

For applications requiring more detailed technical data, please contact our specialists.

Properties	Examination Method	Unit	Values 4, 5 and 6 mm	Values 8, 10 and 13 mm	Values 19, 24 and 30 mm*			
Mechanical								
Apparent density	DIN 53 479	g/cm ³	0.85	0.55 - 0.60	0.55 - 0.60			
Tensile strength	DIN 53 455	N/mm ²	20	15	—			
Elongation at tear	DIN 53 455	%	30	20	—			
Flexural strength	DIN 53 452	N/mm ²	30	30	20			
Compressive strength (range of elasticity)	DIN 53 421	N/mm ²	10	4	3.5			
Compressive stress for compressive strain of 30%	DIN 53 421	N/mm ²	20	9	5.5			
Modulus of elasticity	DIN 53 457 (similar to)	N/mm	1100	850	1100			
Impact strength: 20°C	DIN 53 453	kJ/m ²	20	17	—			
Impact strength: 0°C	DIN 53 453	kJ/m ²	—	15	—			
Impact strength: -20°C	DIN 53 453	kJ/m ²	—	13	—			
Ball pressure hardness	DIN 53 456	N/mm ²	—	20	—			
Shore hardness D	DIN 53 505		55	75	77			
Thermal								
Vicat softening temp.	DIN 53 460	°C	75	74				
Temp. of deflection under load acc. to ISO/R 75 (HDT)	DIN 53 461	°C	56	63				
Coefficient of linear thermal expansion (-30°C to +50°C)	DIN 53 752	mm/m °C	0.08	0.08				
Thermal conductivity (0°C to +60°C)	DIN 53 616	W/mK	0.10	----- 0.05 - 0.07 -----				
10mm 13mm 19mm 24mm 30mm u-value (rate of heat transfer)	DIN 52 616	W/m ² K		10mm 3.0	13mm 2.6	19mm 2.13	24mm 1.9	30mm 1.58
Electrical								
Surface resistance	DIN VDE 0303 T3	Ω	>1•10 ¹⁴	3.7 • 10 ¹⁴	7.0 • 10 ¹⁴			
Volume resistivity	DIN VDE 0303 T3	Ω x cm	4 • 10 ¹⁵	4.4 • 10 ¹⁵	6.0 • 10 ¹⁵			
Dielectric strength	DIN VDE 0303 T2	kV/cm	100	48	48			
Dielectric constant E	EIN 53 484 T2		2.4	1.9	1.8			
Dielectric dissipation factor	DIN 53 483 T2		0.013	0.013	0.0084			
Tracking resistance	DIN IEC 112		CTI 600	CTI 600	CTI 600			
Other								
Fire behavior	BS 476, Part 7, 1971 (UK) DIN 4102 (D) Italia (I) NFP 92-501 (F) UL 94 (USA) VKF (Switzerland)		Class 1 (thickness 4 mm) B 1 (thickness 4, 5, 6, 10 mm) Class 1 M 1 (thickness 4, 5, 6, 10 mm) VO 5.3	Class 1 (thickness 10mm) VO 5.3	5.3			
Valued sound insulation measure Rw	DIN 52 2120/84	dB	—	10mm 3.0	13mm 2.6	19mm 2.13	24mm 1.9	30mm 1.58
Water absorption after 7 days	DIN 53 495	%	>0.2					
Allowable for contact with foodstuff			No	No	No			

*The missing values of KOMACEL — 19/24/30 mm — cannot be determined in conformity with the standards by applying measurement techniques.

*These are standard values that apply to an average density. Small variations depending on the sheet thickness are not excluded.

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Properties	Examination Method	Unit	Values 4, 5 and 6 mm	Values 8, 10 and 13 mm	Values 19, 24 and 30 mm*
Mechanical					
Density (lbs/cubic ft)	D792		37		
Flexural strength (psi)	D790		3,952		
Flexural modulus (psi)	D790		192,700		
Tensile strength (psi)	D638		1,739		
Tensile modulus (psi)	D638		113,400		
Compression strength (psi)	D695		2,018		
Compression modulus (psi)	D695		90,200		
Notched izod impact strength (ft-lb/inch)	D256		0.27		
Puncture impact energy (ft-lbs)	D3763		7.34		

Thermal

Vicat softening temp.	DIN 53 460	°C	75	74	77			
Temp. of deflexion under load acc. to ISO/R 75 (HDT)	DIN 53 461	°C	56	63				
Coefficient of linear thermal expansion (-30°C to +50°C)	DIN 53 752	mm/m °C	0.08	0.08	0.08			
Thermal conductivity (0°C to +60°C)	DIN 53 616	W/mK	0.10	-----0.05 - 0.07 -----				
*u-value (rate of heat transfer)	DIN 52 616	W/m²K		10mm	13mm	19mm	24mm	30mm
				app. 3.0	2.6	2.13	1.9	1.58

The missing values of KÖMACEL — 19/24/30mm — cannot be determined in conformity with the standards by applying measurem. techn.

Other

		ASTM			
Thermal Resistance R, 0.5" thick	C518		1.106		
Thermal Resistance R per Inch, 0.5" thick	C518		2.37		
Thermal Resistance R — 1.0"	C518		1.976		
Thermal Resistance R per Inch — 1.0"	C518		2.18		
Moisture Absorption					
0.5" cube, 24 hr submersion	D570	%	18.2% (2.2)		
1ft. long plank, 24 hr submersion	D570	%	0.82% (0.09)		
Water Absorption (%)	D570		<1		
Tensile Modulus (Type 1, 0.2"/min.)	D638	113.4 ksi (8.6)			
Tensile Strength	D638	1,739 psi (59.6)			
Elongation at Break	D638	23.3% (3.8)			
Heat deflection temp. at 24psi (°F)	D648		143		
Oil canning at 140°F	D3979		None		
Flame spread index	E84		15		
Smoke Developed Index	E84-03		350		
Burn Rate			None when flame removed		

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