

Properties of delrin 150 (polyoxymethylene)

Properties	Verification ASTM	Homo-polymer «Delrin»	Properties	Verification ASTM	Homo-polymer «Delrin»
Density	D 792	1.42g/cm ³	Izod impact strength	D 256	
Tensile strength	D 638		Unnotched		no break
At -55°C		101 N/mm ²	Notched à -40°C		96 J/m
At +23°C		69 N/mm ²	Notched à +23°C		23 J/m
At +70°C		48 N/mm ²	Tensile impact strength	D 1822	350 kJ/m ²
At +100°C		36 N/mm ²	Deformation under load (14Nmm ² to 50°C)	D 621	0,5%
At +122°C		26 N/mm ²	Hardness (Rockwell)	D 785	M94 - R120
Elongation at break	D 638		Water absorption	D 570	
At -55°C		0,38%	24H immersion		0,25%
At +23°C		75%	Equilibrium 50%RH		0,22%
At +70°C		230%	Equilibrium continuous immersion		0,90%
At +100°C		< 260%	Coefficient of dynamic		
At +122°C		> 260%	Friction against steel - dry	D 1894	
Tensile E modulus	D 638	3100 N/mm ²	Water lubricated	-61 T	0,10 - 0,30
Shear strength	D 732	66 N/mm ²	Oil lubricated		0,10 - 0,20
Flexural modulus	D 790		Against brass		0,05 - 0,10
At -55°C		3650 N/mm ²	Against aluminium		0,15
At +23°C		2620 N/mm ²	Against polyacetal		0,15
At +70°C		1550 N/mm ²	Flammability	UL 94	HB
At +100°C		895 N/mm ²	Thermal conductivity		0,37W/mK
At +122°C		620 N/mm ²	Specific conductivity		1,47kJ/kgK
Flexural fatigue endurance limit	D 671	32 N/mm ²	Maximum continuous use temperature		
Melting point	D 2133	175°C	In air		+90°C
Deflection temperature under flexural load	D 648		In water		+65°C
1,8 N/mm ²		136°C	Maximum intermittent use temperature		
0,5 N/mm ²		172°C	In air		+150°C
Coefficient of linear thermal expansion	D 696		In water		+80°C
From -40°C to +30°C		10,4 1x10 ⁻⁵ °C	Minimum continuous use temperature		-40°C
From -30°C to +60°C		12,2 1x10 ⁻⁵ °C	Dielectric strength short-time (2.3mm sheet)	D149	20kV/mm
From +60°C to +105°C		13,7 1x10 ⁻⁵ °C	Dielectric constant	D150	3,7 10 ² -10 ⁶ Hz
From +105°C to +150°C		14,9 1x10 ⁻⁵ °C			
Volume resistivity	D 257	10 ¹⁵ ohm.cm			
Surface resistivity	D 257	10 ¹³ ohm.cm			
Dissipation factor	D 150	0,05 MHz			
Compressive stress	D 695				
At 1% de deformation		36 N/mm ²			
At 10% de deformation		124 N/mm ²			