

18974 January 1995

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Main properties

Physical properties

	Testing as specified in	Unit	Test result		
Class	Quality conditions GSH		PS 15 SE	PS 20 SE	PS 30 SE
Types of application	DIN 18164, Part 1		W	WD	WS + WD
Minimum apparent density	DIN 53420	kg/m ³	15	20	30
Construction material class	DIN 4102		B 1, flame resistant	B 1, flame resistant	B 1, flame resistant
Thermal conductivity					
Measured value at +10 °C	DIN 52612	mW/(m·K)	36–38	33–36	31–35
Design value as specified in DIN 4108		mW/(m·K)	40	40	35
Compressive stress under 10% compression	DIN 53421	kPa	60–110	110–160	200–250
Long-term compressive stress <2% compression		kPa	15–25	25–40	45–60
Flexural strength	DIN 53423	kPa	60–300	150–390	330–570
Shear strength	DIN 53427	kPa ²	80–130	120–170	210–260
Tensile strength	DIN 53430	kPa	110–290	170–350	300–480
Modulus of elasticity (compressive test)	DIN 53457	MPa	1.6–5.2	3.4–7.0	7.7–11.3
Heat distortion temperature					
Short-term	In keeping with DIN 53424	°C	100	100	100
Long-term at 20 000 N/m ²	In keeping with DIN 18164	°C	75	80	80
Thermal coefficient of linear change		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 kept under water (percent by volume)					
After 7 days	DIN 53434	%	0.5–1.5	0.5–1.5	0.5–1.5
After 28 days		%	1.0–3.0	1.0–3.0	1.0–3.0
Water vapor diffusion current density	DIN 52615				
Water vapor diffusion resistance coefficient. Design value as specified in DIN 4108		1	20/50	30/70	40/100

Resistance to chemicals

Active agent	Styropor P, F (FH)
Salt solutions (seawater)	+
Soaps and wetting agent solutions	+
Bleaching lyes, such as hypochlorite, chlorine water, hydrogen peroxide solutions	+
Dilute acids	+
35% hydrochloric acid, up to 50% nitric acid	+
Anhydrous acids, for example fuming sulfuric acid, glacial acetic acid, 100% formic acid	–
Sodium hydroxide potassium hydroxide ammonia solution	+
Organic solvents , such as acetone, ethyl acetate, benzene, xylene, paint thinner, trichloroethylene	–
Saturated aliphatic hydrocarbons, surgical spirit, test benzene	– (+–)
Paraffin oil, vaseline	+– (+)
Diesel oil	– (+)
Motor fuel (normal and super gasoline)	–
Alcohols, for example methanol, ethanol	+–
Silicone oil	+

- + Resistant: the foamed plastic is not destroyed even after prolonged exposure.
 +– Conditionally resistant: the foamed plastic may shrink or suffer attack to the surface after prolonged exposure.
 – Unresistant: the foamed plastic shrinks at a greater or lesser rate or is dissolved.
 1 N/mm² \triangleq 1 MPa \triangleq 1000 kPa

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