

PE 100 Material Properties

SPECIFIC MATERIAL PROPERTIES PE

	Property	Standard	Unit	PE100
	Specific density at 23°C	ISO 1183	g/cm ³	95
	Melt flow index	ISO 1133	g/10min	0,3
	MFR 190/5	ISO1872/1873		<0,1
	MFR 190/2,16			T003
	MFR 230/5			
Mechanical Properties	MFI range			
	Tensile stress at yield	ISO 527	MPa	25
	Elongation at yield	ISO 527	%	9
	Elongation at break	ISO 527	%	>600
	Impact strength unnotched at +23°C	ISO 179	kJ/m ²	no break
	Impact strength unnotched at -30°C			no break
	Impact strength notched at +23°C	ISO 179	kJ/m ²	16
	Impact strength notched at 0°C			6
Impact strength notched at -30°C				
Ball indentation hardness acc. Rockwell	ISO 2039-1	MPa	46	
Flexural strength (3,5% flexural stress)	ISO 178	MPa	24	
Modulus of elasticity	ISO 527	MPa	1100	
Thermal Properties	Vicat-Softening point VST/B/50	ISO 306	°C	77
	Heat deflection temperature HDT/B	ISO 75	°C	75
	Linear coefficient of thermal expansion	DIN 53752	K ⁻¹ x 10 ⁻⁴	18
	Thermal conductivity at 20 °C	DIN 52612	W/(mxK)	4
	Flammability	UL94 DIN 4102	-	94-HB B2
Electrical Properties	Specific volume resistance	VDE 0303	OHM cm	>10 ¹⁶
	Specific surface resistance	VDE 0303	OHM	>10 ¹³
	Relative dielectric constant at 1 MHz	DIN 53483	-	23
	Dielectric strength	VDE 0303	kV/mm	70
	Physiologically non-toxic	EEC 90/128	-	Yes
	FDA	-	-	Yes
	UV stabilized	-	-	Carbon black
	Colour	-	-	Black
	MRS - Classification	ISO 9080	N/mm ²	10

Note: The mentioned values are recommended values for the particular material.

Material Properties

SPECIFIC PROPERTIES PPh

	Property	Standard	Unit	PE100
	Specific density at 23°C	ISO 1183	g/cm ³	91
	Melt flow index	ISO 1133	g/10min	0,5
	MFR 190/5	ISO1872/1873		1,25
	MFR 190/2,16			M003
	MFR 230/5			
MFI range				
Mechanical Properties	Tensile stress at yield	ISO 527	MPa	30
	Elongation at yield	ISO 527	%	10
	Elongation at break	ISO 527	%	>300
	Impact strength unnotched at +23°C	ISO 179	kJ/m ²	no break
	Impact strength unnotched at -30°C			no break
	Impact strength notched at +23°C	ISO 179	kJ/m ²	50
	Impact strength notched at 0°C			5
	Impact strength notched at -30°C			
Ball indentation hardness acc. Rockwell	ISO 2039-1	MPa	60	
Flexural strength (3,5% flexural stress)	ISO 178	MPa	28	
Modulus of elasticity	ISO 527	MPa	1300	
Thermal Properties	Vicat-Softening point VST/B/50	ISO 306	°C	91
	Heat deflection temperature HDT/B	ISO 75	°C	96
	Linear coefficient of thermal expansion	DIN 53752	K ⁻¹ x 10 ⁻⁴	16
	Thermal conductivity at 20 °C	DIN 52612	W/(mxK)	22
	Flammability	UL94	-	94-H
		DIN 4102	-	B2
Electrical Properties	Specific volume resistance	VDE 0303	OHM cm	>10 ¹⁶
	Specific surface resistance	VDE 0303	OHM	>10 ¹³
	Relative dielectric constant at 1 MHz	DIN 53483	-	23
	Dielectric strength	VDE 0303	kV/mm	75
	Physiologically non-toxic	EEC 90/128	-	Yes
	FDA	-	-	Yes
	UV stabilized	-	-	No
	Colour	-	-	Ral 7032 Grey

*) Fire classification B1 only valid for wall thickness of 2-10mm