

Datasheet AS ZL 1100

(1): Data of the resin only.
(2): Made by a pin/rotating disc test according DIN ISO 7148-2 under following conditions: Ra = 0.35 – 0.45 µm (steel disc), v = 0.3 m/s, p = 3 N/mm² and time T>16h.

Dry: Dried at 80 °C and 1 mbar until weight is constant (moisture content less than 0.2%).
Moist: After storage in a standard atmosphere of 23 °C and 50% relative humidity (DIN 50014) until saturation.

Availability*: In stock.
Availability **: Not in stock.

Material	
Material	Cast nylon
Color	-

Availability**	Unit	Value
Rod diameter	mm	-
Tube O.D.	mm	-
Sheet thickness	mm	-

Physical Properties	Test Standard	Unit	Condition of Specimen	Value
Mass density (method D and E)	ISO 1183	g/cm ³	Dry	1.15
Moisture absorption at 23 °C and 50% RH (saturation)	ISO 62	%		2.5-3.0
Water absorption at 23 °C (saturation)	ISO 62	%		6.0-7.0

Mechanical Properties	Test Standard	Unit	Condition of Specimen	Value
Tensile strength at break	ISO 527	MPa	Dry	88-90
Tensile strength at break	ISO 527	MPa	Moist	68-70
Elongation at break	ISO 527	%	Dry	10-40
Elongation at break	ISO 527	%	Moist	40-80
Modulus of elasticity in tension	ISO 527	MPa	Dry	3900
Modulus of elasticity in tension	ISO 527	MPa	Moist	2500
Charpy impact strength (+23 °C)	ISO 179/IeU	kJ/m ²	Dry	No break
Charpy impact strength (-40 °C)	ISO 179/IeU	kJ/m ²	Dry	-
Charpy impact strength (notched)	ISO 179/IeA	kJ/m ²	Dry	2.5-3
Charpy impact strength (notched)		kJ/m ²	Moist	5-10
Hardness shore scale D	ISO 868		Dry	83-85
Time yield limit σ 1/1000 (23 °C/50% RH)	ISO 899	MPa	Moist	Up to 5
Time yield limit σ 1/1000 (100 °C)	ISO 899	MPa	Dry	-
Apparent modulus E C/1000 20 (23 °C/50% RH)	ISO 899	MPa	Moist	-

Electrical Properties	Test Standard	Unit	Condition of Specimen	Value
Dielectric constant 1 MHz	IEC 250		Dry	-
Dielectric constant	IEC 250		Moist	-
Dissipation factor $\tan \delta$ (1 MHz)	IEC 250		Dry	-
Dissipation factor $\tan \delta$	IEC 250		Moist	-
Dielectric strength	IEC 243	kV/mm	Dry	-
Dielectric strength	IEC 243	kV/mm	Moist	15-20
Volume resistivity	IEC 93	$\Omega \cdot \text{cm}$	Dry	-
Volume resistivity	IEC 93	$\Omega \cdot \text{cm}$	Moist	$3 \cdot 5 \times 10^{12}$
Surface resistivity ROA	IEC 93	Ω	Dry	-
Surface resistivity ROA	IEC 93	Ω	Moist	$1 \cdot 3 \times 10^{10}$
Resistance to tracking (KA/KB method)	IEC 112		Dry/Moist	-
Resistance to tracking (KC method)	IEC 112		Dry/Moist	-

Thermal Properties	Test Standard	Unit	Condition of Specimen	Value
Heat distortion temperature (method A)	ISO 75	$^{\circ}\text{C}$	Dry	-
Heat distortion temperature (method B)	ISO 75	$^{\circ}\text{C}$	Dry	-
Melting point (method A)	ISO 3146	$^{\circ}\text{C}$		-
Max. service temperature for few hours operation		$^{\circ}\text{C}$		-
TEP 5.000 hours (50% of tensile strength) ⁽¹⁾	IEC 216	$^{\circ}\text{C}$		-
TEP 20.000 hours (50% of tensile strength) ⁽¹⁾	IEC 216	$^{\circ}\text{C}$		-
Thermal coefficient of linear expansion	DIN 53752	$1/\text{K} \cdot 10^{-5}$	Dry	8×10^{-5}
Thermal conductivity (method A)		$\text{W}/(\text{K} \cdot \text{m})$	Dry	-
Specific heat	IEC 1006	$\text{J}/(\text{g} \cdot \text{K})$	Dry	1.67
Fire performance (flameability according VDE)	VDE 0304		Dry	-
Fire performance (flameability of interior materials in passenger cars $h > 1 \text{ mm}$)	FMVSS 302	mm/min	Moist	-
Fire performance (flameability according UL standards, thickness of specimen 1.6 mm)	UL 94			HB

Friction Properties	Test Standard	Unit	Condition of Specimen	Value
Resistance to wear ⁽²⁾	ISO 7148-2	$\mu\text{m}/\text{km}$	Dry	-