

4 Technical Properties

Typical property values
(at 20° C and 50% relative humidity)

Mechanical Properties	NORM63	Unit	Cast
Specific weight	DIN 53479	gr/cm ³	1,19
Impact strength (Charpy)	DIN 53453	kJ/m ²	15
Notched impact strength a iN (Izod)	DIN 53453	kJ/m ²	1,6
Tensile strength δM	D638	Mpa	
-40° C			110
20° C			80
70° C			40
Elongation at break	DIN 53455	%	5,5
Flexural strength (st. test specimen 80x10x4 mm ³)	D790	Mpa	115
Compressive yield stress	-	MPa	110
Max safety stress δ_{max} (up to 40° C)	-	Mpa	5 ... 10
modulus of elasticity Et (short-term value)	D790	MPa	3300
Indentation hardness H 961/30	DIN 53456	MPa	175
Abrasion resistance in Taber abrader test (100 rev.; 5,4 N; CS-10F)	-	% Haze	20 ... 30
Coefficient of friction μ	-	-	
a) plastic/plastic			0,8
b) plastic/steel			0,5
c) stell/plaric			0,45
Poisson's ratio μ (dilatation spees of 5%/min; up to 2% dilatation; at 20°C)	-	-	0,37
Resistance to puck impact from thickness (FMPA Stuttgart – Germany)	similar to DIN 18032	-	12 mm
Sound velocity	-	m/s	2700 ... 2800

⁶³ The norms indicated in this table are taken from: a) DIN: German Society for Standardisation; b) D (or ASTM): American Society for Testing Materials



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Weight sounded reduction index R_w at thickness	-	dB	
4 mm			26
6 mm			30
10 mm			32
Optical Properties			
Transmittance T_{D65}	DIN 5036	%	~ 92
UV transmission	-	-	no
Reflection loss the visible range (each surface)	-	%	4
Adsorption in the visible range	-	%	<0,05
Refractive index n_{D20}	-	-	1,491
ELECTRICAL PROPERTIES			
Volume resistivity (ρ)	DIN VDE 0303	ohm . cm	>1015
Dielectric strength E_d (1 mm specimen thickness)	DIN VDE 0303	kV/mm	~ 30
Dielectric constant at 50 MHz	DIN 53483	-	3.6
at 0,1 MHz			2.7
Dielectric loss factor at 50 MHz	DIN 53483	-	0.06
at 0,1 MHz			0.02
THERMAL PROPERTIES			
Coefficient of linear thermal expansion	DIN 53752	mm/m °C	0,7
Possible expansion to heat and moisture	-	mm/m	5
Thermal conductivity at 20°C	DIN 52612	W/(mK)	0,19
U-value for thickness:	DIN 4701	W/m2K	
1 mm.			5,8
3 mm.			5,6
5 mm.			5,3
10 mm.			4,4
Specific Heat c	-	J/gK	1,47
Forming temperature	-	°C	160 ... 175
Max. surface temperature (IR radiator)	-	°C	200
Max. service temperature (without mech. stress)	-	°C	80



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Ignition temperature	DIN 51794	°C	425
Fire rating (material thickness > 2 mm.)	DIN 4102	-	B2, normally flammable
Heat deflection temperature under load (HDT)	-	°C	
deflection 1,8 MPa			105
deflection 0,45 MPa			113
Behavior Towards Water			
Water absorption (24 h. 20° C) from dry state; specimen 60 x 60 x 2 mm ³	DIN 53495	mg	41
Max weight gain during immersion	DIN 53495	%	2,1

Our technical advice to the uses of our materials are typical values supplied in accordance with our tests and with the normally commercially acceptable standard. They are given without any obligation. The buyer is responsible for the application and processing of our products and is also liable for observing any third party rights.

