

## Datasheet AS ZL 900 AS



Static electricity is dissipated along the surface and this product does not need humidity or other surface treatments to achieve the antistatic performance. The excellent technical value of surface resistivity of  $10^{10} \Omega$  and volume resistivity of  $10^9 \Omega \cdot \text{cm}$  are offering cutting edge properties for new applications in various industries. The permanently antistatic property is not influenced by humidity and there is no migration taking place. The product does not contain carbon and is therefore prepared for clean room applications. The excellent POM-C (acetal copolymer) properties such as high impact strength, low wear and dimensional stability are not much changed.

**Applications for electrical conductive and antistatic acetals:** Parts in use where electrical discharge in operation is a problem.

**Used in:** Robotics, material handling, mining, high speed printing, electric, electronic and semiconductor industries, mobile phone production plants.

**Applications:** Insulators, relay and transformer housings, bearings, slide pads, integrated circuits, hard disk drives, circuit boards, coil bodies.

(1): Data of the resin only.

(2): Made by a pin/rotating disc test according DIN ISO 7148-2 under following conditions:  $R_a = 0.35 - 0.45 \mu\text{m}$  (steel disc),  $v = 0.3 \text{ m/s}$ ,  $p = 3 \text{ N/mm}^2$  and time  $T > 16\text{h}$ .

**Dry:** Dried at  $80 \text{ }^\circ\text{C}$  and 1 mbar until weight is constant (moisture content less than 0.2%).

**Moist:** After storage in a standard atmosphere of  $23 \text{ }^\circ\text{C}$  and 50% relative humidity (DIN 50014) until saturation.

Availability\*: In stock.

Availability \*\*: Not in stock.

Material	
Material	Antistatic POM copolymer
Color	Ivory

Availability*	Unit	Value
Rod diameter	mm	6-150
Tube O.D.	mm	-
Sheet thickness	mm	8-50

Physical Properties	Test Standard	Unit	Condition of Specimen	Value
Mass density (method D and E)	ISO 1183	g/cm <sup>3</sup>	Dry	1.35
Moisture absorption at 23 °C and 50% RH (saturation)	ISO 62	%		-
Water absorption at 23 °C (saturation)	ISO 62	%		-

Mechanical Properties	Test Standard	Unit	Condition of Specimen	Value
Tensile strength at break	ISO 527	MPa	Dry	40
Tensile strength at break	ISO 527	MPa	Moist	-
Elongation at break	ISO 527	%	Dry	72
Elongation at break	ISO 527	%	Moist	-
Modulus of elasticity in tension	ISO 527	MPa	Dry	1380
Modulus of elasticity in tension	ISO 527	MPa	Moist	-
Charpy impact strength (+23 °C)	ISO 179/IeU	kJ/m <sup>2</sup>	Dry	No break
Charpy impact strength (-40 °C)	ISO 179/IeU	kJ/m <sup>2</sup>	Dry	-
Charpy impact strength (notched)	ISO 179/IeA	kJ/m <sup>2</sup>	Dry	-
Charpy impact strength (notched)		kJ/m <sup>2</sup>	Moist	-
Hardness shore scale D	ISO 868		Dry	74
Time yield limit $\sigma$ 1/1000 (23 °C/50% RH)	ISO 899	MPa	Moist	-
Time yield limit $\sigma$ 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	14
Dielectric strength	IEC 243	kV/mm	Moist	-
Volume resistivity	IEC 93	$\Omega \cdot \text{cm}$	Dry	$10^9-10^{10}$
Volume resistivity	IEC 93	$\Omega \cdot \text{cm}$	Moist	-
Surface resistivity ROA	IEC 93	$\Omega$	Dry	$10^9-10^{10}$
Surface resistivity ROA	IEC 93	$\Omega$	Moist	-
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	°C	Dry	-
Heat distortion temperature (method B)	ISO 75	°C	Dry	-
Melting point (method A)	ISO 3146	°C		165
Max. service temperature for few hours operation		°C		-
TEP 5.000 hours (50% of tensile strength) <sup>(1)</sup>	IEC 216	°C		-
TEP 20.000 hours (50% of tensile strength) <sup>(1)</sup>	IEC 216	°C		-
Thermal coefficient of linear expansion	DIN 53752	$1/\text{K} \cdot 10^{-5}$	Dry	-
Thermal conductivity (method A)		W/(K·m)	Dry	-
Specific heat	IEC 1006	J/(g·K)	Dry	-
Fire performance (flameability according VDE)	VDE 0304		Dry	-
Fire performance (flameability of interior materials in passenger cars h>1 mm)	FMVSS 302	mm/min	Moist	-
Fire performance (flameability according UL standards, thickness of specimen 1.6 mm)	UL 94			-

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