

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 ²	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								
Thermal Resistance R, 0.5" thick	ASTM 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 Absorbtion								
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 Stregnth	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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