

# ULTIMATE U SeaProtect range



## New product name structure:

Because it is so important to be able to find a product needed quickly and in a simple way.

ULTIMATE	Product range	Product Form	Density (kg/m <sup>3</sup> )	Facing	Thickness (mm)
U	SeaProtect	Roll	24	Alu1 → unfaced G120 → Aluminium G220 → Glass cloth (black) G420 → Glass cloth (white) B-Al → B Facing <sup>1)</sup> (Alu outside) B-GI → B Facing <sup>1)</sup> (Glass cloth outside)	20 mm
			36		25 mm
		Slab	56		30 mm
			76		40 mm
		Wired Mat	86		50 mm
			90		70 mm
...	100 mm				

## Fire protection solutions for Steel constructions following FTP Code 2010

<b>Standard Design</b> Lightweight and Easy Logistics 4 products to cover all Steel A-Fire Classifications, it is all what it takes.					
STEEL	Plate		Stiffener		Complete solution
	Products <sup>2)</sup>	Weight [ kg/m <sup>2</sup> ]	Products <sup>2)</sup>	Weight [ kg/m <sup>2</sup> ]	Weight [ kg/m <sup>2</sup> ] <sup>3)</sup>
A-15 Bulkhead	U SeaProtect Slab 24 50mm or U SeaProtect Roll 24 50mm	1,20	U SeaProtect Slab 76 25mm U SeaProtect Slab 24 50mm or U SeaProtect Roll 24 50mm	1,90 1,20	2,53 2,04
A-30 Bulkhead A-60 Bulkhead Restricted	U SeaProtect Slab 36 70mm or U SeaProtect Roll 36 70mm	2,52	U SeaProtect Slab 76 25mm	1,90	3,85
A-60 Bulkhead	U SeaProtect Slab 56 70mm	3,92	U SeaProtect Slab 76 25mm	1,90	5,25
A-15 Deck A-30 Deck	U SeaProtect Slab 24 50mm or U SeaProtect Roll 24 50mm	1,20	U SeaProtect Slab 76 25mm U SeaProtect Slab 24 50mm or U SeaProtect Roll 24 50mm	1,90 1,20	2,53 2,04
A-60 Deck	U SeaProtect Slab 36 70mm or U SeaProtect Roll 36 70mm	2,52	U SeaProtect Slab 76 25mm	1,90	3,85

<b>Thin Design</b> Thin Solutions between and around the stiffeners.					
STEEL	Plate		Stiffener		Complete solution
	Products <sup>2)</sup>	Weight [ kg/m <sup>2</sup> ]	Products <sup>2)</sup>	Weight [ kg/m <sup>2</sup> ]	Weight [ kg/m <sup>2</sup> ] <sup>3)</sup>
A-15 Bulkhead	U SeaProtect Slab 66 30mm	1,98	no insulation around stiffeners	–	1,98
A-30 Bulkhead Restricted	U SeaProtect Slab 46 40mm	1,84	U SeaProtect Slab 46 30mm	1,38	2,81
A-30 Bulkhead	U SeaProtect Slab 36 70mm or U SeaProtect Roll 36 70mm	2,52	U SeaProtect Slab 76 20mm	1,52	3,58
	U SeaProtect Slab 76 40mm	3,04	U SeaProtect Slab 76 20mm or U SeaProtect Slab 76 25mm	1,52 1,90	4,10 4,37
A-60 Bulkhead	U SeaProtect Slab 86 50mm	4,30	U SeaProtect Slab 76 25mm	1,90	5,63
A-15 Deck	U SeaProtect Slab 36 70mm or U SeaProtect Roll 36 70mm	2,52	no insulation around stiffeners	–	2,52
A-15 Deck A-30 Deck	U SeaProtect Slab 24 50mm or U SeaProtect Roll 24 50mm	1,20	U SeaProtect Slab 76 20mm	1,52	2,26
	U SeaProtect Slab 76 25mm	1,90	U SeaProtect Slab 76 20mm or U SeaProtect Slab 76 25mm	1,52 1,90	2,96 3,23
A-60 Deck	U SeaProtect Slab 66 50mm	3,30	U SeaProtect Slab 76 25mm	1,90	4,63

Products highlighted in colors are part of the ISOVER U SeaProtect Easy Logistics Portfolio. These products are available with a low Minimum Order Quantity (equivalent to 1 pallet) for various facings, please contact your local ISOVER representative.

- 1) B Facing is a laminated composite facing combining Glass cloth and Aluminum foil.
- 2) All U SeaProtect products are available for each construction with different facings approved by a recognized test laboratory (Alu facing Alu1, Glass cloth facings G120, G220, G420, B facing, etc.).
- 3) Estimation of the weight for the complete solution is based on the surface ratio traditionally used in Marine industry of 1 for the plate part and 0,7 for the stiffeners.

U SeaProtect range will be commercially available  
beginning January 1, 2015.



# ULTIMATE U SeaProtect Steel constructions

## Snapshot of all possible combinations

Various thicknesses possible between and around the stiffeners, because space is so important on a ship and it is good to have a choice.



Steel Constructions FTP Code 2010		Stiffener <sup>1)</sup>			
A- Fire Class	Plate <sup>1)</sup>	U SeaProtect Slab 76 25mm	U SeaProtect Slab 76 20mm	U SeaProtect Slab 56 30mm	Other Possibilities
A-15 Bulkhead	U SeaProtect Slab 24 50mm or U SeaProtect Roll 24 50mm	●	●	●	24kg/m <sup>3</sup> 50mm around stiffeners
	U SeaProtect Slab 66 30mm	no insulation around the stiffeners			
A-30 Bulkhead	U SeaProtect Slab 36 70mm or U SeaProtect Roll 36 70mm	●	●	●	A30 Bulkhead Restricted: 46kg/m <sup>3</sup> 40mm on the plate+ 46kg/m <sup>3</sup> 30mm around stiffeners
	U SeaProtect Slab 76 40mm				
A-60 Bulkhead Restricted	U SeaProtect Slab 36 70mm or U SeaProtect Roll 36 70mm	●		●	
A-60 Bulkhead	U SeaProtect Slab 56 70mm	●		●	46kg/m <sup>3</sup> 30mm Double Sided Application
	U SeaProtect Slab 86 50mm				
A-15 Deck	U SeaProtect Slab 36 70mm or U SeaProtect Roll 36 70mm	no insulation around the stiffeners			
A-15 Deck A-30 Deck	U SeaProtect Slab 24 50mm or U SeaProtect Roll 24 50mm	●	●	●	24kg/m <sup>3</sup> 50mm around stiffeners
	U SeaProtect Slab 76 25mm	●	●	●	
A-60 Deck	U SeaProtect Slab 36 70mm or U SeaProtect Roll 36 70mm	●		●	
	U SeaProtect Slab 66 50mm				

+ To achieve higher Thermal and Acoustical performance, possibility to install a 2nd Layer of 24kg/m<sup>3</sup> 50mm on the plate (Best Comfort Class solutions) or to increase density or thickness of our solutions according to our certificates.

# ULTIMATE U SeaProtect Steel constructions and Best Comfort Class solutions

## Excellent Thermal Insulation, Excellent Acoustic Performance



Steel Constructions FTP Code 2010				Best Comfort Class solutions				Fire certification
Stiffener <sup>1)</sup>	Plate <sup>1)</sup>	Sound Reduction <sup>2)</sup> Rw (C,Ctr) [dB]	U-Value <sup>3)</sup> [W/m <sup>2</sup> .K]	+ 2nd Layer on the Plate (Optional)	Total Thickness on the plate [mm]	Sound Reduction <sup>2)</sup> Rw (C,Ctr) [dB]	U-Value <sup>3)</sup> [W/m <sup>2</sup> .K]	
no insulation around the stiffeners	U SeaProtect Slab 66 30mm	45(-1;-5)	2,065					A-15 Bulkhead
	U SeaProtect Slab 36 70mm or U SeaProtect Roll 36 70mm	47(-1;-6)	1,475					A-15 Deck
U SeaProtect Slab 76 25mm	U SeaProtect Slab 24 50mm or U SeaProtect Roll 24 50mm	47(-2;-6)	0,819	U SeaProtect Slab 24 50mm or U SeaProtect Roll 24 50mm (2 <sup>nd</sup> layer on top)	100mm	49(-2;-6)	0,506	A-15 Bulkhead A-15 Deck A-30 Deck
	U SeaProtect Slab 36 70mm or U SeaProtect Roll 36 70mm	48(-1;-6)	0,645		120mm	50(-2;-7)	0,429	A-30 Bulkhead A-60 Bulkhead Restricted A-60 Deck
or	U SeaProtect Slab 56 70mm	49(-2;-7)	0,636		120mm	51(-3;-8)	0,425	A-60 Bulkhead
	U SeaProtect Slab 66 50mm	48(-2;-7)	0,785		100mm	50(-3;-8)	0,496	A-60 Deck (Thin Design)
U SeaProtect Slab 56 30mm	U SeaProtect Slab 76 25mm	45(-1;-5)	1,154		75mm	48(-2;-6)	0,624	A-15 Deck (Thin Design) A-30 Deck (Thin Design)
	U SeaProtect Slab 76 40mm	47(-2;-6)	0,893		90mm	-	0,543	A-30 Bulkhead (Thin Design)
	U SeaProtect Slab 86 50mm	48(-2;-7)	0,785		100mm	50(-2;-8)	0,496	A-60 Bulkhead (Thin Design)

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- 1) All U SeaProtect products are available for each construction with different facings approved by a recognized test laboratory
- 2) Various types of facings do not influence Sound Reduction performance; measurement shows that variation of thickness around the stiffeners between 20mm and 30mm has a limited influence on the measurement of sound reduction level.
- 3) All U-values have been calculated with U SeaProtect Slab 76 25 mm around the stiffeners (76kg/m<sup>3</sup> 25 mm products)

U SeaProtect range will be commercially available  
**beginning January 1, 2015.**



September 2014