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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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