

Properties of Altuglas®

Table of specifications

MAIN CHARACTERISTICS				INDICATIVE VALUES				
TEST METHOD				UNITS	ALTUGLAS® CN		ALTUGLAS® EX	
ISO	NF	Others	Thickness mm		Value	Thickness mm	Value	

GENERAL PROPERTIES

Water absorption, 24 hrs	62	T 51002	DIN 53495	%	4	0,30	4	0,30
Water absorption, 8 days	62	T 51002	DIN 53495	%	4	0,50	4	0,50
Water absorption, max. (total immersion, 1200 hrs)			Internal	%	3	1,75	3	1,75
Density	1183	T 51063	DIN 53479			1,19		1,19

MECHANICAL PROPERTIES

Poisson ratio to 20°C						0,39		0,39
Tensile strength to 23°C	527	T 51034	DIN 53455					
Stress at break	-2/1A/5			MPa	4	76	4	74
Modulus of elasticity				MPa	4	3300	4	3300
Elongation at break				%	4	6	4	5
Tensile strength to -20°C	527	T 51304	DIN 53455					
Stress at break	-2/1A/5			MPa	4	102		
Elongation at break				%	4	5		
Tensile strength to 80°C	527	T 51304	DIN 53455					
Stress at break	-2/1A/5			MPa	4	24		
Elongation at break				%	4	22		
Tensile strength to 23°C	178*	T 51001	DIN 53452					
Stress at break				MPa	4	130	4	120
Modulus of elasticity				%	4	3250	4	3250
Charpy impact strength (un-notched)	179/2D	T 51035	DIN 53453	Kj/m ²	4	12	4	10
Izod impact strength (notched)	180/1A		ASTM D256A	Kj/m ²	4	1,4	4	1,3
Hardness, Rockwell Scale M	2039		ASTM D785			100		95
Hardeness, Shore Scale D	868	T 51109				60-70		80
Compressive strength	684	T 51101	DIN 53454	MPa	4	130	4	110
Shear strength - dynamic modulus			DIN 53445	MPa		1700		1700

OPTICAL PROPERTIES

Light transmittance	T 51068	DIN 5036						
3 mm thick				%	3	92	3	92
3 mm thick				%	5	92	5	92
8 mm thick				%			8	92
10 mm thick				%	10	92		
Refractive index	T 51064	DIN 53491				1,492		1,492

NB: The standards quoted are not always strictly equivalent. We have given the average values of our laboratory tests, as an indicator only.

*Speed: 1 mm/min.

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MAIN CHARACTERISTICS

TEST METHOD

ISO	NF	Others
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INDICATIVE VALUES

UNITS	ALTUGLAS® CN		ALTUGLAS® EX	
	Thickness mm	Value	Thickness mm	Value

ELECTRICAL PROPERTIES

Dielectric strength		C 26225	DIN 53481	KV/mm		20 to 25	20 to 25
Transverse resistivity		C 26215	DIN 53482	Ohm.cm		> 10 ¹⁵	> 10 ¹⁵
Dielectric constant		C 26230	DIN 53483				
to 50 Hz						3,7	3,7
to 0,1 MHz						2,6	2,6

THERMAL PROPERTIES

Coefficient of linear expansion	EN 2155-1	T 51251	DIN 52328	mm/m/°C		0,065	0,065
Thermal conductivity			DIN 52612	W/m/°C		0,17	0,19
Specific heat			ASTM C 351	J/g/°C		1,32	1,32
Insulation coefficient K			DIN 4701				
3 mm thick				W/m ² /°C	3	5,4	3
5 mm thick				W/m ² /°C	5	5,1	5
10 mm thick				W/m ² /°C	10	4,5	10
Vicat softening point B 50 conditioned samples	306	T 51021	DIN 53460	°C		115	105
Heat distortion temperature under load, 1,80 N/mm ² conditioned samples	75/A	T 51005	DIN 53461	°C		109	102
Max. continuous service temperature				°C		85	80
Forming oven temperature				°C		130-190	140-175
Max. heating temperature				°C		200	180
Max. linear shrinkage offer heating, thickness ≥ 3 mm				%		2	3
Max. linear shrinkage offer heating, thickness < 3 mm				%		2	6
Max. superficial temperature under infrared				°C		220	210

FLAMMABILITY

Self-ignition temperature				°C		approx.450	approx.450
Euroclass classification			EN 13501			E	E
Flame resistance (Radiant heat sources)		P 92501			3	M4	M4
Melt behaviour when burning		P 92505			3	non-drip	drips
Flame resistance			DIN 4102			B2	B2
Flame resistance			BS 476 Pt.7			class 3	class 4
Flame resistance			UL 94			HB	HB
Oxygen index			ASTM 2863 77	%		18	18
Chlorine content				%		0	0
Nitrogen content				%		< 0,02	< 0,02