










Material Data Sheet









PE-300 black

Chemical Designation : Polyethylene
 DIN-Abbreviation: PE-HD
 Colours, fillers: black

Main features

-  good sliding properties
 -  easily welded
 -  resistant to cleaning agents and xxx acids
 -  low density
 -  good cold impact strength of resistance
 -  very low moisture absorption
 -  difficult to bond
 -  resistant to numerous solvents
 -  very good electrical insulation
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Preferred Fields

-  mechanical engineering
 -  textile machinery
 -  electrical communication engineering
 -  precision engineering
 -  electrical engineering
 -  construction industry
 -  automotive engineering
 -  filtering technology
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Applications

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

Properties

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Mechanical	dry / moist		standard
Tensile strength at yield	25	MPa	DIN EN ISO 527
Modulus of elasticity in tension	1000	MPa	DIN EN ISO 527
Modulus of elasticity after flexural test	1000-1400	MPa	DIN EN ISO 178
Hardness	50		DIN 53 456 (Kugeldruckhärte)
Impact strength 23° C (Charpy)	n.b.	KJ/m ²	DIN EN ISO 179
Creep rupture strength after 1000 h with static load	12,5	MPa	
Time yield limit for 1% elongation after 1000 h	3	MPa	
Co-efficient of friction p = 0,05 N/mm ² v=0,6 m/s on steel, hardened and ground	0,29		

Thermal	dry / moist		standard
Crystalline melting point	130	°C	DIN 53 765
Glass transition temperature	-95	°C	DIN 53 765
Heat distortion temperature HDT, Method A	42-49	°C	ISO-R 75 Verfahren A (DIN 53 461)
Heat distortion temperature HDT, Method B	70-85	°C	ISO-R 75 Verfahren B (DIN 53 461)
Max. service temperature			
short term	120	°C	
long term	90	°C	
Thermal conductivity (23° C)	0,35-0,43	W/(K·m)	
Specific heat (23° C)	1,7-2	J/g.K	
Coefficient of thermal expansion (23-55°C)	14	10 ⁻⁵ 1/K	DIN 53 752

Electrical	dry / moist		standard
Dielectric constant (10 ⁶ Hz)	2,4		DIN 53 483, IEC-250
Dielectric loss factor (10 ⁶ Hz)	0,0002		DIN 53 483, IEC-250
Specific volume resistance	> 10 ¹⁵	Ω*cm	DIN IEC 60093
Surface resistance	> 10 ¹³	Ω	DIN IEC 60093
Dielectric strength	>50	kV/mm	DIN 53 481, IEC-243, VDE 0303 Teil 2
Resistance to tracking	KA 3c		DIN 53 480, VDE 0303 Teil 1

Miscellaneous	dry / moist		standard
Density	0,96	g/cm ³	DIN 53 479
Moisture absorption (23°C/50RH)	<0,05	%	DIN EN ISO 62
Water absorption to equilibrium	0,02	%	DIN EN ISO 62
Flammability acc. to UL standard 94	HB		
Resistance to hot water, washing soda:	+		
Resistance to weathering	-		

(1) Testing of semi-finished products

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