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Datasheet AS ZL 202 MO

In comparison with unfilled PA 6 improved sliding properties at slightly higher compressive strength. UV-radiation resistance is enhanced by its black color. It has also improved wear resistance and lower surface friction than unfilled PA 6, moisture absorption is also a bit lower.

Applications: Slide bearings with low coefficient of friction, sleeves, cams, gears, pinions, thrust washers, valve seats and bearings.

(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	Nylon 6 filled with molybdenum disulfide (MoS2)
Color	Black

Availability**	Unit	Value
Rod diameter	mm	6-200
Tube O.D.	mm	25-280
Sheet thickness	mm	2-100

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Physical Properties	Test Standard	Unit	Condition of Specimen	Value
Mass density (method D and E)	ISO 1183	g/cm³	Dry	1.15
Moisture absorption at 23 °C and 50% RH (saturation)	ISO 62	%		3
Water absorption at 23 °C (saturation)	ISO 62	%		8

Mechanical Properties	Test Standard	Unit	Condition of Specimen	Value
Tensile strength at break	ISO 527	MPa	Dry	75
Tensile strength at break	ISO 527	MPa	Moist	-
Elongation at break	ISO 527	%	Dry	25
Elongation at break	ISO 527	%	Moist	-
Modulus of elasticity in tension	ISO 527	MPa	Dry	2700
Modulus of elasticity in tension	ISO 527	MPa	Moist	-
Charpy impact strength (+23 °C)	ISO 179/IeU	kJ/m²	Dry	No break
Charpy impact strength (-40 °C)	ISO 179/IeU	kJ/m²	Dry	-
Charpy impact strength (notched)	ISO 179/IeA	kJ/m²	Dry	-
Charpy impact strength (notched)		kJ/m²	Moist	-
Hardness shore scale D	ISO 868		Dry	80
Time yield limit σ 1/1000 (23 °C/50% RH)	ISO 899	MPa	Moist	-
Time yield limit σ 1/1000 (100 °C)	ISO 899	MPa	Dry	-
Apparent modulus E C/1000 2O (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 δ (1 MHz)	IEC 250		Dry	-
Dissipation factor tan δ	IEC 250		Moist	-
Dielectric strength	IEC 243	kV/mm	Dry	-
Dielectric strength	IEC 243	kV/mm	Moist	-
Volume resistivity	IEC 93	Ω·cm	Dry	$>10^{12}$
Volume resistivity	IEC 93	Ω·cm	Moist	-
Surface resistivity ROA	IEC 93	Ω	Dry	$>10^{12}$
Surface resistivity ROA	IEC 93	Ω	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 disortion temperature (method A)	ISO 75	°C	Dry	-
Heat disortion temperature (method B)	ISO 75	°C	Dry	-
Melting point (method A)	ISO 3146	°C		220
Max. service temperature for few hours operation		°C		-
TEP 5.000 hours (50% of tensile strength) (1)	IEC 216	°C		-
TEP 20.000 hours (50% of tensile strength) (1)	IEC 216	°C		-
Thermal coefficent of linear expansion	DIN 53752	$1/K \cdot 10^{-5}$	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 passanger cars h>1 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	µm/km	Dry	-