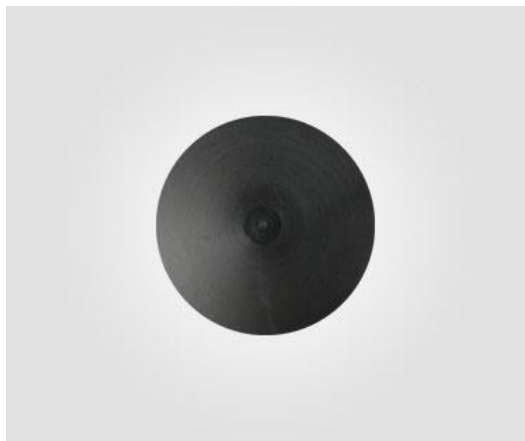


Datasheet AS ZL 900 SW



POM is a semi crystalline thermoplastic and is characterized by a low coefficient of friction and good wear properties, unaffected by wet environments. POM offers good resistance to a wide range of chemicals including many solvents. As water absorption is almost zero, dimensional accuracy and stability is higher than that of nylons. Acetal provides high strength and stiffness coupled with easy machine ability. AS ZL 900 SW is also noted for its high mechanical strength, heat resistance and good antifriction properties.

AS ZL 900 SW, is according to ASTM D 6100, porosity free and most formulations are approved for contact with food (BfR, FDA compliant). For parts which need to be dimensionally stable even exposed to humidity or wet environments, copolymeric acetal offers better hot water, thermal and chemical resistance than homopolymeric acetal.

AS ZL 900 SW can also be custom made in various colors.

Used in: Food processing, agriculture, medical, electric, electronic, automotive, general machine building, transport and logistics, bottle and car washing equipment, sports equipment, office machinery, textile.

Applications: Bearings and bushings in humid and wet environments, gears, guide rollers in lift gate systems, levers, springs, snap connectors, cam switches, clamps, pump components, mud handling equipment, instrument handles.

(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 | POM-C |
| Color | Black |

| Availability* | Unit | Value |
|-----------------|------|--------|
| Rod diameter | mm | 6-500 |
| Tube O.D. | mm | 25-500 |
| Sheet thickness | mm | 2-150 |

| Physical Properties | Test Standard | Unit | Condition of Specimen | Value |
|--|---------------|-------------------|-----------------------|-----------|
| Mass density (method D and E) | ISO 1183 | g/cm ³ | Dry | 1.41-1.43 |
| Moisture absorption at 23 °C and 50% RH (saturation) | ISO 62 | % | | 0.2 |
| Water absorption at 23 °C (saturation) | ISO 62 | % | | 0.25 |

| Mechanical Properties | Test Standard | Unit | Condition of Specimen | Value |
|---|---------------|-------------------|-----------------------|----------|
| Tensile strength at break | ISO 527 | MPa | Dry | 70 |
| Tensile strength at break | ISO 527 | MPa | Moist | - |
| Elongation at break | ISO 527 | % | Dry | 40 |
| Elongation at break | ISO 527 | % | Moist | - |
| Modulus of elasticity in tension | ISO 527 | MPa | Dry | 3000 |
| Modulus of elasticity in tension | ISO 527 | MPa | Moist | - |
| 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 | 80 |
| Charpy impact strength (notched) | ISO 179/IeA | kJ/m ² | Dry | - |
| Charpy impact strength (notched) | | kJ/m ² | Moist | - |
| Hardness shore scale D | ISO 868 | | Dry | 81 |
| Time yield limit σ 1/1000 (23 °C/50% RH) | ISO 899 | MPa | Moist | 14 |
| 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 | 3.8 |
| Dielectric constant | IEC 250 | | Moist | - |
| Dissipation factor tan δ (1 MHz) | IEC 250 | | Dry | 0.024 |
| Dissipation factor tan δ | IEC 250 | | Moist | - |
| Dielectric strength | IEC 243 | kV/mm | Dry | >20 |
| Dielectric strength | IEC 243 | kV/mm | Moist | - |
| Volume resistivity | IEC 93 | $\Omega \cdot \text{cm}$ | Dry | 10 ¹⁵ |
| Volume resistivity | IEC 93 | $\Omega \cdot \text{cm}$ | Moist | - |
| Surface resistivity ROA | IEC 93 | Ω | Dry | - |
| Surface resistivity ROA | IEC 93 | Ω | Moist | - |
| Resistance to tracking (KA/KB method) | IEC 112 | | Dry/Moist | KB>600 |
| 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 | 110 |
| Heat distortion temperature (method B) | ISO 75 | °C | Dry | 160 |
| Melting point (method A) | ISO 3146 | °C | | 164-168 |
| 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 | | 100 |
| Thermal coefficient of linear expansion | DIN 53752 | 1/K·10 ⁻⁵ | Dry | 11 |
| Thermal conductivity (method A) | | W/(K·m) | Dry | - |
| Specific heat | IEC 1006 | J/(g·K) | Dry | 1.5 |
| Fire performance (flameability according VDE) | VDE 0304 | | Dry | BH 3-25 mm/min |
| 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 | | | HB |

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