

DATASHEET

HMWPE (PE 500)

HMWPE (PE 500) has impact strength and abrasion resistance, as well as good chemical resistance. This material also boasts a low friction coefficient, good wear properties and meets all food contact approvals.

Applications

- Food Processing
- Dairy Production
- Beverage Processing & Filling
- Leisure

Availability

- Colour – Natural, Black, Blue, Red, Green, Yellow, Burgundy
- Type – Sheets, Rods & Tubes
- Regularly produced in a wide variety of thicknesses

Typical Properties

General Properties	Method	Unit	Test Result
Physical Properties			
Specific Gravity	ISO 1183	g/cm ³	0.96
Water Absorption	ISO 62	%	0.01
Maximum Service – Higher Temp Limit	-	°C	80
Maximum Service – Lower Temp Limit	-	°C	-100
Mechanical Properties			
Tensile Strength at Yield	ISO 527	MPa	28
Elongation at Yield	ISO 527	%	8
Tensile Strength at Break	ISO 527	MPa	-
Elongation at Break	ISO 527	%	>300
Impact Strength	ISO 179	kJ/m ²	No break
Notch Impact Strength	ISO 179	kJ/m ²	18
Ball Indentation / Rockwell Hardness	ISO 2039-1	MPa	>45
Shore - D	DIN 53505	-	66
Flexural Strength	ISO 178	MPa	-
Modulus of Elasticity	ISO 527	MPa	110
Thermal Properties			
Vicat Softening Point VST/B/50	ISO 306	°C	80
Heat Deflection Temperature HDT/B	ISO 75	°C	-
Heat Deflection Temperature HDT/A	-	°C	-

Coefficient / Linear Thermal Expansion	DIN 53752	$K^{-1} \cdot 10^{-6}$	1.8
Thermal Conductivity at 20°C	DIN 52612	W/(m*k)	0.38
Electrical Properties			
Volume Resistivity	VDE 0303	$\Omega \times m$	-
Surface Resistivity	-	Ω	>10(14)
Dielectric Constant at 1MHz	-	-	-
Dielectric Loss Factor at 1MHz	DIN 53483	-	-
Dielectric Strength	VDE 0303	kV/mm	44
Tracking Resistance	IEC 60112	-	>600
Additional Information			
Bondability	-	-	No
Food Compliance	FDA	-	Yes
Flammability	UL 94	-	HB