

1 Typical property values | Overview of typical values

(at 23 °C and 50 % rel. humidity)

Mechanical properties

	PLEXIGLAS® GS 233; 222; 209 (0F00; 0F00; 0Z09)	PLEXIGLAS® XT 20070; 29070 (0A000; 0A070)	PLEXIGLAS RESIST® 45; 65; 75; 100	Unit	Test standard
Density ρ	1.19	1.19	1.19	g/cm ³	ISO 1183
Impact strength a_{CU} (Charpy)	15	15	45; 65; 75; no break	kJ/m ²	ISO 179/1 fu
Notched impact strength a_{IN} (Izod)	1.6	1.6	2.5; 4.5; 6.0; 6.5	kJ/m ²	ISO 180/1A
Notched impact strength a_{CN} (Charpy)	-	-	3.5; 6.5; 7.5; 8.0	kJ/m ²	ISO 179/1eA
Tensile strength σ_M					
a) -40 °C	110	110	-		
b) 23 °C	80	72	60; 50; 45; 40		
c) 70 °C	40	35	-	MPa	ISO 527-2/1B/5
Elongation at break ϵ_B	5.5	4.5	-	%	ISO 527-2/1B/5
Nominal elongation at break ϵ_{Bn}	-	-	10; 15; 20; 25	%	ISO 527-2/1B/50
Flexural strength σ_{bb}					
Standard test specimen (80 x 10 x 4 mm ³)	115	105	95; 85; 77; 69	MPa	ISO 178 (5 mm/min)
Compressive yield stress σ_{df}	110	103	-	MPa	ISO 604
Max. safety stress σ_{max} (up to 40 °C)	5...10	5...10	5...10	MPa	-
Modulus of elasticity E_t (short-term value)	3300	3300	2700; 2200; 2000; 1800	MPa	ISO 527-2/1B/1
Min. cold bending radius	330 x thickness	330 x thickness	270 x thickness 210 x thickness 180 x thickness 150 x thickness	-	-
Dynamic shear modulus G at approx. 10 Hz	1700	1700	-	MPa	ISO 537
Indentation hardness $H_{961/30}$	175	175	145; 130; 120; 100	MPa	ISO 2039-1
Abrasion resistance in Taberabrader test (100 U.; 5.4 N; CS-10F)	20...30	20...30	20...30; 30...40; 30...40; 30...40	% Haze	ISO 9352
Coefficient of friction μ					
a) plastic/plastic	0.8	0.8	-		
b) plastic/steel	0.5	0.5	-		
c) steel/plastic	0.45	0.45	-	-	-
Poisson's ratio μ_b (dilatation speed of 5 % per min; up to 2 % dilatation; at 23 °C)	0.37	0.37	0.41; 0.42; 0.41; 0.43	-	ISO 527-1
Resistance to puck impact from thickness	-	12 mm (46/900 549)	-; 6 ¹⁾ ; (6); 6 ²⁾ mm (¹⁾ 46/901 869/Sm/C; ²⁾ 46/901 870/Sm/C)	-	Similar to DIN 18032, part 3