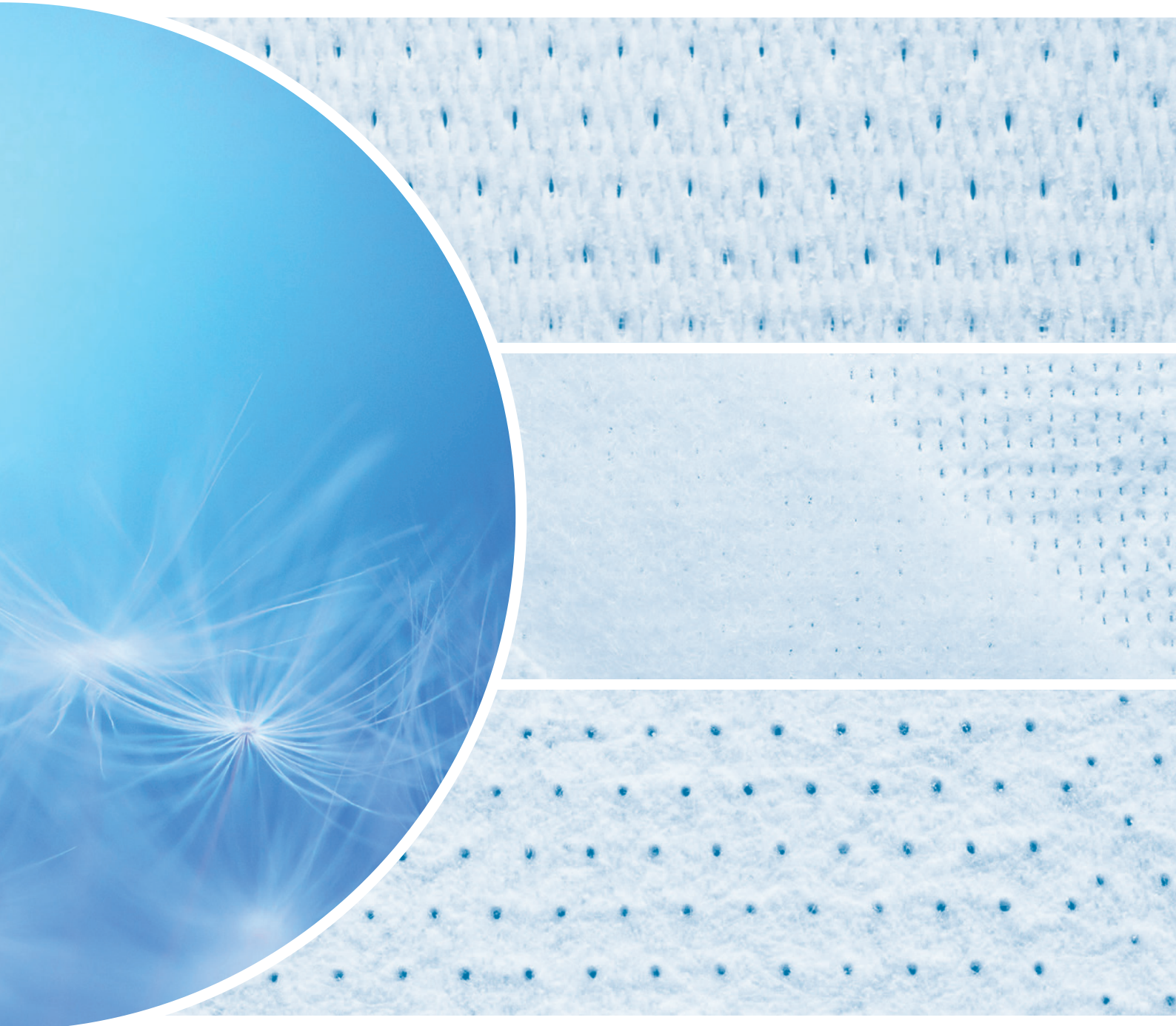
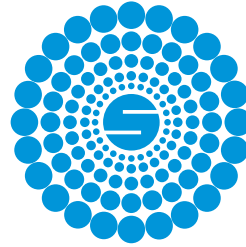


sphere
Spheretex GmbH



tex
Germany



Lightweight solutions
for the highest demands

Spheretex stands for innovative core materials and sophisticated technical solutions.

For more than 30 years we have been committed to develop and produce core materials for various kinds of composite applications. The idea behind our products is combining thermoplastic microspheres and high-tensile fibres. These volumised core materials are an ideal solution for making light and long-term durable sandwich laminates.

Along with our partners all over the world we provide sustainable solutions for your needs. Increased production efficiency, easier handling and processing, reduced resin consumption as well as excellent laminate properties can be achieved when using Spheretex' core materials.

Made in Germany – available worldwide



sphere core® S

- Glass fibre based core material
- Low and fast resin absorption
- Overlaps and joints become invisible
- Excellent bonding with covering reinforcing layers
- For fast lamination and mainly flat parts

sphere core® SP

- Polyester based core material
- Stretchable in dry and wet condition
- Easily adjustable to complicated shapes
- Uniform elongation in all directions
- For light laminates

sphere core® SBC

- Glass fibre based core material
- Low and fast resin absorption
- High impact, shear and compressive strength
- Negligible water absorption
- Low shrinkage
- Jointless overlapping

sphere easy

- All-in-one solution
- Stitched bonded combination of CSM and core material
- Reduced working time
- Low resin consumption
- Less waste

sphere tex®

- Volumised woven glass fabric
- Outstanding shear and tensile strength
- Compatible with all types of resin
- Often combined with carbon and aramid fibres
- For light, thin and strong high-tech FRP parts

sphere tex® SN

- Volumised woven glass fabric, additionally treated
- Fast resin uptake
- Suited for complicated shapes
- For light, thin and strong high-tech FRP parts

Core materials for hand lay-up		Dry thickness [mm]	Dry weight [g/m ²]	Roll width [cm]	Roll length [m]	Resin uptake [kg/m ²]	Density impregnated [kg/m ³]
Sphere.core®	S 1,0	1,3	50	100	100	0,8	650
	S 2,0	2,0	60	100	70	1,2	630
	S 3,0	3,0	70	100	50	1,8	620
	S 4,0	4,0	85	100	40	2,4	620
	S 5,0	5,0	100	100	35	3,0	620
	SP 1,0	1,3	60	100	100	0,8	660
	SP 2,0	2,0	75	100	70	1,2	640
	SP 3,0	3,0	90	100	50	1,8	630
	SP 4,0	4,0	120	100	40	2,4	630
	SP 5,0	5,0	140	100	35	3,0	630
Sphere.core®	SBC 6,0	6,0	200	127	40	2,7	480
	SBC 8,0	8,0	280	127	35	3,6	480
	SBC 10,0	10,0	330	127	30	4,5	480
Sphere.tex®	1,5 / SN 1,5	1,5	130	125	100	0,8	620
	2,0 / SN 2,0	2,0	200	125	70	1,0	600

Ready-to-use materials for hand lay-up		Average thickness of laminate [mm]	Dry weight [g/m ²]	Roll width [cm]	Roll length [m]	Resin uptake [kg/m ²]	Density impregnated [kg/m ³]
Sphere.easy	250/2,0/250	3,5	570	127	70	2,3	820
	450/2,0/450	4,0	970	127	50	3,0	990
	450/3,0/450	5,0	990	127	45	3,1	820
	450/4,0/450	5,5	1020	127	40	3,3	790
	600/4,0/600	6,0	1320	127	35	3,5	800
	600/5,0/600	7,5	1340	127	30	4,3	810

sphere skin

- Surface improvement based on glass veil
- Eliminates print through of subsequent layers
- Mainly for vacuum infusion
- Excellent surface quality
- Suitable for high vacuums

sphere easy IP

- All-in-one solution with CSM, core material and an internal flow medium
- Excellent drapeability
- Reduced resin consumption
- Suitable for vacuums up to 0,6 bar

flowmat®

- CSM combined with an internal flow medium
- High drapeability, flexibility and stretchability
- Can be combined with PAN surface veil
- Customised types available on request
- For thin laminates

flowmat® FR

- CSM combined with an internal glass flow medium
- Fire-resistant material
- Perfectly for railway vehicles
- Halogen free
- Works with all types of resin

sphere core® PSI

- Fast and steady resin flow
- Excellent surface / no honeycomb structure
- For all resin systems
- High shear and compressive strength
- Suitable for high vacuums

sphere core® SBC IP

- Sphere.core® SBC plus internal flow medium
- Low resin consumption
- High impact, shear and compressive strength
- Negligible water absorption
- Low shrinkage
- Suitable for vacuums up to 0,6 bar
- For light, thick and long-term durable laminates

Core materials for closed mould		Thickness of core* [mm]	Dry weight [g/m ²]	Roll width [cm]	Roll length [m]	Resin uptake [kg/m ²]	Density impregnated [kg/m ³]
Sphere.core®	SBC IP 6,0	6,0	470	127	35	2,4	470
	SBC IP 8,0	8,0	540	127	30	3,2	470
	SBC IP 10,0	10,0	600	127	25	4,0	470
	PSI 2,0	2,0	330	127	80	1,5	920
	PSI 3,0	3,0	360	127	70	1,5	620
	PSI 4,0	4,0	430	127	50	2,3	680
	PSI 5,0	5,0	450	127	40	2,3	550
	PSI 10,0	10,0	680	127	25	3,8	450

* laminate produced with 0,6 bar vacuum

Ready-to-use materials for closed mould		Possible thicknesses of laminate [mm]	Dry weight [g/m ²]	Roll width [cm]	Roll length [m]	Roll weight [kg]	Roll diameter [cm]
Flowmat®	200/180/200	2,0-3,0	580	127	75	55	57
	300/180/300	2,0-4,0	780	127	60	60	57
	450/180/450	2,5-4,5	1080	127	50	70	57
	450/250/450	3,0-5,0	1150	127	45	65	57
	600/180/600	3,0-5,0	1380	127	45	80	57
	600/250/600	3,5-5,5	1450	127	40	75	57
Flowmat® FR*	300/500/300	1,5-2,5	1100	127	60	84	45
	450/500/450	2,0-3,5	1400	127	50	89	45
Sphere. easy IP*	300/2,0/180/300	2,5-4,0	855	127	45	57	55
	450/3,0/250/450	4,0-5,5	1240	127	30	38	55
	600/3,0/250/600	4,5-6,0	1540	127	25	32	55

* extract from product range

sphere core® SBC strip

- Low and fast resin absorption
- Processable in a resin bath
- Negligible water absorption
- Adjustable wall thicknesses
- Jointless overlapping
- For light, thick and long-term durable laminates

Core materials for winding		Dry thickness [mm]	Dry weight [g/m ²]	Roll width [cm]	Roll length [m]	Resin uptake [kg/m ²]	Density impregnated [kg/m ³]
Sphere. core®	SBC 6,0	6,0	200	> 10	40	2,7	480
	SBC 8,0	8,0	280	> 10	35	3,6	480
	SBC 10,0	10,0	330	> 10	30	4,5	480

Lightweight strength – the Spheretex technology

The basic idea of all Spheretex products is to combine high-tensile fibers (mainly glass fibers) with extremely light microspheres. Thus it is possible to produce composite materials of both superior mechanical properties and very low specific weight.

Spheretex offers a wide range of products starting with core materials which need to be covered by reinforcing fiber layers up to ready-to-use solutions. This results in FRP laminates of superior homogeneity.

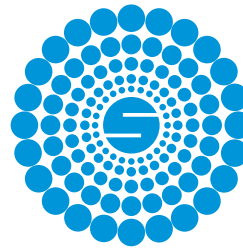
Beside excellent homogeneity Spheretex' core materials are characterized by outstanding physical-technical properties such as impact, bending and shear strength as well as excellent bonding between various laminate layers.



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