

Indian mass (average molecular 100 g / mol 5,00 100 g / mol 10,00	Properties	Test methods	Units	Values	
10° g / mol 5,00 1831 9 / mol 0,930 180	Productname	-	-	PE 1000	
SO 1183-1 g / cm² 0,930	olor	-	-	nature, green	
150 62 mg mg mg mg mg mg mg m	erage molar mass (average molecular	-	10 ⁶ g / mol	5,00	
Secretion Secr	sity	ISO 1183-1	g / cm³	0,930	
150 62	ter apsorption		9, 5	-,	
150 62	after 24/96 h immersion in water of	150.50			
### State Section Sect	°C (1)				
### 150 1357-1/-2 ### 150 3146 ### 150 3146	3°C (1)	ISO 62			
### PAPPERTIES (2) ### INFORMATION SO 11357-11/-3 "C 135 ### INFORMATION SO 11357-11/-3 "C 120 ### INFORMATION SO 11357-11/-3 "C 42 ### INFORMATION SO 11357-11/-3 "C 42 ### INFORMATION SO 150 ###	at saturation in air of 23°C / 50% RH	-			
So 11357-1/-3 °C 135 1	at saturation in water of 23°C	-	%	0,01	
Jass transition temperature +	ERMAL PROPERTIES (2)				
Separate transition temperature + + ISO 3146 "C Onductivity Lambda & 23°C O W / (K·m) O,400 O O,400 O O O O O O O O O	ing temperature (DSC, 10°C/min)				
onductivity Lambda \(\) at 23°C \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	amic glass transition temperature +	ISO 3146		-120	
the of linear thermal expansion ge value between 23 and 60°C ge value between 23 and 100°C ge value between 23 and 100°C ge value between 23 and 100°C ge value between 23 and 150°C ge value 150°C ge va	amic glass transition temperature ++	ISO 3146	°C		
ge value between 23 and 100°C	ermal conductivity Lambda λ at 23°C	-	W / (K · m)	0,400	
ge value between 23 and 100°C - m / (m · K) 200 x 10° ge value between 23 and 150°C - m / (m · K) 200 x 10° ge value between 23 and 150°C - m / (m · K) 200 x 10° ge value between 23 and 150°C - m / (m · K) 200 x 10° ge value between 23 and 150°C - m / (m · K) 200 x 10° ge value between 23 and 150°C - m / (m · K) 200 x 10° ge value between 23 and 150°C - m / (m · K) 200 x 10° ge value val	efficient of linear thermal expansion				
The value between 23 and 150°C - m / (m · K) The value of deflection under load and A: 1,8 MPa	average value between 23 and 60°C	-	m / (m · K)		
Turne of deflection under load of A: 1,8 MPa	average value between 23 and 100°C	-	m / (m · K)	200 x 10 ⁻⁶	
Mar. 1,8 MPa	average value between 23 and 150°C	-	m / (m \cdot K)		
Section Sect	nperature of deflection under load				
allowable service temperature in air ort periods (3) - 'C 120 ously: for 5.000 / 20.000 h (4) - 'C - /80 ervice temperature (5) - 'C - 2000 **C - 2000 **Sility (6) *** **Indidex	method A: 1,8 MPa	ISO 75-1/-2	°C	42	
ort periods (3) - °C 120 ously: for 5.000 / 20.000 h (4) - °C -/80 envice temperature (5) - °C -200 illitity (6) envice temperature (5) - °C -200 illitity (6) envice temperature (5) - °C -200 illitity (6) envice temperature (5) - °C -200 illitity (6) envice temperature (5) - °C -200 illitity (6) envice (7) - °C -70 envice (7) - °C -70 illitity (6) envice (7) - °C -70 illitity (6) - °C -70 illitity (7) - °C -70 ill	t-Erweichungstemperatur - VST/B50	ISO 306	°C	80	
sously: for 5.000 / 20.000 h (4)	ximal allowable service temperature in	ı air			
revice temperature (5) - 'C .200 ##################################	for short periods (3)	-	°C	120	
Solity (6) Service Solity (6) Solity	continously: for 5.000 / 20.000 h (4)	-	°C	- / 80	
### 150 4589-1/-2	mal service temperature (5)	-	°C	-200	
### ### ##############################	nmability (6)				
### B HB HB ### B ### B HB #### B HB ### B HB #### B HB ### B HB #### B HB ### B HB #### B HB ### B HB #### B HB ### B HB #### B HB ### B	Oxygen-Index	ISO 4589-1/-2	%	< 20	
test capacity - J/ (g · K) 1,84 CAL PROPERTIES AT 23°C (7)	according to UL 94 (3 / 6 mm nickness)	-		HB / HB	
test (8) a stress at yield / tensile stress at stress at yield / tensile stress at ISO 527-1/-2			1/(a, K)	1 94	
test (8) 2 stress at yield / tensile stress at)/ (g 1k)	1,04	
serious at yield / tensile stress at yield / tensile stress at yield / tensile stress at ISO 527-1/-2	sion test (8)				
series at yield / tensile stress at ISO 527-1/-2 N / mm² e strength (9) + ISO 527-1/-2 N / mm² e strain at yield (9) + ISO 527-1/-2 % 15 e strain at break / elongation at ISO 527-1/-2 % > 50 / - e strain at break / elongation at ISO 527-1/-2 % > 50 / - e strain at break / elongation at ISO 527-1/-2 % e modulus of elasticity (10) + ISO 527-1/-2 N / mm² 750 e modulus of elasticity (10) + ISO 527-1/-2 N / mm² estivate stress at 1/2/5 % nominal ISO 604 N / mm² 4,5 / 8 / 14 estin tension (8) to produce 1% strain ISO 899-1 N / mm² expect strength - Unnotched (12) ISO 179-1/1eU K / m² no break expect strength - Notched ISO 179-1/1eA K / m² 115 P expect strength - Notched + 180/2A K / m² 170 extrempth - Notched + 180/2A K / m² 33 expect strength - Notched + 180/2A K / m² 33 expect strength (135) ISO 809-2 N / mm² 62 / 60 expect strength (150) ISO 809-2 N / mm² 33 expect strength (150) ISO 809-2 N / mm² 62 / 60 expect strength (150) ISO 809-2 N / mm² 62 / 60 expect strength (150) ISO 809-2 N / mm² 62 / 60 expect strength (150) ISO 809-2 N / mm² 62 / 60 expect strength (150) ISO 809-2 N / mm² 62 / 60	ensile stress at yield / tensile stress at	ISO 527-1/-2	N / mm²	19 / -	
se strain at yield (9) + ISO 527-1/-2	eak (9) + ensile stress at yield / tensile stress at				
se strain at yield (9) + 150 527-1/-2 % 550 /- e strain at break / elongation at 150 527-1/-2 % 550 /- e strain at break / elongation at 150 527-1/-2 % 550 /- e strain at break / elongation at 150 527-1/-2 % 750 e modulus of elasticity (10) + 150 527-1/-2 N / mm² 750 e modulus of elasticity (10) + 150 527-1/-2 N / mm² 8500 test (11) essive stress at 1/2/5 % nominal 150 604 N / mm² 4,5 / 8 / 14 est in tension (8) to produce 1% strain 150 899-1 N / mm² 900 produce 1% strain (0 1/1000) 150 899-1 N / mm² 100 produce 1% strain (0 1/1000) 150 899-1 N / mm² 100 produce 1% strength - Notched 150 179-1/1eU k / m² 115 P	eak (9) ++				
estrain at break / elongation at ISO 527-1/-2 % > 50 / - estrain at break / elongation at ISO 527-1/-2 % estrain at break / elongation at ISO 527-1/-2 % emodulus of elasticity (10) + ISO 527-1/-2 N / mm² 750 emodulus of elasticity (10) + ISO 527-1/-2 N / mm² emodulus of elasticity (10) + ISO 527-1/-2 N / mm² emodulus of elasticity (10) + ISO 527-1/-2 N / mm² emodulus of elasticity (10) + ISO 604 N / mm² emodulus of elasticity (10	tensile strength (9) +	ISO 527-1/-2	N / mm²		
So 327-1/-2	ensile strain at yield (9) +	ISO 527-1/-2	%	15	
150 527-1/-2 76 a modulus of elasticity (10) + 150 527-1/-2 N / mm² 750 a modulus of elasticity (10) + 150 527-1/-2 a modulus of elasticity (10) + 150 527-1/-2 b N / mm² 750 a modulus of elasticity (10) + 150 527-1/-2 b N / mm² 750 a modulus of elasticity (10) + 150 527-1/-2 b N / mm² 750 a modulus of elasticity (10) + 150 527-1/-2 b N / mm² 750 a modulus of elasticity (10) + 150 527-1/-2 b N / mm² 750 a modulus of elasticity (10) + 150 527-1/-2 b N / mm² 750 a modulus of elasticity (10) + 150 527-1/-2 b N / mm² 750 a modulus of elasticity (10) + 150 527-1/-2 b N / mm² 750 a modulus of elasticity (10) + 150 527-1/-2 b N / mm² 750 a modulus of elasticity (10) + 150 527-1/-2 b N / mm² 750 a modulus of el	ensile strain at break / elongation at eak (9) +	ISO 527-1/-2	%	> 50 / -	
re modulus of elasticity (10) + ISO 527-1/-2 N / mm² 750 re modulus of elasticity (10) ++ ISO 527-1/-2 N / mm² resion test (11) ressive stress at 1/2/5 % nominal ISO 604 N / mm² 4,5 / 8 / 14 ressive stress at 1/2/5 % nominal ISO 899-1 N / mm² respect strength - Unnotched (12) ISO 179-1/1eU kJ / m² no break ISO 179-1/1eA kJ / m² 115 P respect strength (15° V-notched, ISO 11542-2 kJ / m² rest strength - Notched + 180/2A kJ / m² rest strength - Notched ++ 180/2A kJ / m² rest strength - Notched -+ 180/2A kJ / m² rest strength - Notched -+ 180/2A kJ / m² rest strength - Notched -+ 180/2A kJ / m² rest strength - Notched 180/2A kJ / m² rest strength - Notched 180/2A kJ / m² rest strength - Notched 180/2A kJ / m² rest strength Notched 180/2A kJ / m² rest streng	tensile strain at break / elongation at eak (9) ++	ISO 527-1/-2	%		
remodulus of elasticity (10) ++ ISO 527-1/-2 N / mm² resion test (11) resion test (12) resion test (13) resion test (14) resion test	ensile modulus of elasticity (10) +	ISO 527-1/-2	N / mm²	750	
ISO 604 N / mm² 4,5 / 8 / 14 St in tension (8) So 899-1 N / mm² N / mm² St in tension (8) So 899-1 N / mm² So 899-1 N / mm² So 899-1 N / mm² So 899-1 So 899-1 N / mm² So 899-1 So 179-1/1eU KJ / m² No break So 179-1/1eU So 179-1/1eA KJ / m² So 115 P So 115	tensile modulus of elasticity (10) ++				
ressive stress at 1/2/5 % nominal	pression test (11)		,		
set in tension (8) to produce 1% strain ISO 899-1 N / mm² produce 1% strain (σ 1/1000) ISO 899-1 N / mm² produce 1% strain (σ 1/1000) ISO 899-1 N / mm² produce 1% strain (σ 1/1000) ISO 179-1/1eU kJ / m² no break product strength - Notched ISO 179-1/1eA kJ / m² 115 P product strength (15° V-notched, ISO 11542-2 kJ / m² 170 ct strength - Notched + 180/2A kJ / m² ct strength - Notched + 180/2A kJ	compressive stress at 1/2/5 % nominal	100.00	2	45.0.11	
to produce 1% strain ISO 899-1 N / mm² produce 1% strain (σ 1/1000) ISO 899-1 N / mm² produce 1% strain (σ 1/1000) ISO 899-1 N / mm² produce 1% strain (σ 1/1000) ISO 899-1 N / mm² product strength - Unnotched (12) ISO 179-1/1eU kJ / m² no break product strength - Notched ISO 179-1/1eA kJ / m² 115 P product strength (15° V-notched, ISO 11542-2 kJ / m² 170 product strength - Notched + 180/2A kJ / m² product strength - Notched + 180/2A kJ / m² product strength - Notched + 180/2A kJ / m² product strength - Notched + 180/2A kJ / m² product strength - Notched + 180/2A kJ / m² product strength - Notched + 180/2A kJ / m² product strength (15° V-notched) ISO 2039-1 N / mm² product strength (15° V-notched) ISO 2039-2 N / mm² product strength (15° V-notched) ISO 2039-2 N / mm² product strength (15° V-notched) ISO 2039-2 N / mm² product strength (15° V-notched) ISO 2039-2 N / mm² product strength (15° V-notched) ISO 2039-2 N / mm² product strength (15° V-notched) ISO 2039-2 N / mm² product strength (15° V-notched) ISO 2039-2 N / mm² product strength (15° V-notched) ISO 2039-2 N / mm² product strength (15° V-notched) ISO 2039-2 N / mm² product strength (15° V-notched) ISO 2039-2 N / mm² product strength (15° V-notched) ISO 2039-2 N / mm² product strength (15° V-notched) ISO 2039-2 N / mm²	ain (12) +	ISO 604	N / mm²	4,5 / 8 / 14	
op produce 1% strain (σ 1/1000) ISO 899-1 N / mm² apact strenght - Unnotched (12) ISO 179-1/1eU kJ / m² no break apact strenght - Notched ISO 179-1/1eA kJ / m² 115 P apact strength (15° V-notched, rd) ISO 11542-2 kJ / m² 170 ct strength - Notched + 180/2A kJ / m² 180/2A ct strength - Notched ++ 180/2A kJ / m² 180/2A ct strength - Notched ++ 180/2A kJ / m² 180/2A ct ation hardness (13) 2039-1 N / mm² 33 atadion hardness (134) ISO 2039-2 N / mm² 62 / 60	p test in tension (8)				
No break Not ched 12 150 179-1/1eU Ng / m² no break Ng / m² 115 P Ng act strength - Notched ISO 179-1/1eA Ng / m² 115 P Ng act strength (15° V-notched, ISO 11542-2 Ng / m² Notched + 180/2A Ng / m² Notched + 180/2A Ng / m² Ng / m	tress to produce 1% strain	ISO 899-1	N / mm²		
Appact strength - Notched ISO 179-1/1eA kJ / m² 115 P Appact strength (15° V-notched, rd) ISO 11542-2 kJ / m² 170 Act strength - Notched + 180/2A kJ / m² Act strength - Notched ++ 180/2A kJ / m² Actation hardness (13) 2039-1 N / mm² Anardness (134) ISO 2039-2 N / mm² Adness D (3 / 15 s) ISO 868 N / mm² 62 / 60	ess to produce 1% strain (σ 1/1000)	ISO 899-1	N / mm²		
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SO 11542-2 kJ / m² 170	by impact strenght - Notched				
tct strength - Notched + 180/2A kJ / m² ct strength - Notched ++ 180/2A kJ / m² ctation hardness (13) 2039-1 N / mm² 33 hardness (134) ISO 2039-2 N / mm² dness D (3 / 15 s) ISO 868 N / mm² 62 / 60	py impact strength (15° V-notched,				
tet strength - Notched ++ 180/2A kJ / m² station hardness (13) 2039-1 N / mm² 33 hardness (134) ISO 2039-2 N / mm² dness D (3 / 15 s) ISO 868 N / mm² 62 / 60					
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hardness (134) ISO 2039-2 N / mm² dness D (3 / 15 s) ISO 868 N / mm² 62 / 60	impact strength - Notched ++				
dness D (3 / 15 s) ISO 868 N / mm ² 62 / 60	intentation hardness (13)			33	
	kwell hardness (134)	ISO 2039-2	N / mm²		
t of sliding friction m (14) - 0.15 - 0.25	e hardness D (3 / 15 s)	ISO 868	N / mm²	62 / 60	
		_	_	0,15 - 0,25	



μ/km

8

μ/km Sliding wear method O (14) Aunst stoffte Chritik Kulnn Grahl



ELECTRICAL PROPERTIES AT 23°C				
Electric strength (15)	IEC 60243-1	kV / mm	45	
Electric strength (15) ++	IEC 60243-1	kV / mm		
Volume resistivity +	IEC 60093	$\Omega \cdot cm$	> 10 ¹⁴	
Volume resistivity ++	IEC 60093	$\Omega \cdot cm$		
Surface resistivity +	IEC 60093	Ω	> 1012	
Surface resistivity ++	IEC 60093	Ω		
Relative permittivity ε				
• at 100 Hz +	IEC 60250	-	2,10	
• at 100 Hz ++	IEC 60250	-		
• at 1 MHz +	IEC 60250	-	3	
• at 1 MHz ++	IEC 60250	-		
Dielectric dissipation factor tan Delta δ				
• at 100 Hz +	IEC 60250	-	0,0000	
• at 100 Hz ++	IEC 60250	-	-,000	
• at 1 MHz +	IEC 60250	-	0,001	
• at 1 MHz ++	IEC 60250	-	-,	
Comparative tracking index (CTI) +	IEC 60112	-	600	
Comparative tracking index (CTI) ++	IEC 60112	-	000	



Legend

- 1. Following the ISO 62 written procedures Ø 50 x 3 mm.
- 2. The values listed for properties are largely taken from the material sheets supplied by raw material suppliers and other publications.
- 3. The properties listed are all values for semi-crystalline materials, and not amorphous materials.
- 4. Valid for just a few hours of thermal stress for applications where there is little or no mechanical stress.
- 5. Quoted thermal stability over 5,000 / 20,000 hours. Beyond this period, the tensile strength decreases to around 50% of the initial value. As with all thermoplastics, the maximum permissible operating temperature is in many cases primarily dependent on the duration and magnitude of the mechanical stress which occurs during exposure to heat.
- 6. In view of the reduction in impact strength with decreasing temperature, the lower service temperature limit is in practice particularly determined by the magnitude of the impact stress applied to the material. The values listed here are based on adverse shock loads and should not be considered an absolute practical limit.
- 7. It should be noted that these values, which have been estimated from the material sheets provided by raw material suppliers, must under no circumstances be taken as a guide to behaviour or reaction when the material is subject to fire. There are no "UL Yellow Cards" for these semi-finished products.
- 8. The data given for dry material (+) are mostly average values of tests carried out on test specimens consisting of round bars Ø40 60 mm. Considering the very low water absorption of POM, PET and PC, the values for the mechanical and electrical properties of dry (+) and damp (++) specimens of these materials can be considered almost equal.
- 9. Test piece: Type 1 B
- 10. Test speed: 20 mm/min. (5 mm/min for PA6.6 + GF, POM-C + PTFE and PET TX)
- 11. Test speed: 1 mm/min.
- 12. Test specimen: cylinder (Ø 12 x 30mm)
- 13. Pendulum used: 15 J.
- 14. Measured on 10-mm thick test specimens
- 15. Electrode configuration: two cylinders Ø 25 / Ø 75 mm; in transformer oil according to IEC 296; measured on 1-mm thick natural specimens. It is important to know that the dielectric strength of black extruded material (PA6, PA6.6, POM and PET) can be up to 50% lower than that of natural-coloured material. A possible microporosity in the centre of POM semi-finished products also results in a significant reduction in dielectric strength. This table is intended to assist you in selecting materials. The values listed here are within the usual range of product properties. However, they are not guaranteed property values and should not be used as the sole basis for construction. It should be noted that PA6.6 + GF is a fibre-reinforced material which is therefore considered anisotropic (properties are different dependent upon whether the fibres are parallel or perpendicular to the extrusion direction)