

## Material Data Sheet

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# PE-500 natural

Chemical Designation : Polyethylene - high molecular weight  
 DIN-Abbreviation: PE-HMW  
 Colours, fillers: opaque

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### Main features

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### Preferred Fields

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### Applications

plugs, housings, containers, spools, anticorrosive seals, coverings, handles, cappings, toothed wheels, filter plates

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### Properties

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Material Data Sheet	PE-500 natural		
	dry / moist		standard
Tensile strength at yield	25	MPa	DIN EN ISO 527
Tensile strength at break	40	MPa	DIN EN ISO 527
Elongation at break	> 50	%	DIN EN ISO 527
Modulus of elasticity in tension	1100	MPa	DIN EN ISO 527
Modulus of elasticity after flexural test	900	MPa	DIN EN ISO 178
Hardness	52		DIN 53 456 (Kugeldruckhärte)
Impact strength 23° C (Charpy)	n.b.	KJ/m <sup>2</sup>	DIN EN ISO 179 (Charpy)
Co-efficient of friction p = 0,05 N/mm <sup>2</sup> v=0,6 m/s on steel, hardened and ground	0,29		

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Material Data Sheet	PE-500 natural		
	dry / moist		standard
Crystalline melting point	136	°C	DIN 53 765
Glass transition temperature	k. A.	°C	DIN 53 765
Heat distortion temperature HDT, Method A	44	°C	ISO-R 75 Verfahren A (DIN 53 461)
Heat distortion temperature HDT, Method B	~70	°C	ISO-R 75 Verfahren B (DIN 53 461)

**Max. service temperature**

short term	120	°C	
long term	90	°C	
Thermal conductivity (23° C)	0,41	W/(K·m)	
Specific heat (23° C)	1,84	J/g.K	
Coefficient of thermal expansion (23-55°C)	20	10 <sup>-5</sup> 1/K	DIN 53 752

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<b>Electrical</b>	<b>dry / moist</b>		<b>standard</b>
Dielectric constant (10 <sup>6</sup> Hz)	2,9		DIN 53 483, IEC-250
Dielectric loss factor (10 <sup>6</sup> Hz)	0,0004		DIN 53 483, IEC-250
Specific volume resistance	10 <sup>^15</sup>	Ω*cm	DIN IEC 60093
Surface resistance	10 <sup>^13</sup>	Ω	DIN IEC 60093
Dielectric strength	50	kV/mm	DIN 53 481, IEC-243, VDE 0303 Teil 2
Resistance to tracking	KC>600		DIN 53 480, VDE 0303 Teil 1

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<b>Miscellaneous</b>	<b>dry / moist</b>		<b>standard</b>
Density	0,95	g/cm <sup>3</sup>	DIN 53 479
Moisture absorption (23°C/50RH)	0,01	%	DIN EN ISO 62
Flammability acc. to UL standard 94	HB		

## (1) Testing of semi-finished products

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