



TECHNICAL DATASHEET

PLEXIGLAS® XT 0A000

Acrylic XT sheets

PROPERTY	UNIT	VALUE	STANDARD	VARIABLE
General				
Density	g/cm ³	1,19	ISO 1183	23 °C, 50% RH
Mechanical				
Charpy unnotched impact strength	kJ/m ²	15	ISO 179/1fu	23 °C, 50% RH
Izod notched impact strength	kJ/m ²	1,6	ISO 180/1 A	23 °C, 50% RH
Tensile strength	MPa	100	ISO 527-2/1B/5	-40 °C, 50% RH
Tensile strength	MPa	72	ISO 527-2/1B/5	23 °C, 50% RH
Tensile strength	MPa	35	ISO 527-2/1B/5	70 °C, 50% RH
Elongation at break	%	4,5	ISO 527-2/1B/5	23 °C, 50% RH
Flexural strength	MPa	105	ISO 178	23 °C, 50% RH, specimen (80x10x- 4mm)
Compressive yield stress	MPa	103	ISO 604	23 °C, 50% RH
Maximum safety stress	MPa	5 to 10		up to 40 °C, 50% RH
Modulus of elasticity (short-term value)	MPa	3300	ISO 527-2/1B/1	23 °C, 50% RH
Minimum cold bending radius		330 x thickness		23 °C, 50% RH
Dynamic shear modulus at approx. 10 Hz	MPa	1700	ISO 537	23 °C, 50% RH
Indentation hardness	MPa	175	ISO 2039-1	23 °C, 50% RH
Abrasion resistance in Taber abrader test (100 rev.; 5,4 N; CS-10F)	% Haze	20 to 30	ISO 9352	23 °C, 50% RH
Coefficient of friction (plastic / plastic)		0,8		23 °C, 50% RH
Coefficient of friction (plastic / steel)		0,5		23 °C, 50% RH
Coefficient of friction (steel / plastic)		0,45		23 °C, 50% RH

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Mechanical				
Poisson's ratio (dilatation speed of 5% per min; up to 2% dilatation)		0,37	ISO 527-1	23 °C, 50% RH
Thermal				
Coefficient of linear thermal expansion	mm/m °C	0,07	DIN 53752-A	0 - 50 °C
Possible expansion due to heat and moisture	mm/m	5		
Thermal conductivity	W/mK	0,19	DIN 52612	
U-value k	W/m²K	5,8	DIN 4701	t: 1 mm
U-value k	W/m²K	5,6	DIN 4701	t: 3 mm
U-value k	W/m²K	5,3	DIN 4701	t: 5 mm
U-value k	W/m²K	4,4	DIN 4701	t: 10 mm
Specific heat	J/gK	1,47		
Forming temperature	°C	150 to 160		
Maximum surface temperature (IR radiator)	°C	180		
Maximum permanent service temperature	°C	70		
Reverse forming temperature	°C	> 80		
Ignition temperature	°C	430	DIN 51794	
Smoke gas volume		very little	DIN 4102	
Smoke gas toxicity		none	DIN 53436	
Smoke gas corrosiveness		none		
Building material class		B2	DIN 4102	
Vicat softening temperature	°C	103	ISO 306 Method B 50	
Heat deflection temperature under load (HDT)	°C	95	ISO 75	1,8 MPa deflection
Heat deflection temperature under load (HDT)	°C	100	ISO 75	0,45 MPa deflection
Fire classification				
Fire rating UK		Class 3	BS 476 Part 7+6	
Fire rating DE + EU		E	DIN EN 13501	

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Acoustical				
Sound velocity	m/s	2700 - 2800	ISO 527-1	room temp.
Weight sounded reduction index	dB	26		t: 4 mm
Weight sounded reduction index	dB	30		t: 6 mm
Weight sounded reduction index	dB	32		t: 10 mm
Optical				
Transmittance	%	~ 92	DIN 5036, Part 3	
UV transmission		no		
Reflection loss to visible range	%	4		
Total energy transmittance	%	85	DIN EN 410	
Absorption in the visible range	%	<0,05		
Refractive index		1,491	ISO 489	
Electrical				
Volume resistivity	Ohm*cm	>10 ¹⁵	DIN VDE 0303, Part 3	
Surface resistivity	Ohm	5*10 ¹³	DIN VDE 0303, Part 3	
Dielectric strength	kV/mm	~ 30	DIN VDE 0303, Part 2	t: 1 mm
Dielectric constant		3,7	DIN VDE 0303, Part 4	50 Hz
Dielectric constant		2,8	DIN VDE 0303, Part 4	0,1 MHz
Dissipation factor		0,06	DIN VDE 0303, Part 4	50 Hz
Dissipation factor		0,02	DIN VDE 0303, Part 4	0,1 MHz
Tracking, CTI-Value		600	DIN VDE 0303, Part 1	

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Water				
Water absorption from dry state; specimen 60x60x2 mm	mg	38	ISO 62, Method 1	24 h, 23 °C
Maximum weight gain during immersion	%	2,1	ISO 62, Method 1	
Permeability to water vapour	g*cm	$2,3 \cdot 10^{-10}$		
Permeability to N ₂	g*cm	$4,5 \cdot 10^{-15}$		
Permeability to O ₂	g*cm	$2,0 \cdot 10^{-14}$		
Permeability to CO ₂	g*cm	$1,1 \cdot 10^{-13}$		
Permeability to air	g*cm	$8,3 \cdot 10^{-15}$		