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Professionals in engineering plastics

Technical data sheet

St 9100 oil

General properties			
Material designation	St 9100 oil		
Material colour(s)	black (5014), purple violet (2006)		
Raw material	PE-UHMW | Ultra-high-molecular polyethylene		
Molecular weight (Average molar mass)	~ 9,2 Mio.		
Mechanical properties	**Unit**	**Test method**	**Value**
Density	g/cm³	DIN EN ISO 1183	0,956
Tensile strength	MPa	DIN EN ISO 527	22
Shore D hardness, 15s - Value	Skala D	DIN EN ISO 868	60 - 65
Ball indentation hardness, 30s - Value	MPa	DIN ISO 2039 Teil 1	35
Ultimate tensile strength	MPa	DIN EN ISO 527	41
Elongation at break	%	DIN EN ISO 527	≥ 200
Modulus of elasticity	MPa	DIN EN ISO 527	700
Notched impact strength (Sharpy)	kJ/m²	DIN EN ISO 179	≥ 80
Wear resistance	%	Sand Slurry method	80
Coefficient of friction (to steel)	µ		0,08
Thermal properties	**Unit**	**Test method**	**Value**
Dimensional stability under heat	°C	DIN 53461	47
Vicat softening temperature	°C	DIN EN ISO 306	80
Crystalline melting range	°C	DIN EN ISO 11357	135 - 138
Thermal conductivity at 23°C	W/ (K * m)	DIN 52612	~ 0,4
Specific heat at 23°C	kJ / (K * Kg)		1,8
Coefficient of linear expansion at 23°C	10^{-5} * (1/K)	DIN ISO 11359	20
Fire behaviour		UL 94	HB
Application temperature (min.)	°C		- 200
Application temperature (constant)	°C		+ 80
Moisture absorption	%		< 0,01
Electrical properties	**Unit**	**Test method**	**Value**
Specific volume resistance	Ω * cm	IEC 60093	10^{15}
Specific surface resistance	Ω	IEC 60093	10^{13}
Dielectric strength	KV/mm	IEC 60243	45
Conformity with food secure regulations			
FDA	Conforms to FDA regulations		
EU	-		

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