



**SAERfoam<sup>®</sup>**

## Vinylester/Polyester Systems

SAERfoam<sup>®</sup> is a lightweight structural core developed to be used in high-performance sandwich structures, manufactured using either vacuum infusion, RTM or compression.

SAERfoam combines strong glass reinforcement throughout the layer and a lightweight core to provide high strength and an excellent stiffness-to-weight ratio, which makes SAERfoam competitive in performance and price against traditional solutions.

Thanks to a flexible and rapid manufacturing process, SAERfoam can be designed to maximize the mechanical performance of the parts to be produced by providing strength in single or multiple directions.

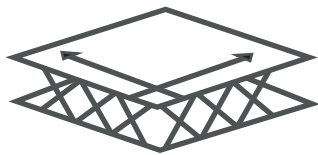
REINFORCING YOUR IDEAS

# MAIN ADVANTAGES

- Excellent performance-to-weight ratio
- Light structural core (25% lighter than balsa wood) at affordable cost
- Easy and inexpensive to cut, groove, chamfer and process
- Cost-effective core solution when compared to balsa wood, PVC, PET & SAN cores
- Performance designed to meet individual critical needs
- No moisture absorption issues
- Excellent skin cohesion, reducing delamination in case of impact

# PRODUCT RANGE

## 1 SAERfoam O



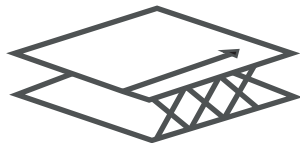
Reinforcement throughout the layer: +/-45°

Thickness: 10 to 30 mm

Standard dimensions: 1200 x 1200 mm

*For complex structural loads, mainly where shear strength and stiffness are requested*

## 2 SAERfoam X



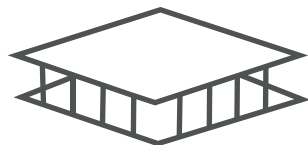
Reinforcement throughout the layer: +/-45°

Thickness: 10 to 30 mm

Standard dimensions: 1200 x 2400 mm

*Strong mechanical properties in a single panel direction*

## 3 SAERfoam I



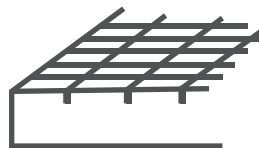
Reinforcement throughout the layer: 90° + CSM 450g skins

Thickness: 10 to 40 mm

Standard dimensions: 1200 x 2400 mm

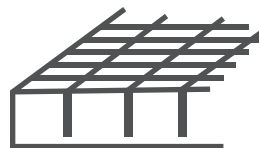
*Suitable for compression resistance only*

# OPTIONS



G: grooved

2x4mm / Pattern 25x25mm



D: drapable (grid scored)

Knife cut / Pattern 25x25mm



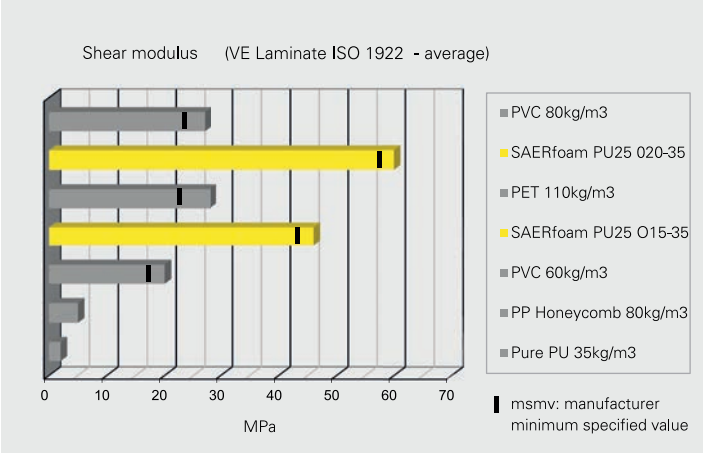
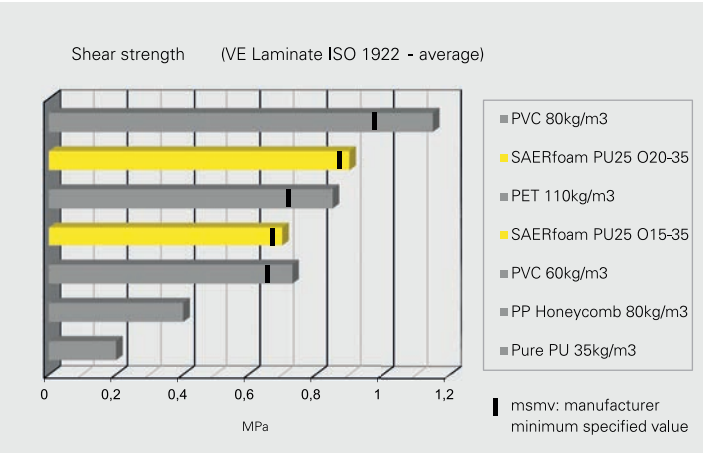
Fire retardant foam base: PIR M1 or Phenolic  
Compatible LEO systems

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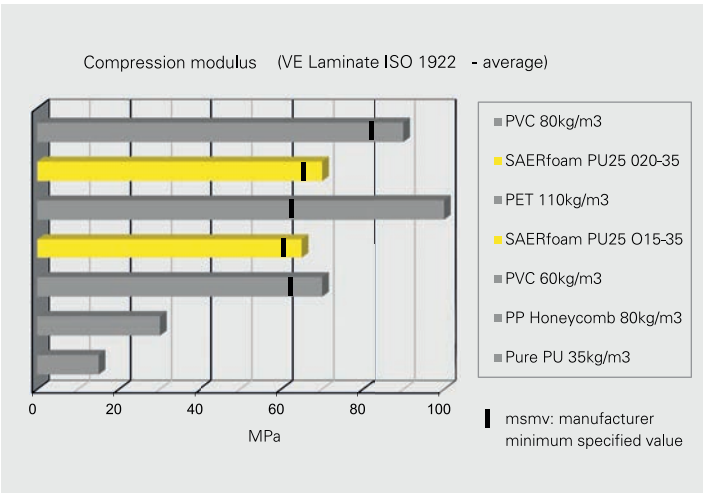
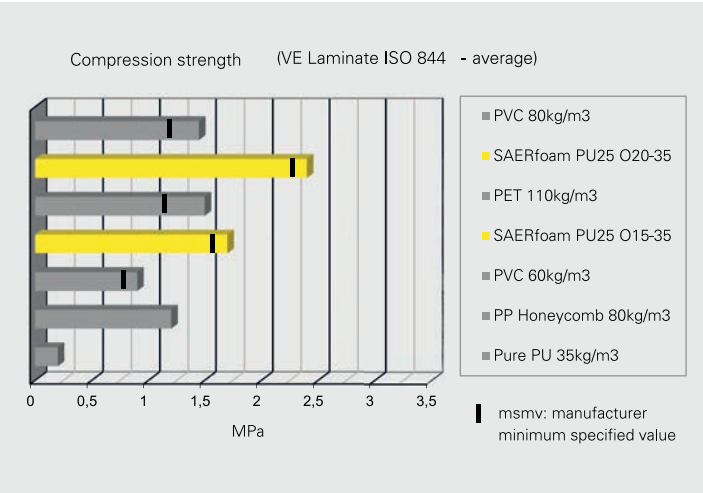
Thickness	SAERfoam	Replacement PVC60 / PET90	Replacement PVC80 / PET110
10 mm	O Grade	PU10 O10-30	PU10 O10-30
	X Grade	PU10 X08-30	PU10 X08-30
15 mm	O Grade	PU15 O10-30	PU15 O15-30
	X Grade	PU15 X08-30	PU15 X10-30
20 mm	O Grade	PU20 O15-30	PU20 O20-30
	X Grade	PU20 X10-30	PU20 X10-30
25 mm	O Grade	PU25 O15-35	PU25 O20-35
	X Grade	PU25 X10-35	PU25 X10-35
30 mm	O Grade	PU30 O20-35	PU30 O25-35
	X Grade	PU30 X10-35	PU30 X13-35

Visit our website to select  
your optimum SAERfoam:  
[http://www.saertex.com/en/  
products/foam-calculator](http://www.saertex.com/en/products/foam-calculator)

## SHEAR properties benchmark comparing 25mm impregnated plain sheets



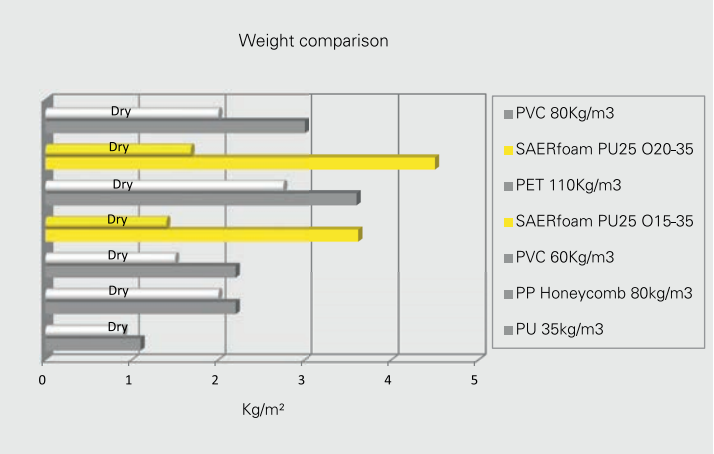
## COMPRESSION perpendicular to the plane benchmark



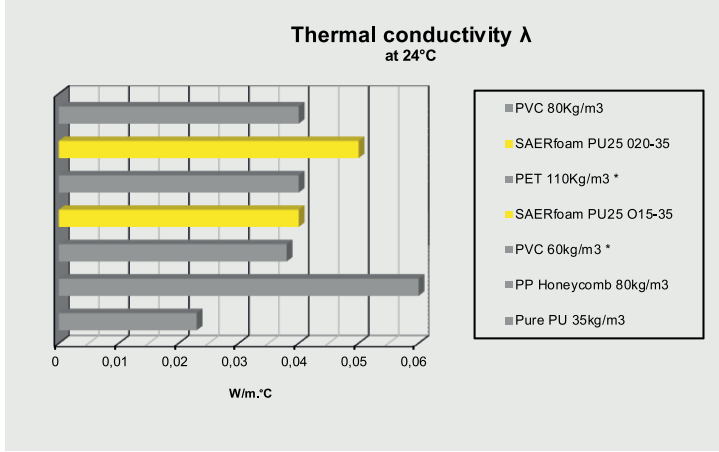
# BENCHMARK

## Weight comparison

Weight comparison takes into account PET and PVC drilled core (2 mm/25 mm pattern).  
PP honeycomb and PU are all plain sheets and without skins.

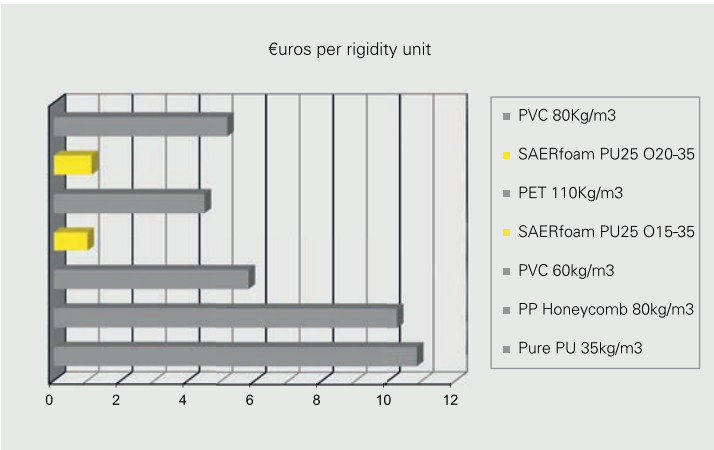


## Insulation factor



## Cost comparison

The table below shows that SAERfoam has one of the best cost-to-rigidity ratios on the market.  
The SAERfoam ratio is at least 4 times better than polymeric foams.



Compared products are impregnated with vinylester resin; the shear modulus is considered for rigidity.

# EXCELLENT MECHANICAL PROPERTIES

The core in a sandwich structure will be stressed in different ways depending upon the structural application. While core shear stiffness and strength are the major performance criteria in sandwich constructions, other properties are also important. Indeed, a specifically designed SAERfoam will often be the best solution to provide the necessary structural properties while saving weight or money.

TECHNICAL SPECIFICATIONS	Testing norm	Unit	SAERfoam PU25 O15-35	SAERfoam PU25 O20-35
DENSITY				
Dry density	-	kg/m <sup>3</sup>	56	63
Infused density	-	kg/m <sup>3</sup>	145	180
Resin intake	-	kg/m <sup>2</sup>	2.3	3.1
PHYSICAL PROPERTIES (average values)				
Shear strength	ISO 1922	Mpa	0.7	0.9
Shear modulus	ISO 1922	Mpa	63	83
Compressive strength	ISO 844	Mpa	1.7	2.4
Compressive modulus	ISO 844	Mpa	60	79
Tensile strength	ASTM C297	Mpa	120	1.0
Service temperature	-	°C	120°C	120°C
Thermal conductivity	at 24°C	W/m.°C	0.04	0.06
DIMENSIONS				
Standard sheets	Width	mm (+2)	1200	1200
	Length	mm (+2)	1200	1200
	Thickness	mm (+0.5)	10 to 30	10 to 30
	Finish		Plain/Groove/Drapable	Plain/Groove/Drapable

## TESTED SAERfoam®

Skin lay-up (each side):	QX1200g+CSM450g (0° of QX external)	Skins fiber fraction:	66% by weight
SAERfoam type:	PU25mm with 1.5 bridges/cm <sup>2</sup> or PU25mm with 2.0 bridges/cm <sup>2</sup>	Engineered values for FEA model:	data for laminates in vinylester is available.
Resin type:	Vinylester Atlac E Nova MA 6215 from DSM with 2.5% of catalyst P MEC Butanox M50	Mechanical properties may vary pending thicknesses.	Please contact us to get the exact properties in your chosen grade, resin and thickness.
Curing and post-curing:	room temperature		

The data provided gives average values based on our technology. Due to process variations and skin compositions, results may differ. Always seek advice from our specialists to identify which SAERfoam will work best in your process.

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Applications and information:  
SAERfoam product film  
at [www.saertex.com/saerfoam](http://www.saertex.com/saerfoam)

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