



**SAERTEX®**

STRUCTURAL CORE MATERIAL

THE **SAERfoam®** SERIES

REINFORCING YOUR IDEAS

# THE **SAERfoam**<sup>®</sup> SERIES

THE INNOVATIVE WAY TO REPLACE PVC,  
PET AND Balsa



## SAERfoam<sup>®</sup> CORE MATERIAL

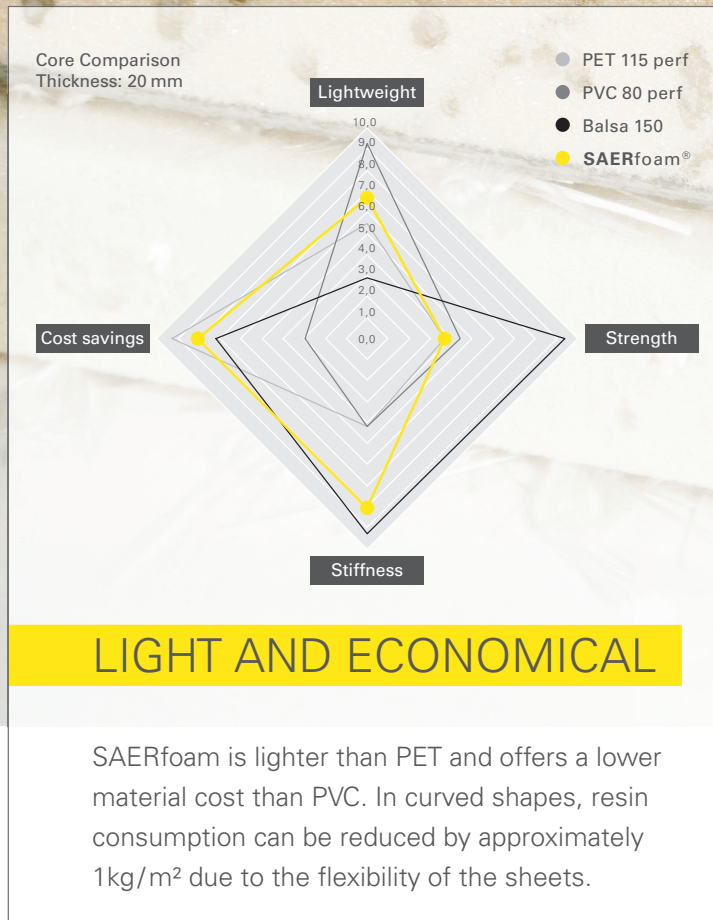
SAERfoam is an innovative lightweight core material that replaces conventional core materials such as PVC, PET and balsa. Ultralight foam (PU/PE/PH/PIR) is combined with 3D glass fiber reinforcements. The result is SAERfoam, a hybrid core material with customizable mechanical properties and extremely low weight.

- Thicknesses from 10mm to 30mm
- Compatible with most common resins
- Well established in the boatbuilding, railway, transportation, and construction industries

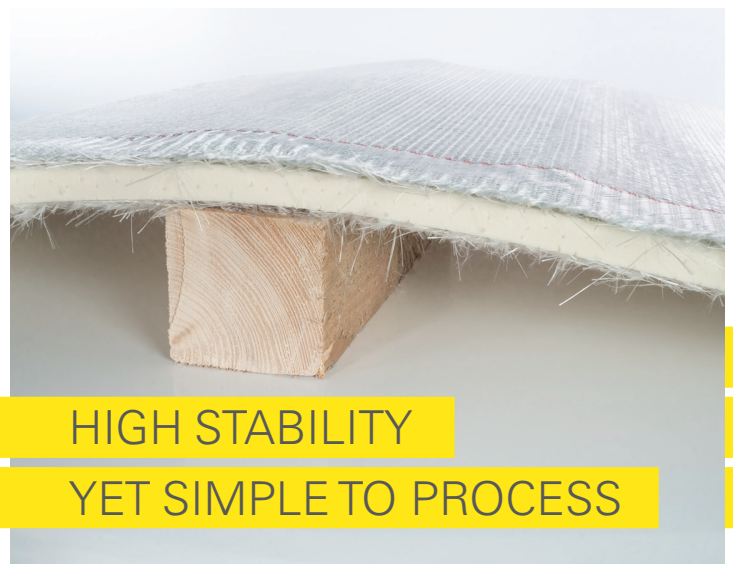


## CURED LAMINATE WITH SAERfoam<sup>®</sup>

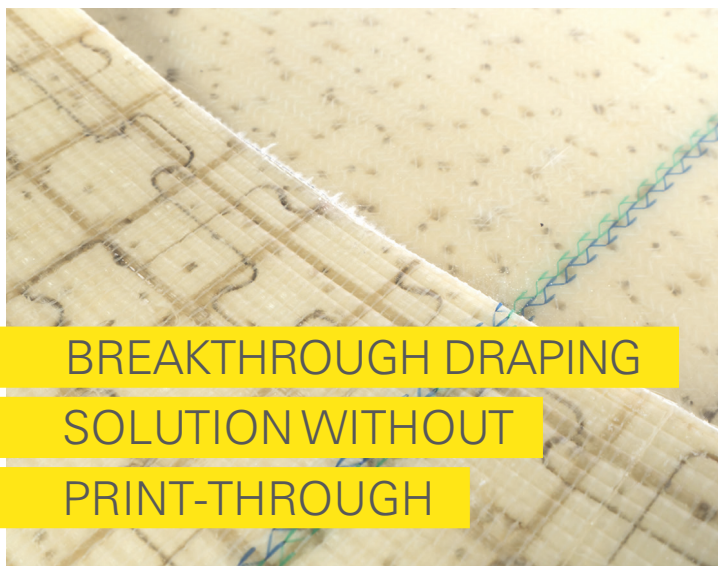
# MAIN ADVANTAGES



With a very high shear modulus that is up to four times greater than PVC and PET, SAERfoam reduces deflection and allows thickness reduction.



Prior to resin impregnation, SAERfoam panels are more flexible and able to accommodate large curved designs, nearly eliminating the need for drapability. SAERfoam is easy and inexpensive to cut, offers good dimensional stability, and will not break during lay-up.



BREAKTHROUGH DRAPING  
SOLUTION WITHOUT  
PRINT-THROUGH

Prior to resin impregnation, SAERfoam panels are flexible enough to accommodate large curved designs. SAERfoam is easy and inexpensive to cut, uses less resin and offers lower print-through.



NO WATER ABSORPTION  
INTO THE CORE

For areas below the waterline, there is no water absorption into the core should the outer skin fail. With its closed cell core, SAERfoam is the optimal solution for marine applications.

# NEXT LEVEL STYLES

## SAERfoam<sup>®</sup> 60

- Suitable for RTM processes
- Ideal for small vacuum infusion parts
- PU foam
- Thickness (in mm): 10, 15, 20, 25, 30
- Dry density of 65 kg/m<sup>3</sup>

## SAERfoam<sup>®</sup> 80

- Suitable for vacuum infusion
- Ideal for mid-size and large parts
- Excellent for marine and industrial applications
- PU foam
- Thickness (in mm): 10, 15, 20, 25, 30
- Dry density of 85 kg/m<sup>3</sup>

## SAERfoam<sup>®</sup> +

- Customized core – all types (PU, PE, PH, PIR)
- Additional fibers or different fiber directions
- Fire protection solutions available
- Adaptable thickness from 8 to 30mm, in 1 mm increments



# PRODUCT RANGE OF SAERfoam® SERIES

Designation	Thickness (mm)	Ref	Sample in Stock	Sheet dimensions width x length (mm)	Packaging	Old Designation
					Sheets per Box	
SAERfoam® 60	10	30008239-(F2829)	x	1200 x 1200	75	PU(35)10 O10-30
	15	30008166-(F2875)			55	PU(35)15 O15-30
	20	30008324-(F2487)	x		45	PU(35)20 O20-30
	25	30008151-(F3524)			37	PU(35)25 O20-35
	30	30008244-(F3108)	x		30	PU(35)30 O25-35
SAERfoam® 80	10	30008629-(F4215)	x	1200 x 1200	75	PU(60)10 O10-30
	15	30009407-(F4241)	x		55	PU(60)15 O11-35
	20	30008674-(F4209)	x		45	PU(60)20 O14-35
	25	30008936-(F4212)	x		37	PU(60)25 O18-35
	30	20009904-(F4232)	x		30	PU(60)30 O23-35
SAERfoam® +	adaptable thickness: from 8 to 30 mm in 1 mm increments		Further information on request			

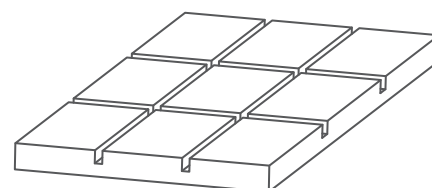
## CUT-TO-MEASURE SAERfoam® VARIANTS

SAERTEX KITS deliver ready-to-use, custom-cut solutions. A KIT consists of pre-cut parts based on the customer's requirements.

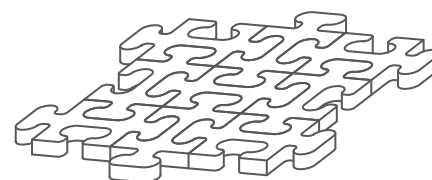
All products from the SAERfoam product range can be delivered as KITS. After being cut to specification, the parts are put in a box in the required lay-up sequence.

- Packaging method reduces lay-up time
- Nesting process minimizes waste
- Cutting service reduces labor costs
- CAD drawings result in high quality, precisely fitted cuts for assembly

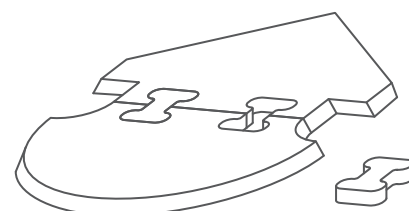
### Different options:



**Grooved**  
2x3 mm / Pattern 25x25 mm



**Drapable (grid scored)**  
Knife cut / Pattern 50 x 50 mm



**Kitting**  
90° or 45° chamfer  
Combinations with curved shapes possible  
Key bones included



# TECHNICAL DATA AND RESULTS

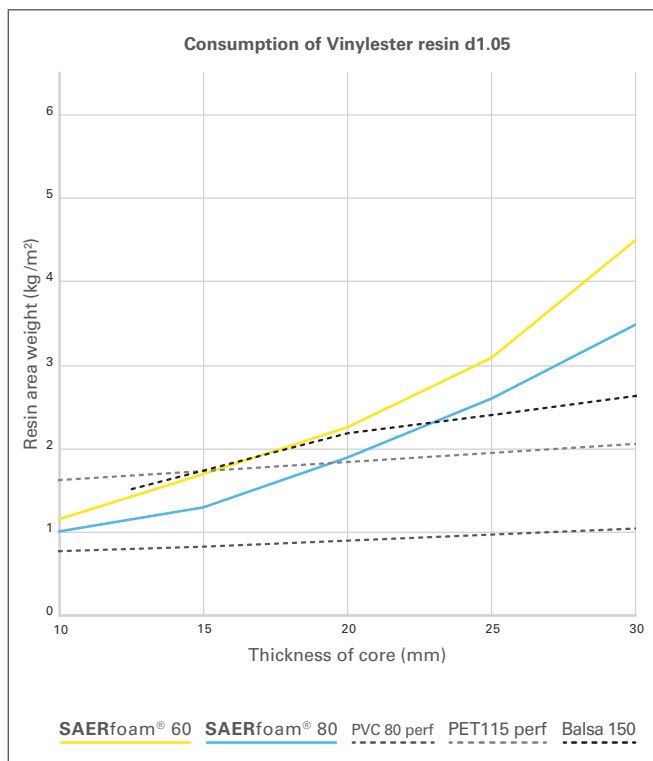
## FROM OUR LAB

### MECHANICAL PROPERTIES

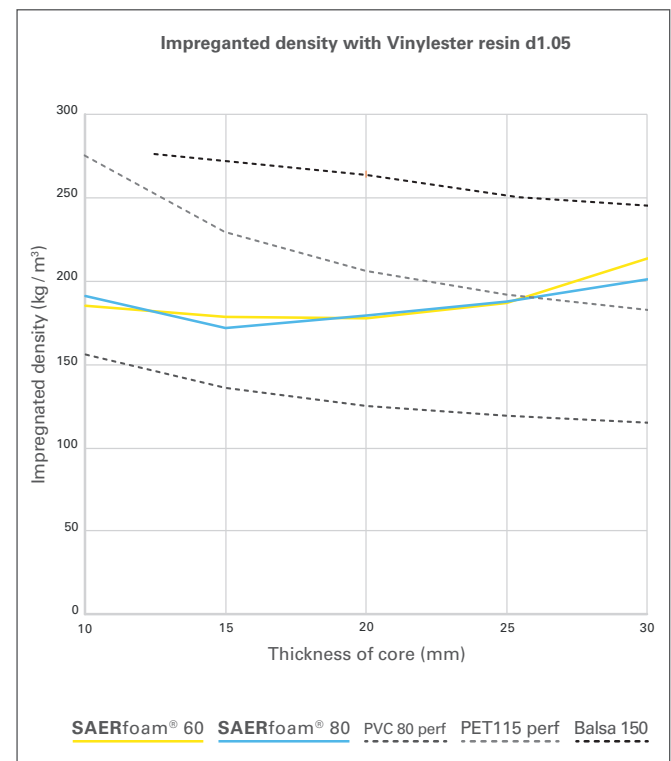
#### Polyester-Vinylester resin / TEMPORARY RESULTS

	Testing norm	Unit	SAERfoam® 60	SAERfoam® 80	PVC 80 perf	PET115 perf	
<b>Density</b>							
Dry density	-	kg/m <sup>3</sup>	65	85	80	110	
Infused density	-	kg/m <sup>3</sup>	192	180	125	206	
Resin intake (20 mm)	-	kg/m <sup>2</sup>	2.25	1.9	0.9	1.84	
<b>Physical properties in plane (average values)</b>							
Shear Strength (msmv*/Average)	ISO 1922	Mpa	0.82/0.87		0.95/1.15	0.69/0.85	
Shear modulus	ISO 1922	Mpa	75		27	23	
Compressive Strength	ISO 844	Mpa	1.6		1.4	1.5	
Compressive Modulus	ISO 844	Mpa	65		90	95	
Tensile Strength	ASTM C297	Mpa	1.0		2.5	1.8	
Service Temperature	-	°C	120		80	100	
Thermal conductivity	at 24°C	W/m.°C	0.04		0.033	0.034	
<b>Dimensions</b>							
Standard sheets	Thickness	mm (+-0.5)	10-15-20-25-30			*msmv: minimum specified manufacturer value	
	Width	mm (+-5)	1200				
	Length	mm (+-5)	1200				

### RESIN CONSUMPTION



### IMPREGNATED CORE DENSITY





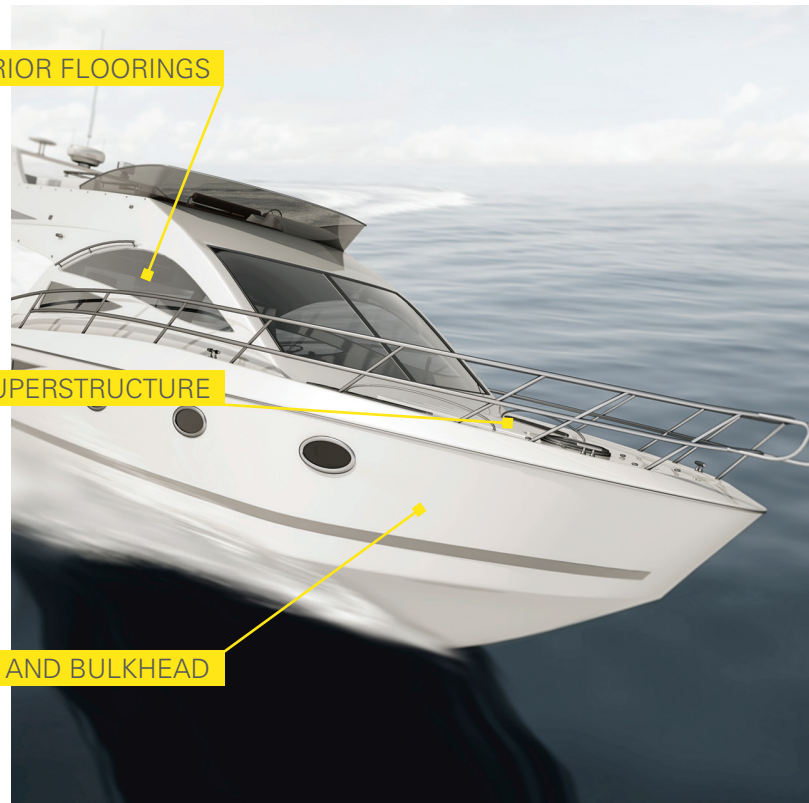
# APPLICATIONS IN CLOSED MOLD PROCESSES – INFUSION AND RTM

Additional applications include:

- Ship building
- Tanker walls
- Horse trailers
- Window shutters



SHELLS AND SPARS



INTERIOR FLOORINGS

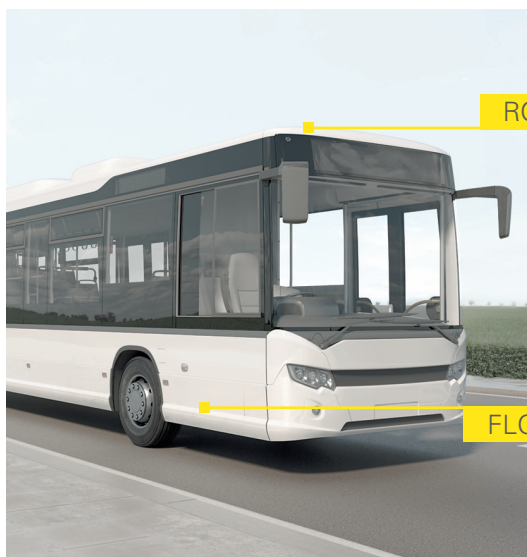
DECK AND SUPERSTRUCTURE

HULL AND BULKHEAD



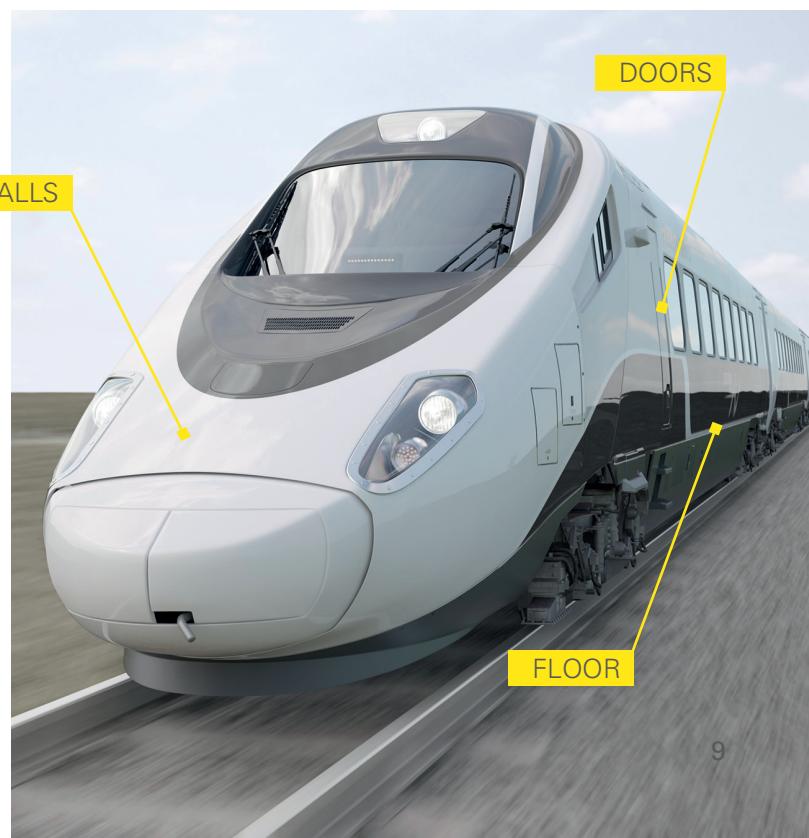
ROOF

CLADDINGS



ROOF

FLOOR



DOORS

SIDE WALLS

FLOOR

# HACO SHIPYARD'S

# NEW BALI CATSPACE CATAMARAN

## THE CHALLENGE

In order to produce one CATSPACE catamaran every two days, HACO had to find a faster production method.

## SAERTEX SOLUTION

In less than a year, project partners developed and executed a new CATSPACE catamaran design with the entire deck processed using the RTM method. Therefore, SAERTEX marine specialists developed a way to produce an entire 12m x 6m deck in one piece using the RTM process, saving HACO an extensive amount of production time.

## SAERTEX MATERIALS

- SAERcore MAX – increased resin flow speed
- SAERfix – reduced mold filling time
- SAERfoam – a lighter, stronger replacement for PVC, especially for long components
- SAERcore MAX and SAERfoam KITS – time spent cutting and draping significantly reduced



## CUSTOMER

### HACO Shipyard

Manufacturer of BALI Catamarans  
El Haouaria, Tunisia  
Part of CATANA Group –  
world's third-largest manufacturer  
of catamarans



# DEUTSCHE BAHN MODERNIZES

# THE FLOOR PANELS OF ITS ICE-3 FLEET

## THE CHALLENGE

As part of the renovation of its ICE-3 fleet, Deutsche Bahn installed new entertainment and air conditioning systems to improve passenger comfort. However, this added additional weight to the train, which meant weight had to be eliminated elsewhere. The decision was to replace the plywood floor panels with something lightweight yet strong.

## SAERTEX SOLUTION

Working with our customer SMT and project partner Alan Harper Composites Ltd., SAERTEX combined SAERfoam, a lightweight core material, with the fire-retardant SAERTEX LEO SYSTEM, and processed the materials using vacuum infusion technology. The solution offered impressive mechanical properties while reducing weight by 50 percent. Deutsche Bahn has successfully replaced 27,000m<sup>2</sup> of plywood floor panels on 66 ICE-3 trains. Replacing the plywood floor panels with SAERTEX materials eliminates any potential deterioration or rot caused by water.

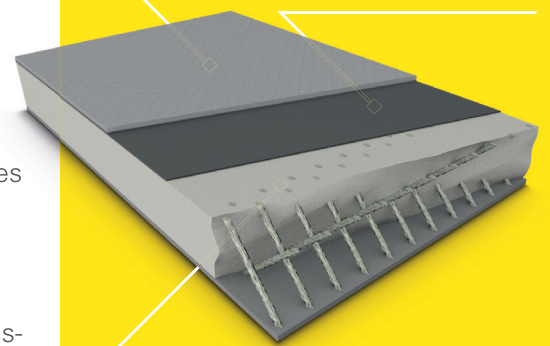
## SAERTEX MATERIALS

- SAERTEX LEO SYSTEM – SAERfoam core material, an NFC layer of fiberglass, LEO infusion resins, and a LEO protection finish layer.
- Meets HL2 fire protection requirements in R10 in accordance with EN 45545 for use in rail vehicles.

**SAERfoam® laminate combined with SAERTEX LEO® fire protection**

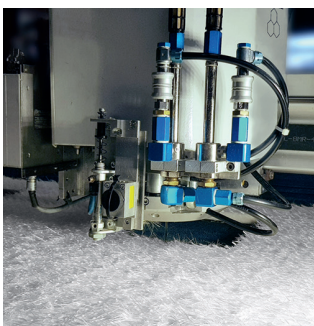
LEO protection layer

LEO reinforcement material



Core material: SAERfoam

**Impregnated with LEO infusion resin**



## CUSTOMER

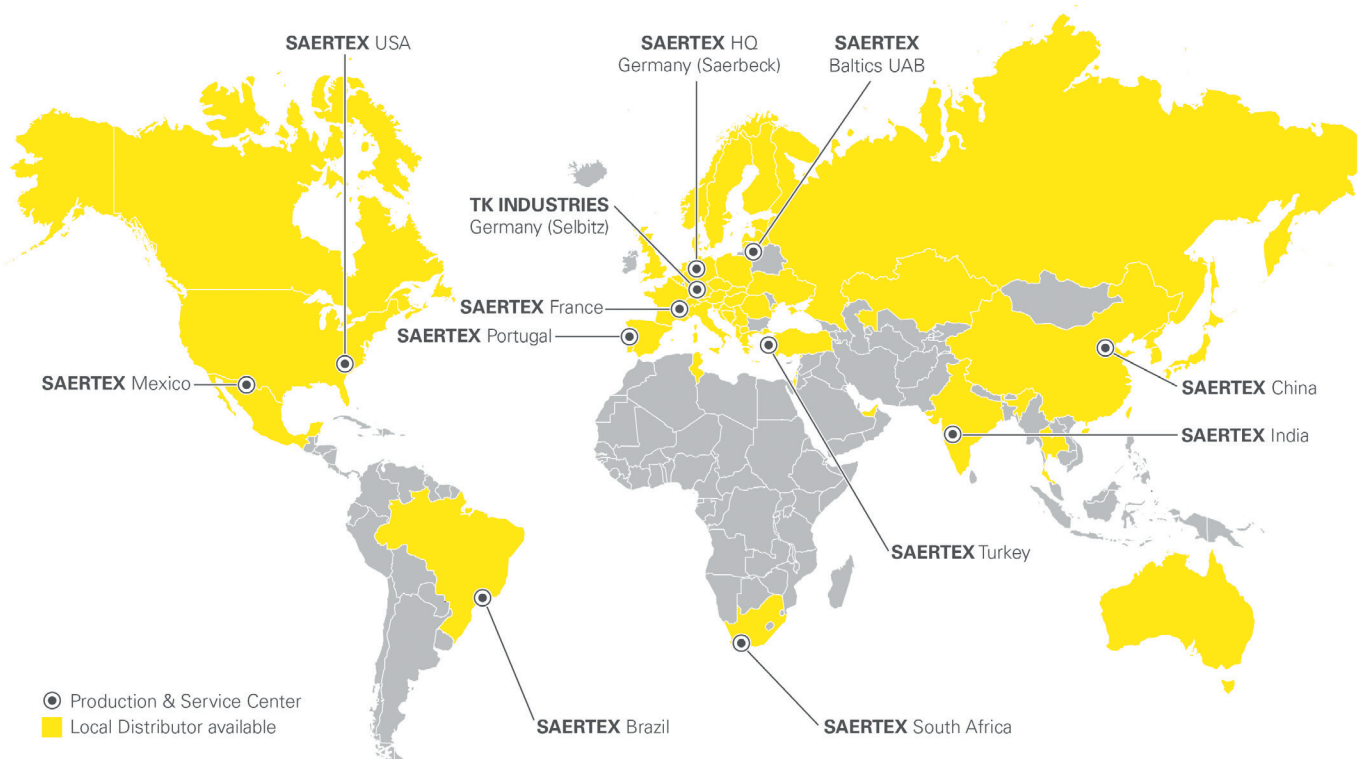
**System-Montage-Technik GmbH (SMT GmbH)**

System supplier / Forst, Germany  
Part of Mrose Gruppe –  
full-service industry supplier

**More References:**



# GET IN CONTACT WITH US



## GLOBAL AVAILABILITY

Being close to our customers is important to us. We want to be right there – on-site – for our partners when they need us. That’s why we are represented by 15 production sites in 10 countries on 5 continents with engineering and production facilities and also offer a service network in more than 50 countries around the world.

## CONSERVING RESOURCES WITH AND AT **SAERTEX**

One of the key success factors in sustainable engineering is achieving minimizing weight while simultaneously maximizing component quality. Both are possible using lightweight construction methods facilitated by **SAERTEX**® products. Conventional materials such as steel, aluminium, concrete and wood are being replaced by our cutting-edge composite materials made of glass, carbon and aramid fibers, which results in a significant reduction in the consumption of fossil fuels. Environmental impact is thereby reduced through the consequential reduction in emissions.

“Innovation for a resource-saving future” is the **SAERTEX**® vision. Sustainable business management is the cornerstone of long-term economic success and our products contribute significantly to this. As a company we are also continuously working on the sustainable optimization of our processes and products.

