

# PAROC® MARINE LIGHTWEIGHT SOLUTIONS



**PAROC®**



## LOW ENERGY CONSUMPTION WITH NEW LIGHTWEIGHT SOLUTIONS

*Requirements on the shipbuilding and offshore industry are becoming increasingly stringent worldwide, both from economic and ecological perspectives. Ship owners, shipbuilders, naval architects and marine engineers have all prioritized a sustainable approach, including a focus on environmental protection, operational efficiency, resource conservation, safety and comfort. Paroc Light Marine solutions are suited for all marine and offshore projects.*

### NEW FAMILY OF LIGHTWEIGHT SOLUTIONS

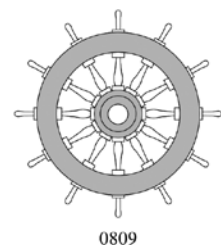
Paroc Light Marine are the new lightweight solutions for fire insulated decks and bulkheads in aluminium and steel constructions. The solutions weigh less, yet provides high fire protection, as well as good thermal and sound insulation properties.

### PAROC STONEWOOL

PAROC® Stonewool™ is sustainable, high-quality insulation with superior product properties and meets demands from the marine and offshore industry in terms of sustainability, fire safety and comfort.

### BENEFITS

- **Financial benefits**
- **Lower operating costs**
- **Reduced weight**
- **Increased speed**
- **Lower fuel consumption**
- **Decrease in emissions**



# A-CLASS STEEL DECKS AND BULKHEADS

Paroc's lightweight solutions for A-class steel decks and bulkheads can be done with one product or combining slabs and mats. The density and the thickness is always the same, no matter which products are used. The new solutions are easiest to design and install on market.

## EASY DESIGN

Designing and installing A-class steel solutions with PAROC Marine Navis products is very easy. The new solutions offer designers a full set of products to choose from. **PAROC Marine Navis Slab 60**, **PAROC Marine Navis Mat 60** and **PAROC Marine Navis Wired Mat 60** are all approved for A-class steel solutions. The density and thickness of the products is always the same no matter which product is used in the construction.

With a weight reduction of up to 40% this solution creates new opportunities for the specifiers in terms of lightship and deadweight tonnage.

## MULTIPLE COMBINATIONS

All below mentioned products are approved for A-class steel decks and bulkheads. Products can be used in different combinations, also combining slabs and mats in same application.

- **PAROC Marine Navis Slab 60**  
(can be covered with facings: AluCoat, G1, G2, G3, G4, G7 and LF1)
- **PAROC Marine Navis Mat 60**  
(facings: AluCoat)
- **PAROC Marine Navis Wired Mat 60**  
(facings: AluCoat, G1, G2, G4, G7 and LF1)

## ADVANTAGES LIGHT MARINE A-CLASS STEEL SOLUTIONS

- **Up to 40% weight reduction**
- **Only 1 density - several installation possibilities**
- **Easy design**
- **Efficient logistics**
- **Always the same thickness on stiffeners**
- **Flexible installation**

# 40%

LIGHTER STEEL SOLUTIONS

IMO 2010 FTPC level / stiffener				
Class	Nominal density kg/m <sup>3</sup>	Insulating thickness mm	Weight kg/m <sup>2</sup>	Sound reduction R <sub>w</sub> (C, Ctr), dB
<b>Steel Decks - Navis Slabs or Mats</b>				
A60	60	50/30	3,0/1,8	47 (-1, -6)
A30	60	30/30	1,8/1,8	46 (-2, -6)
<b>Steel Bulkheads - Navis Slabs or Mats</b>				
A60	60	60/30	3.6/1,8	47 (-1, -6)
A30	60	40/30	2,4/1,8	47 (-2, -6)

## ONLY ONE DENSITY - SEVERAL INSTALLATION POSSIBILITIES

Mats and slabs can be used in the same installation in various combinations. The density and the thickness is always the same, no matter which products are used. Below are just a few examples.

ONLY **1**  
DENSITY NEEDED



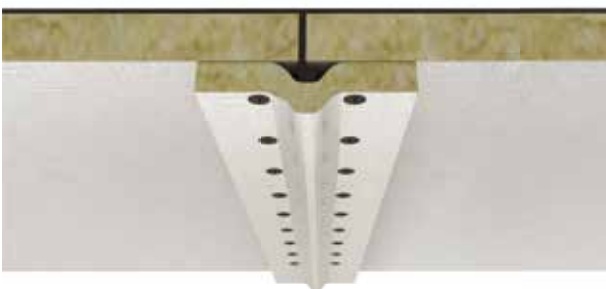
*Mat on stiffeners, slabs between stiffeners*



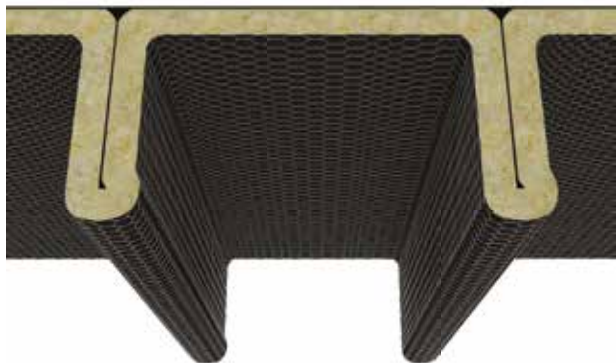
*Slab installation*



*Wired mat installation*



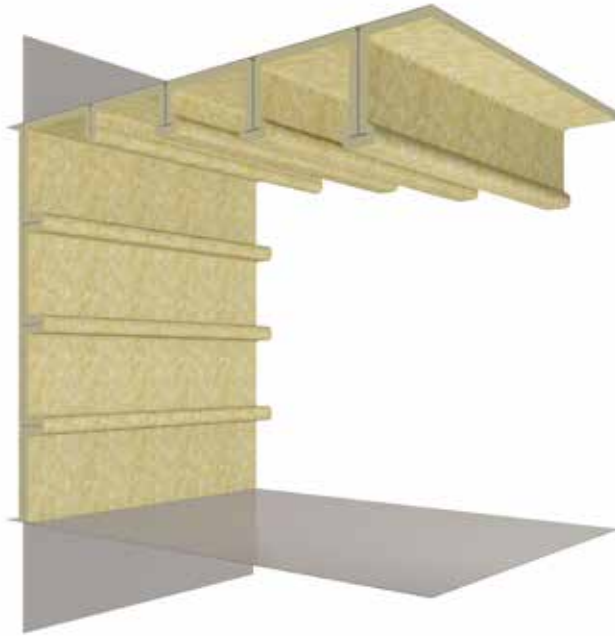
*Alternative stiffener installation*



*Continuous wired mat installation*

# A60 ALUMINIUM DECKS AND BULKHEADS

*PAROC Light Marine A60 aluminium solutions are tested and approved for 4 mm and 6 mm thick aluminium decks and bulkheads.*



# 40%

**LIGHTER ALUMINIUM SOLUTIONS**

## ADVANTAGES LIGHT MARINE A60 ALUMINIUM SOLUTIONS

- **40% lighter solutions**
- **Solutions for 4 mm and 6 mm aluminium constructions**
- **All one-layer solutions**
- **Also for restricted bulkheads**
- **Easy design**
- **Efficient logistics**
- **Flexible installation**

## REMARKABLE WEIGHT AND COST SAVINGS

Paroc lightweight solutions for A60 aluminium constructions enable significant weight and cost reductions in the ship building industry. The total weight of the construction decreases significantly, which brings huge savings in running costs. Taking into account the price of the aluminium the total cost savings are remarkable.

PAROC Light Marine A60 aluminium solutions are tested and approved for 4 mm and 6 mm thick aluminium constructions. There is a solution also for restricted bulkheads.

### The products approved for A60 aluminium decks and bulkheads are:

For 6 mm aluminium constructions:

- **PAROC Marine Navis Mat 60** (facing: AluCoat)
- **PAROC Marine Navis Wired Mat 60** (facings: AluCoat, G1, G2, G4, G7 and LF1)

For 4 mm aluminium constructions:

- **PAROC Marine Navis Mat 90** (facing: AluCoat)
- **PAROC Marine Navis Wired Mat 90** (facings: AluCoat, G1, G2, G4, G7 and LF1)



## ONLY ONE DENSITY, ONE THICKNESS AND ONE INSULATION LAYER NEEDED

Paroc lightweight solutions for 6 mm thick A60 aluminium constructions are based on only product PAROC Marine Navis Mat 60. Insulating thickness on both decks and stiffeners is 60 mm which makes the design less complex. The installation work is easier with a lighter product and only one insulation layer is needed for all constructions. This solution is available also for restricted bulkheads.



**1**  
ONLY

DENSITY, THICKNESS, LAYER



### A60 Aluminium Bulkhead / Bulkhead Restricted

Insulating thickness on level and on stiffener (mm)	60
Weight kg / m <sup>2</sup>	7,2 / 3,6-6)

### A60 Aluminium Deck

Insulating thickness on level and on stiffener (mm)	60
Weight kg / m <sup>2</sup>	3,6

## A60 ALUMINIUM SOLUTIONS FOR 4 MM ALUMINIUM CONSTRUCTIONS

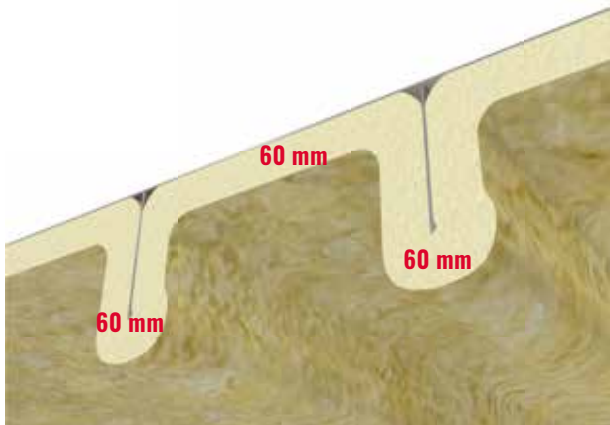
Paroc lightweight solutions for 4 mm thick A60 aluminium constructions are based on only one product PAROC Marine Navis Mat 90 in two thicknesses; 60 mm on decks and 70 mm on bulkheads.

### A60 Aluminium Deck

Insulating thickness on level and on stiffener (mm)	60
Weight kg / m <sup>2</sup>	5,4

### A60 Aluminium Bulkhead

Insulating thickness on level and on stiffener (mm)	70 on both sides
Weight kg / m <sup>2</sup>	6,3



# B15 EXTENDED WALL

*The new 40% lighter solution for B15 wall extension is based on one single product; PAROC Marine Navis Slab 100 AluCoat, 30 mm.*

## EASY DESIGN

The target in the development work of the new lightweight wall extension solution was to make it as easy as possible to design and also quick to install. The new solution is independent of the wall support profiles. The product used for the solution, PAROC Marine Navis Slab 100 AluCoat is rigid enough to make a perfect wall extension. However, it is only 30 mm thick, which means that penetrations can be done easily.

## QUICK INSTALLATION

Installation is quick because only one product in one thickness is needed for the wall extension construction. Also, for B15 wall extension same pins and washers can be used as for other solutions and that makes installation convenient.

Installation animation video available on Paroc Group channel in Youtube.





**DURABLE**

PAROC® stands for energy-efficient and fire safe insulation solutions of stone wool for new and renovated buildings, marine and offshore, acoustics and other industrial applications. Behind those products, there is an 80-year history of stone wool production knowhow backed with technical insulation expertise and innovation.



**REUSABLE**

Building Insulation offering covers a wide range of products and solutions for all traditional building insulation. The building insulation products are mainly used for the thermal, fire and sound insulation of exterior walls, roofs, floors and basements, intermediate floors and partitions. Sound absorbing ceilings and wall panels for interior acoustic control, as well as industrial noise control products, are available in the range.



**SOUND  
REDUCING**

Technical Insulation offering includes thermal, fire and sound insulation in HVAC systems, industrial processes and pipework, industrial equipment as well as shipbuilding and offshore industry.



**FIRE PROOF**

For more information please visit [www.paroc.com](http://www.paroc.com)



**MOISTURE  
PROOF**



**SAFE**



**ENERGY  
EFFICIENT**

Technical information contained herein is furnished without charge or obligation and is given and accepted at recipient's sole risk. Because conditions of use may vary and are beyond our control, Paroc makes no representation about, and is not responsible or liable for the accuracy or reliability of data associated with particular uses of any product described herein. Paroc reserves the right to modify this document without prior notice.

February 2020  
1220TIEN0319  
© Paroc Group 2019

