

Ceramic Filled UHMWPE Sheet Data Sheet

Material Properties	Standard	Unit	Value
Average molecular weight		g /mol	(5-9) *10 ⁶
Density	ISO1183	Kg/m ³	0.96
Water absorption at 23°C until saturation	ISO62	%	<0.1
Material Properties	Standard	Unit	Value
Tensile stress at yeild (tensile strength)	ISO527	MPa	18
Enlongation at break	ISO527	%	265
Tensile modulus	ISO527	MPa	≥700
Impact strength (Charpy)at 23°C	ISO179	Kj/m ²	No break
Notched impact strength (Charpy)at 23°C	ISO11542-2	Kj/m ²	≥80
Ball indentation hardness	ISO2039-1	N/mm ²	33
Shore-Hardness D,15 s value	ISO868		63-67
Coefficient of friction			0.15-0.2
Abrasion(Sand-Slurry)			100
Thermal properties	Standard	Unit	Value
Melting point DSC ,10k/min	ISO3146	°C	135-138
Vicat softening point	ISO306	°C	80
Coefficient of linear thermal expansion Between 23 and 80°C	ISO11359	K ⁻¹	approx 1.0*10 ⁻⁶
Thermal conductivity	ISO52612	W/[m*k]	0.4
Use Temperature (max.)		°C	180
Use Temperature (briefly)		°C	90
Use Temperature (min.)		°C	-150
Flammability “oxygen-index” according to UL94(6mm thick)	ISO4589-1/-2		<20 HB
Electrical properties	Standard	Unit	Value
Relative permittivity at 100 Hz	IEC 60250	-	-
Dissipation factor at 100 Hz	IEC60250	-	-
Volume resistivity	IEC60093	Ohm*m	>10 ¹⁵
Surface resistivity	IEC60093	Ohm	>10 ¹⁵
Dielectric strength	IEC60243	KV/mm	900

Notice to users:

The information contained in this technical data sheet can not be constructed as a promise or guarantee of specific properties of our products. Any determination of suitability of a particular material and part design for any use contemplated by the user is the sole responsibility of the user. The information contained in this technical data sheet is based on present knowledge and may be subject to change without further notice.