovre, Denmark.


Drawing no. AK2301 (6 pages) dated 18 June 2014 from SAINT-GOBAIN ISOVER G+H AG.

Tests carried out

Tested according to IMO Resolution MSC.307(88) – 2010 FTP Code Annex 1, Part 3

Marking of product

The product or packing is to be marked with name and address of manufacturer, type designation, MED Mark of Conformity (see page 1) and USCG approval number, if applicable.



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Revision No: **4**

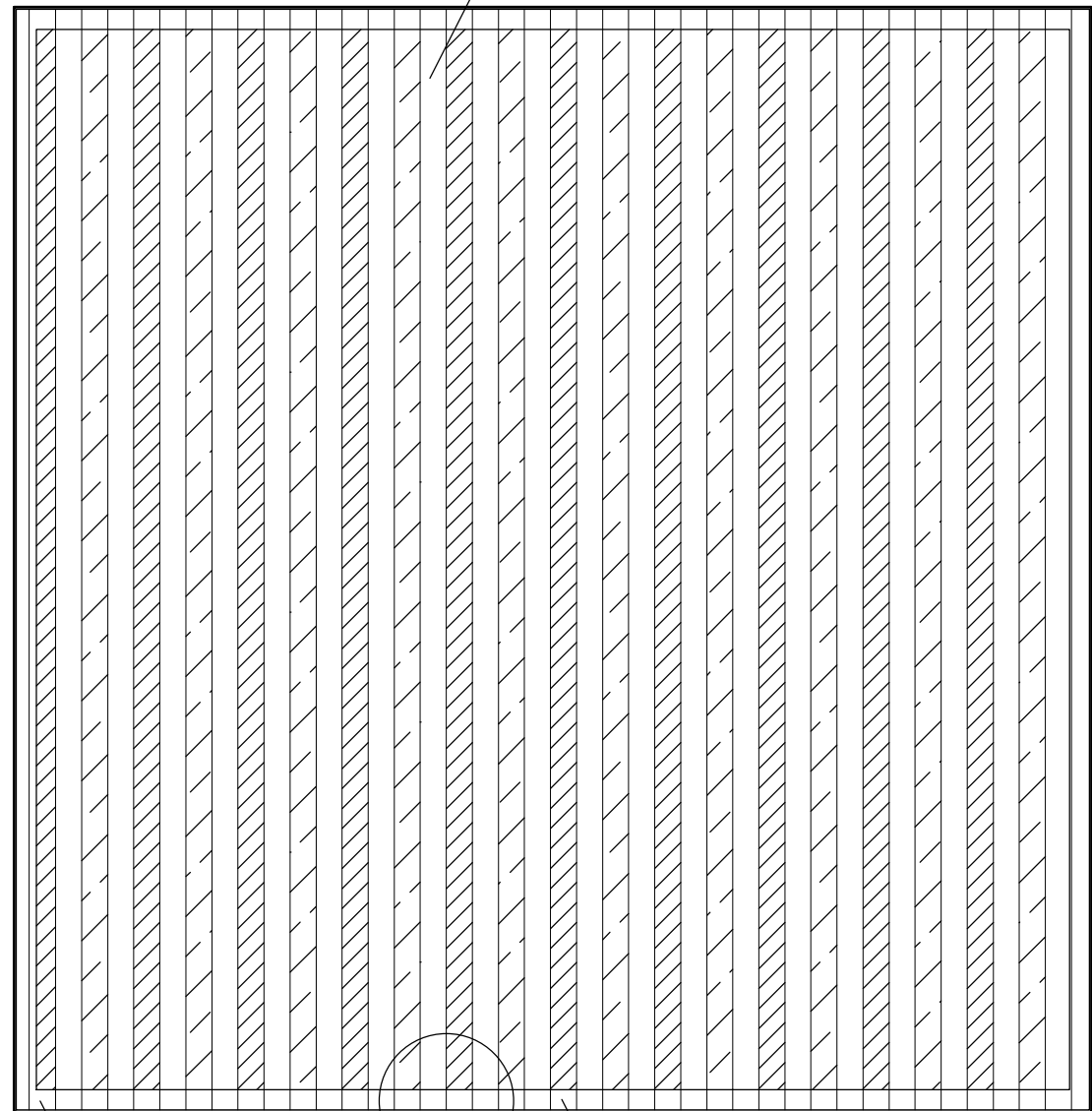
USCG Approval Category (Module B) number

This product has been assigned a U.S. Coast Guard Module B number 164.108/EC0098 to note type approval to Module B only as it pertains to obtaining US 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 and amended by Decision No.1/2018 dated February 18th, 2019.

view from unexposed side

concrete frame, 2420mm
corrugated steel, 2410mm (if in 2 slabs: 2x 1205mm + welded in the middle)

corrugated bulkhead



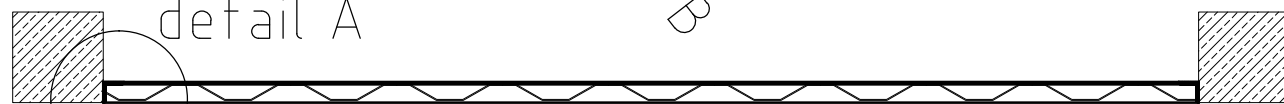
corrugated steel, 2470mm
concrete frame, 2480mm

steel angle bar, circumferential

corrugated bulkhead welded to steel angle bar on all contact surfaces

detail A

detail B



fire side exposed side

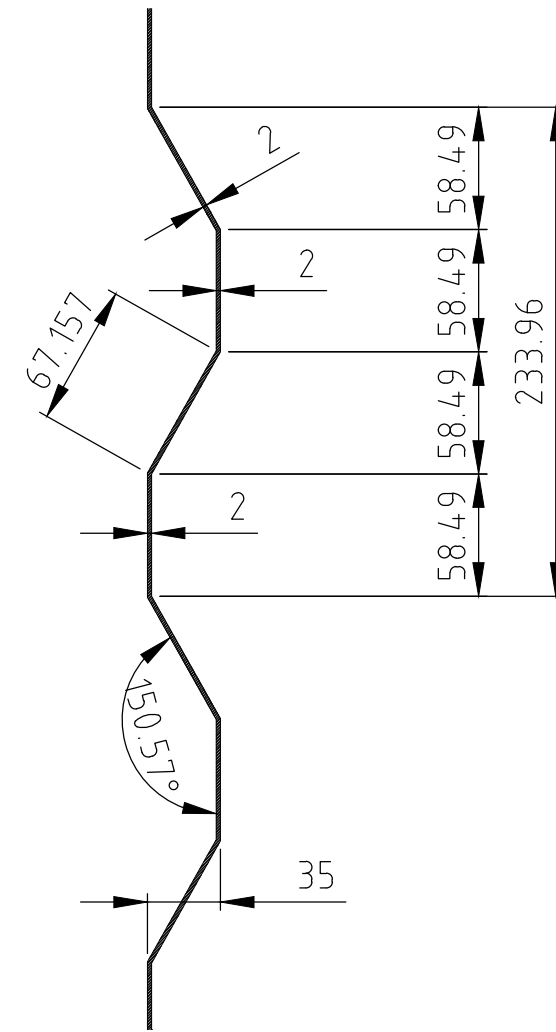
fire side exposed side

fire side exposed side

fire side exposed side



fire side
exposed side



description	specification	manufacturer
bulkhead	corrugated steel, 2mm	
angle bar	steel, 45x45x5mm	
Insulation	ULTIMATE U MPN 66, 30mm	Saint-Gobain Isover
Insulation	ULTIMATE U MPN 66, 40mm	Saint-Gobain Isover
clips	steel, ϕ 38mm	Hilbig
pins	steel, 3mm x 140mm	Hilbig

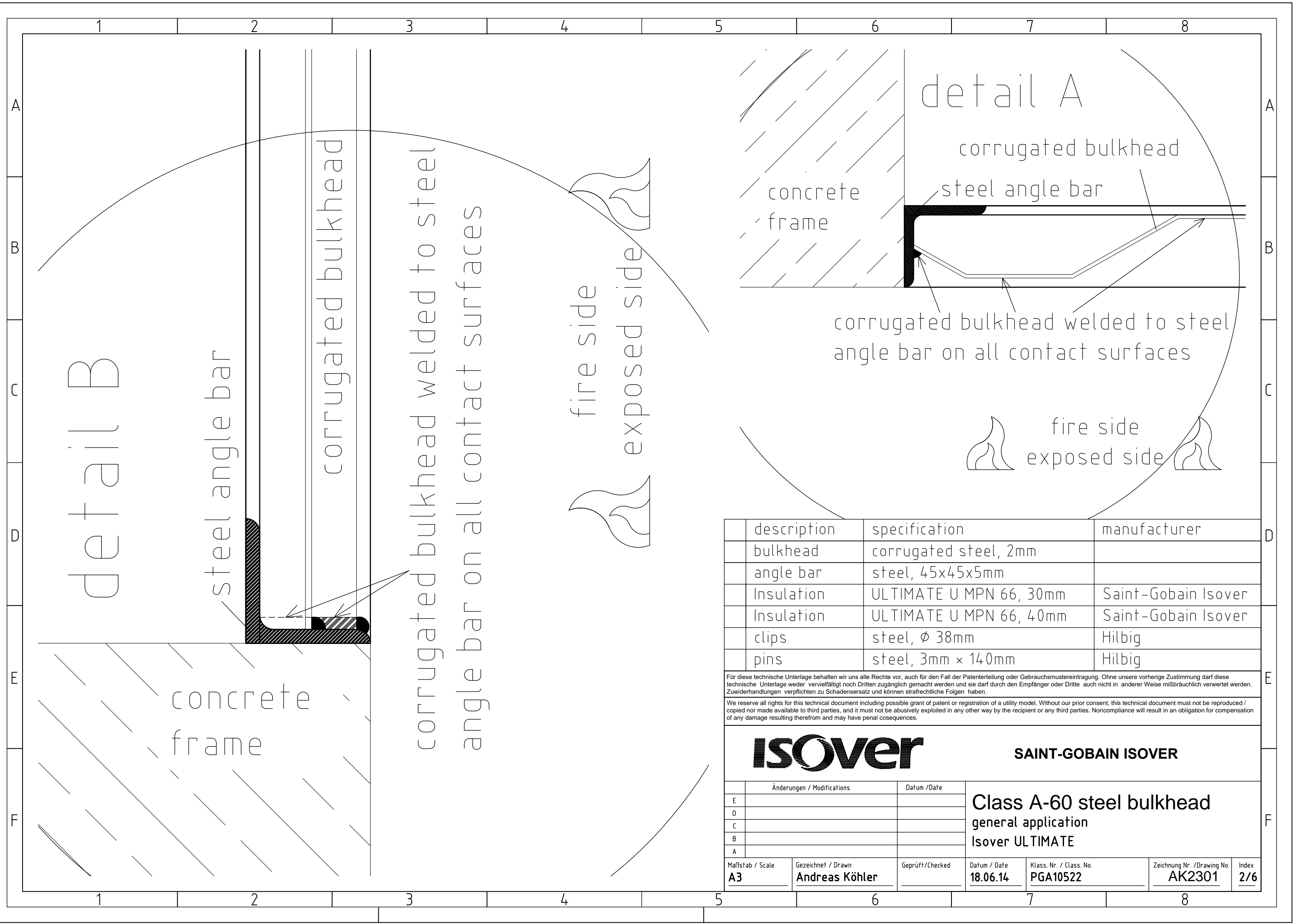
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ISOVER

SAINT-GOBAIN ISOVER

Änderungen / Modifications		Datum /Date		Class A-60 steel bulkhead general application Isover ULTIMATE				
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Maßstab / Scale	Gezeichnet / Drawn	Geprüft / Checked	Datum / Date	Klass. Nr. / Class. No.	Zeichnung Nr. / Drawing No.	Index		
A3	Andreas Köhler		18.06.14	PGA10522	AK2301	1/6		



detail B

steel angle bar

corrugated bulkhead

corrugated bulkhead welded to steel angle bar on all contact surfaces

fire side
exposed side

concrete frame

detail A

corrugated bulkhead

steel angle bar

concrete frame

corrugated bulkhead welded to steel angle bar on all contact surfaces

fire side
exposed side

description	specification	manufacturer
bulkhead	corrugated steel, 2mm	
angle bar	steel, 45x45x5mm	
Insulation	ULTIMATE U MPN 66, 30mm	Saint-Gobain Isover
Insulation	ULTIMATE U MPN 66, 40mm	Saint-Gobain Isover
clips	steel, ϕ 38mm	Hilbig
pins	steel, 3mm x 140mm	Hilbig

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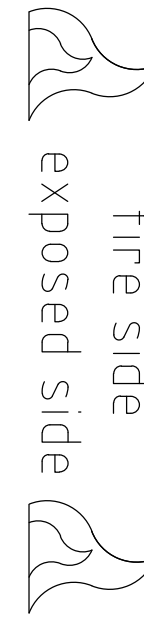
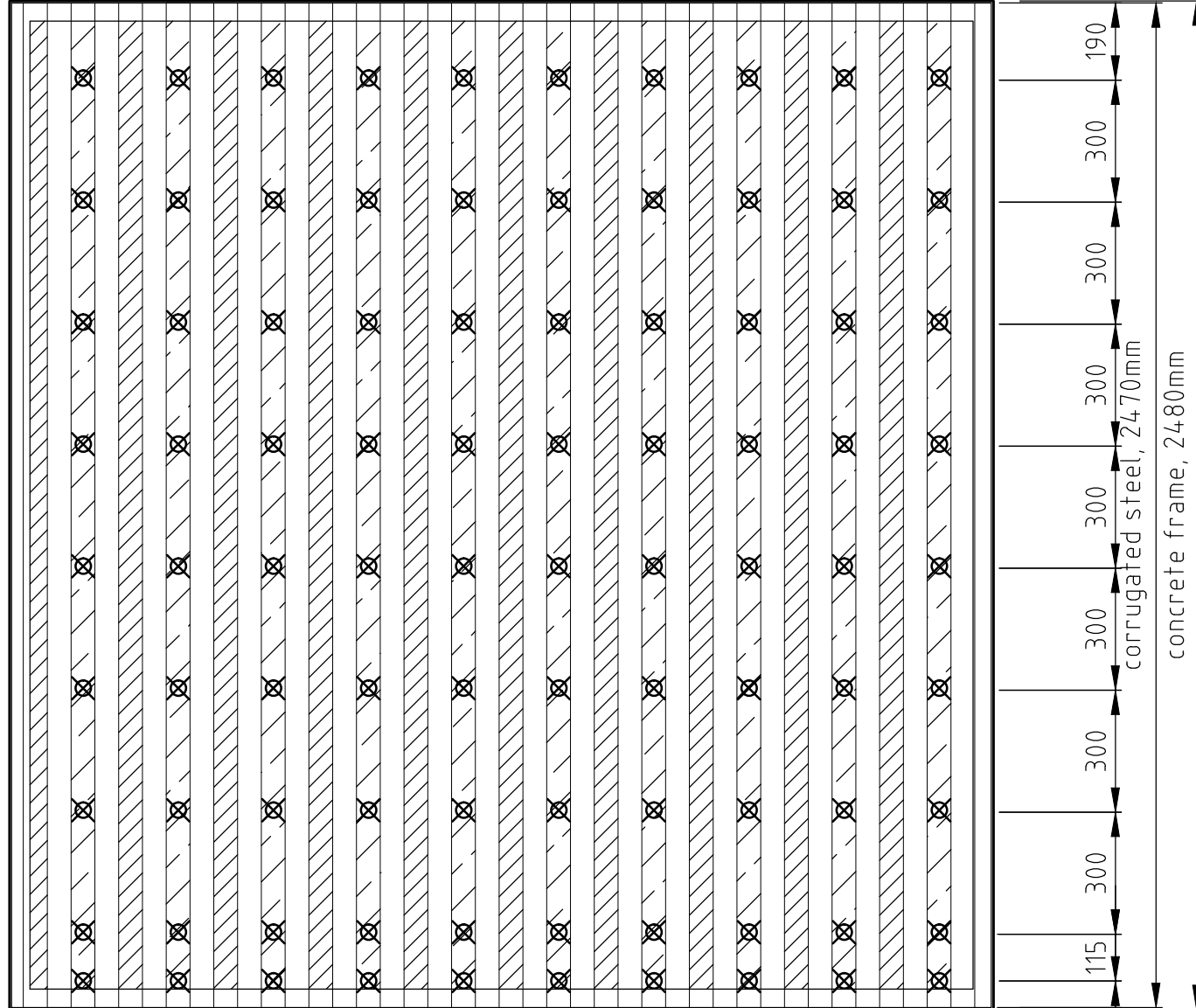
Änderungen / Modifications		Datum / Date		Class A-60 steel bulkhead general application Isover ULTIMATE				
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A3	Andreas Köhler		18.06.14	PGA10522	AK2301	2/6		

view from unexposed side

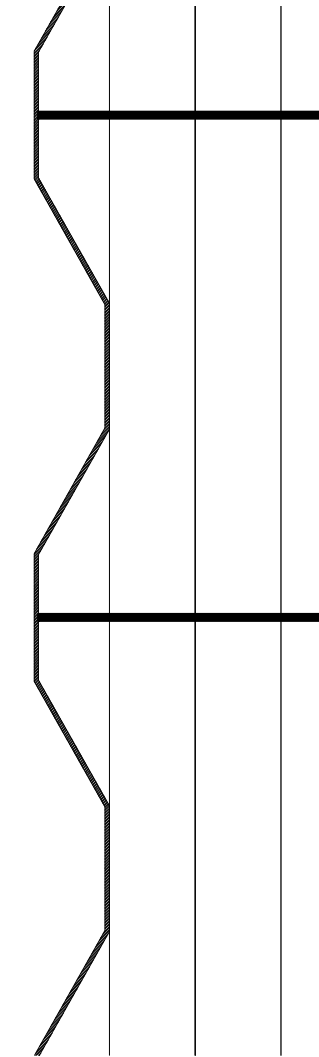
concrete frame, 2420mm

2410

180 234 234 234 234 234 234 234 234 234 128



fire side
exposed side



description	specification	manufacturer
bulkhead	corrugated steel, 2mm	
angle bar	steel, 45x45x5mm	
Insulation	ULTIMATE U MPN 66, 30mm	Saint-Gobain Isover
Insulation	ULTIMATE U MPN 66, 40mm	Saint-Gobain Isover
clips	steel, ϕ 38mm	Hilbig
pins	steel, 3mm x 140mm	Hilbig

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SAINT-GOBAIN ISOVER

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Class A-60 steel bulkhead			
general application			
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A3	Andreas Köhler		18.06.14	PGA10522	AK2301	3/6



fire side exposed side

view from unexposed side

concrete frame, 2420mm

2410

175

175

175

175

175

175

175

175

175

175

430

930

930

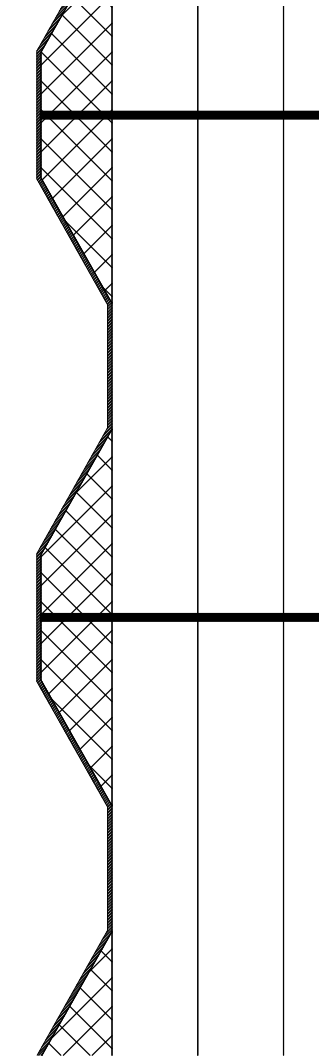
180

corrugated steel, 2470mm

concrete frame, 2480mm



fire side
exposed side



description	specification	manufacturer
bulkhead	corrugated steel, 2mm	
Insulation	ULTIMATE U MPN 66, 30mm	Saint-Gobain Isover
clips	steel, ϕ 38mm	Hilbig
pins	steel, 3mm x 140mm	Hilbig

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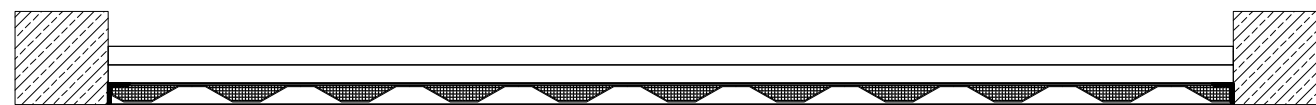
ISOVER

SAINT-GOBAIN ISOVER

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fire side
exposed side

fire side
exposed side

fire side
exposed side

fire side
exposed side

view from unexposed side

concrete frame, 2420mm

2410

~ 580

930

930

310

600

600

600

360

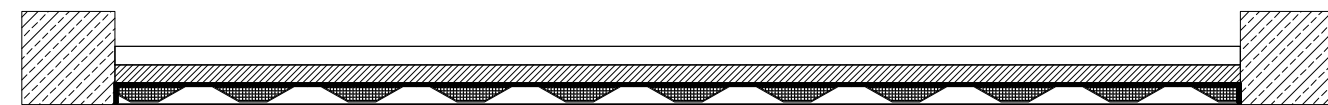
corrugated steel, 2470mm

concrete frame, 2480mm

815

930

~ 690



fire side exposed side

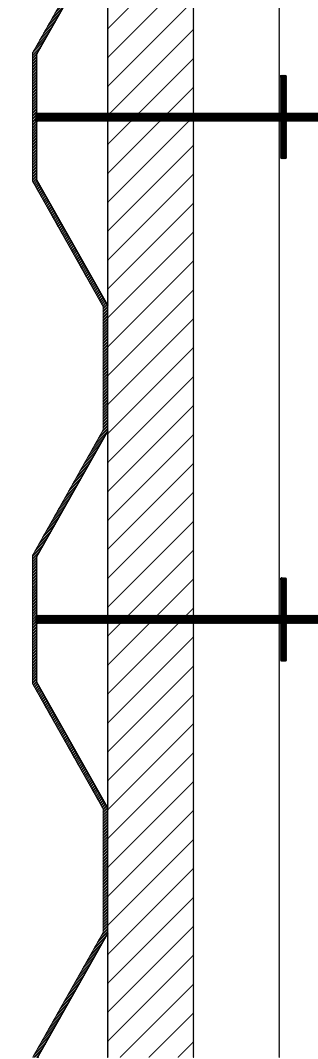
fire side exposed side

fire side exposed side

fire side exposed side



fire side
exposed side



description	specification	manufacturer
bulkhead	corrugated steel, 2mm	
Insulation	ULTIMATE U MPN 66, 40mm	Saint-Gobain Isover
clips	steel, ϕ 38mm	Hilbig
pins	steel, 3mm x 140mm	Hilbig

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view from unexposed side

concrete frame, 2420mm

2410

1050

930

~460

540

600

600

600

130

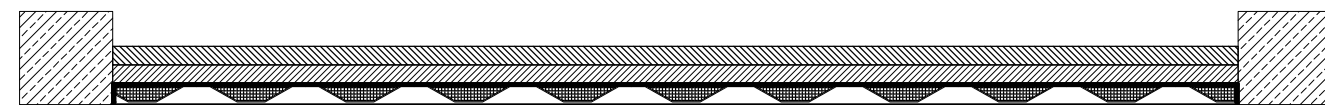
corrugated steel, 2470mm

concrete frame, 2480mm

~330

960

1150

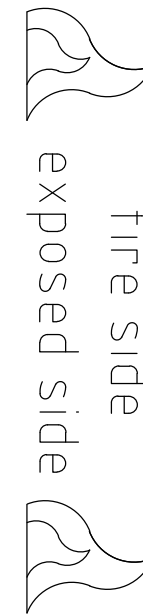


fire side exposed side

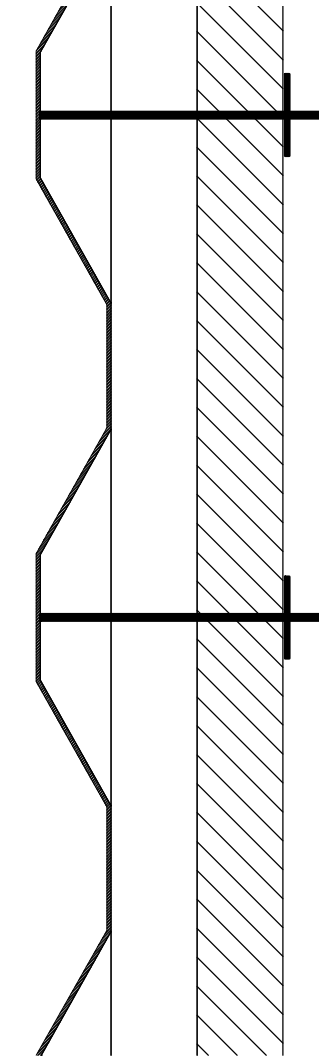
fire side exposed side

fire side exposed side

fire side exposed side



fire side exposed side



description	specification	manufacturer
bulkhead	corrugated steel, 2mm	
insulation	ULTIMATE U MPN 66, 40mm	Saint-Gobain Isover
clips	steel, ϕ 38mm	Hilbig
pins	steel, 3mm x 140mm	Hilbig

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ISOVER

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Class A-60 steel bulkhead
 general application
 Isover ULTIMATE

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