

Technical Data Sheet

Material designation	St 4000[®] ATEX		
Raw material	PE-UHMW		
Material colour(s)	black		
Properties	Unit	Test method	Value
Molecular weight (average molar mass)	g/mol		approx. 5 mill.
Mechanical properties			
Density	g/cm ³	DIN 53479	0.93
Tensile strength	N/mm ²	DIN 53455	25
Shore D hardness, 15s	D scale	DIN 53505	64 – 70
Ball indentation hardness, 30s	N/mm ²	DIN ISO 2039 part 1	38
Ultimate tensile strength	N/mm ²	DIN 53455	36
Elongation at break	%	DIN ISO / R 527	350
Modulus of elasticity	N/mm ²	DIN 53457	700
Notched impact strength (Charpy)	kJ/m ²	DIN 53453	> 70 –130
Abrasion	%	Sand slurry method	~110
Coefficient of friction			0.10 ~0.2
Thermal properties			
Dimensional stability under heat	°C	DIN 53461	47
Vicat softening temperature	°C	DIN 53460	79
Crystallite melting range	°C	DTA	130 ~135
Thermal conductivity at 23°C	W/m * K	DIN 52612	0.42
Specific heat at 23°C	kg/kJ * K		1.8
Coefficient of linear expansion at 23°C	K ⁻¹	DIN 53752	2 x 10 ⁻⁴
Application temperature (min.)	°C		-200
Application temperature (constant)	°C		80
Application temperature (max.)	°C		90
Electrical properties			
Volume resistivity	Ω cm	DIN 53482	< 10 ³
Surface resistance	Ω	DIN 53482	< 10 ⁶

According to the laboratory report 03 YEX550794 granted by TÜV NORD CERT, we confirm that this material is ATEX-approved for use in Groupe I and II machines, Category 2 machines and Gas Groups IIA and IIB.

Notes for the user:

Data sheet specifications are made to our today's knowledge. This information does not mean that certain properties are agreed upon or assured. Whether or not a material is suitable for a given application is the user's decision. All specifications are subject to change.

Vreden, October 2005