

Table 2: **Physical data for foams made from Styropor® for construction**

Properties ¹⁾	Test standard	Unit	Test result		
Quality assured types	GSH quality conditions		PS 15 SE	PS 20 SE	PS 30 SE
Application types	DIN 18164, Part 1		W	WD	WS + WD
Minimum bulk density	EN ISO 845	kg/m ³	15	20	30
Building material class	DIN 4102		B1, Poorly flammable	B1, Poorly flammable	B1, Poorly flammable
Thermal conductivity					
Measured value at +10 °C	DIN 52612	mW/(m · K)	36 – 38	33 – 35	31 – 34
Calculated value according to	DIN 4108	mW/(m · K)	40	40	35
Compressive stress at 10 % compressive strain	EN 826	kPa	65 – 100	110 – 140	200 – 250
Resistance to sustained compressive loads at < 2 % strain after 50 years	ISO 785	kPa	20 – 30	35 – 50	70 – 90
Flexural strength	EN 12089	kPa	150 – 230	250 – 310	430 – 490
Shear strength	DIN 53427	kPa	80 – 130	120 – 170	210 – 260
Tensile strength	DIN 53430	kPa	160 – 260	230 – 330	380 – 480
Modulus of elasticity (compressive test)	EN 826	MPa	1.0 – 4.0	3.5 – 4.5	7.5 – 11.0
Heat deformation temperature					
short-term	based on DIN 53424	°C	100	100	100
long-term at 50 kPa		°C	75	80	80
long-term at 20 kPa		°C	75	80	80
Coefficient of linear expansion		1/K	5 – 7 · 10 ⁻⁵	5 – 7 · 10 ⁻⁵	5 – 7 · 10 ⁻⁵
Specific heat capacity	DIN 53765	J/(kg · K)	1210	1210	1210
Water absorption when submerged (by volume)					
after 7 days	DIN 53 434	Vol. %	0.5 – 1.5	0.5 – 1.5	0.5 – 1.5
after 28 days		Vol. %	1.0 – 3.0	1.0 – 3.0	1.0 – 3.0
Water vapor diffusion rate	DIN 52 615				
Water vapor diffusion resistance factor	Calculated according to DIN 4108, Part 4	1	20/50	30/70	40/100

¹⁾ corresponding to test standard

1 N/mm²= 1000 kN/m²=1 MPa=1000 kPa

Further information

This brochure gives only a broad outline of the many fields of application of Styropor foamed plastics. Details on application techniques, structural engineering and construction physics are contained in the “Technical Information” publications by BASF.

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Figures 19 and 20:
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Figure 27:
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Figure 28:
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Note

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