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TECHNICAL PROPERTIES OF ZL™ 900 XUELS (POM-C, conductive)

07/2007

Property		Units	Test Method	Condition of Specimen	Value
MECHANICAL PROPERTIES					
Tensile Strength at Break		kpsi	ASTM D 638	dry	10
		kpsi		moist	
Elongation at Break		%	ASTM D 638	dry	11
		%		moist	
Modulus of Elasticity in Tension		kpsi	ASTM D 638	dry	520
		kpsi		moist	
Charpy Impact Strength	+23 °C	ft./lbs./in.	ASTM D 256/1 epA	dry	
	-40 °C			dry	
Charpy Impact Strength (Notched)		kJ/m²	ASTM D 256/1 epA	dry	
		kJ/m²		moist	
Hardness Shore Scale D			ASTM D 2240	dry	80
Time Yield Limit $\sigma_{1/1000}$	23°C/50% RH	N/mm²		moist	
	100 °C	N/mm²		dry	
Apparent Modulus $E_{C/1000\ 2O}$	23°C/50% RH	N/mm²		moist	
THERMAL PROPERTIES					
Heat Distortion Temperature	Method A	°F	ISO 75	dry	
	Method B	°F		dry	
Melting Point	Method A	°F	ISO 3146	-	347
Maximum Service Temperature for few Hours Operation		°F		-	
TEP 5,000 Hours (50% of Tensile Strength) [1]		°F	IEC 216	-	
TEP 20,000 Hours (50% of Tensile Strength) [1]		°F	IEC 216	-	
Thermal Coefficient of Linear Expansion		$1/K.10^{-5}$	DIN 53752	dry	
Thermal Conductivity	Method A	W/(K.m)	DIN 52612	dry	
Specific Heat Capacity		J/(g.K)	IEC 1006	dry	
DIELECTRIC PROPERTIES					
Dielectric Constant	1 MHz	-	IEC 250	dry	
		-		moist	
Dissipation Factor tan δ	1 MHz	-	IEC 250	dry	
		-		moist	
Dielectric Strength		KV/mm	ASTM D 149	dry	
		KV/mm	ASTM D 149	moist	
Volume Resistivity		Ω.cm	ASTM D 257	dry	10^5
		Ω.cm	ASTM D 257	moist	
Surface Resistivity		Ω	ASTM D 257	dry	10^4
		Ω	ASTM D 257	moist	
Resistance to Tracking	KA/KB method	-		dry/moist	
	KC method	-		dry/moist	
MISCELLANEOUS PROPERTIES					
Mass Density	Method D, E	g/cm³	ASTM D 792	dry	1.41
Moisture Absorption at 23°C/50%RH, Saturation		%	ISO 1110	-	
Water Absorption at 23°C	Saturation	%	ISO 62	-	
Fire Performance	Flammability Acc. VDE		VDE 0304	dry	
	Flammability of interior materials in passenger cars h>1mm	mm/min	FMVSS 302	moist	
	Flammability acc. UL (thickness of specimen 1.6 mm)	-	UL 94	-	
Resistance to Wear [2]		µm/km	ISO 7148-2	dry	

[1] Data of resin only

[2] Made by a pin / rotating disc test according DIN-ISO 7148-2 under following conditions:
R_a = 0.35 - 0.45 µm (steel disc), v = 0.3 m/s, p = 3 N/mm², time T > 16 h

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