

## Rilsamid® AZM 30 O TLD

PA12-GF30

### Rilsamid® AZM 30 O TLD (PA12, MHLR, 14-070, GF 30) resin

**Rilsamid® AZM 30 O TLD resin** is a fiberglass reinforced polyamide. This natural grade is designed for injection moulding.

This grade is also available in green (Rilsamid® AZM 30 Green 56827 TLD resin) and grey (Rilsamid® AZM 30 Grey 632 TLD resin).

<b>Rheological properties</b>	<b>dry / cond</b>	<b>Unit</b>	<b>Test Standard</b>
Melt volume-flow rate, MVR	<b>21 / *</b>	cm <sup>3</sup> /10min	ISO 1133
Temperature	<b>235 / *</b>	°C	-
Load	<b>5 / *</b>	kg	-

<b>Mechanical properties</b>	<b>dry / cond</b>	<b>Unit</b>	<b>Test Standard</b>
Tensile Modulus	<b>- / 7530</b>	MPa	ISO 527-1/-2
Stress at break	<b>121 / 120</b>	MPa	ISO 527-1/-2
Strain at break	<b>5 / 5</b>	%	ISO 527-1/-2
Charpy impact strength, +23°C	<b>- / 80</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy impact strength, -30°C	<b>- / 90</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, +23°C	<b>- / 16</b>	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -30°C	<b>- / 13</b>	kJ/m <sup>2</sup>	ISO 179/1eA

<b>Thermal properties</b>	<b>dry / cond</b>	<b>Unit</b>	<b>Test Standard</b>
Melting temperature, 10°C/min	<b>180 / *</b>	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.80 MPa	<b>170 / *</b>	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	<b>175 / *</b>	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	<b>165 / *</b>	°C	ISO 306
Coeff. of linear therm. expansion, parallel	<b>50 / *</b>	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm nom. thickn.	<b>HB / *</b>	class	IEC 60695-11-10
Thickness tested	<b>1.6 / *</b>	mm	-
Burning Behav. at thickness h	<b>HB / *</b>	class	IEC 60695-11-10
Thickness tested	<b>3.2 / *</b>	mm	-

<b>Electrical properties</b>	<b>dry / cond</b>	<b>Unit</b>	<b>Test Standard</b>
Relative permittivity, 100Hz	<b>4 / -</b>	-	IEC 60250
Relative permittivity, 1MHz	<b>4 / -</b>	-	IEC 60250
Dissipation factor, 100Hz	<b>752 / -</b>	E-4	IEC 60250
Dissipation factor, 1MHz	<b>251 / -</b>	E-4	IEC 60250
Volume resistivity	<b>- / 1E11</b>	Ohm*m	IEC 60093
Surface resistivity	<b>* / 1E14</b>	Ohm	IEC 60093
Electric strength	<b>- / 45</b>	kV/mm	IEC 60243-1

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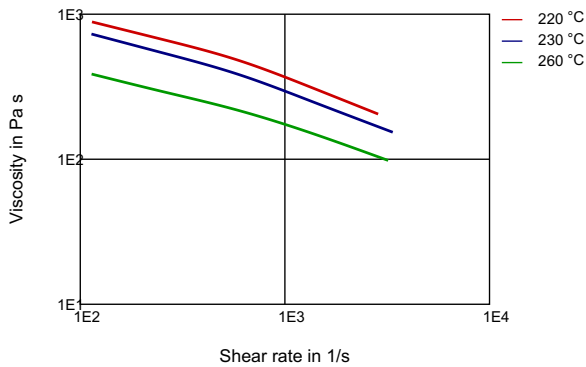
Comparative tracking index	<b>* / 600</b>	-	IEC 60112
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Other properties	dry / cond	Unit	Test Standard
Water absorption	<b>1.3 / *</b>	%	Sim. to ISO 62
Humidity absorption	<b>0.5 / *</b>	%	Sim. to ISO 62
Density	<b>1230 / 1230</b>	kg/m <sup>3</sup>	ISO 1183

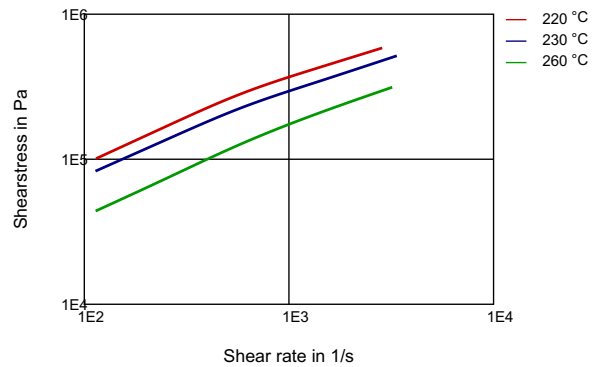
Test specimen production	Value	Unit	Test Standard
Injection Molding, melt temperature	<b>280</b>	°C	ISO 294
Injection Molding, mold temperature	<b>60</b>	°C	ISO 10724
Injection Molding, pressure at hold	<b>19</b>	MPa	ISO 294

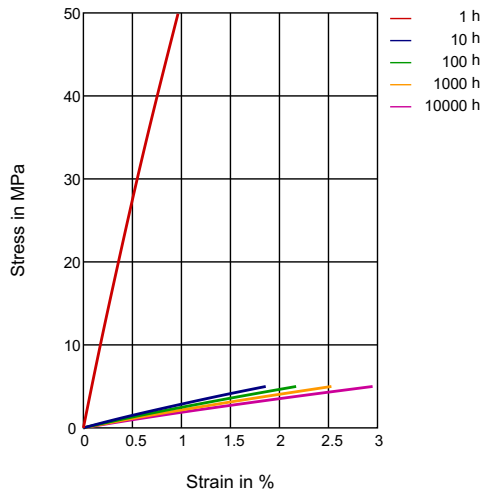
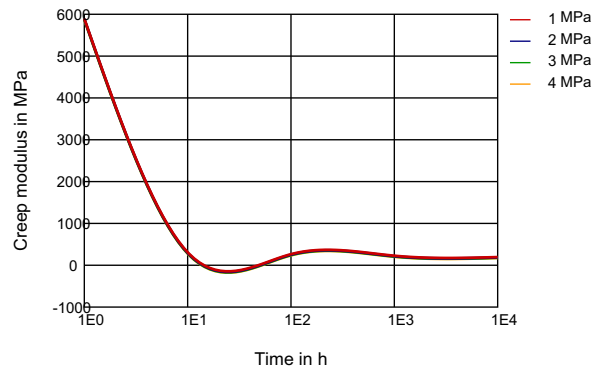
## Diagrams

### Viscosity-shear rate



### Shearstress-shear rate



**Stress-strain (isochronous) 23°C****Creep modulus-time 23°C****Characteristics****Processing**

Injection Molding

**Delivery form**

Pellets

**Additives**

Release agent

**Chemical Media Resistance****Acids**

- ✓ Acetic Acid (5% by mass) (23°C)
- ✓ Citric Acid solution (10% by mass) (23°C)
- ✓ Lactic Acid (10% by mass) (23°C)
- ✗ Hydrochloric Acid (36% by mass) (23°C)
- ✗ Nitric Acid (40% by mass) (23°C)
- ✗ Sulfuric Acid (38% by mass) (23°C)
- ✓ Sulfuric Acid (5% by mass) (23°C)
- ✗ Chromic Acid solution (40% by mass) (23°C)

**Bases**

- ✓ Sodium Hydroxide solution (35% by mass) (23°C)
- ✓ Sodium Hydroxide solution (1% by mass) (23°C)
- ✓ Ammonium Hydroxide solution (10% by mass) (23°C)

**Alcohols**

- ✓ Methanol (23°C)
- ✓ Ethanol (23°C)

**Hydrocarbons**

- ✓ n-Hexane (23°C)

**Special Characteristics**

Light stabilized or stable to light, U.V. stabilized or stable to weather, Heat stabilized or stable to heat

**Regional Availability**

North America, Europe, Asia Pacific, South and Central America, Near East/Africa

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- ✓ Toluene (23°C)

### Ketones

- ✓ Acetone (23°C)

### Mineral oils

- ✓ SAE 10W40 multigrade motor oil (23°C)
- ✓ SAE 10W40 multigrade motor oil (130°C)
- ✓ SAE 80/90 hypoid-gear oil (130°C)
- ✓ Insulating Oil (23°C)

### Standard Fuels

- ✓ ISO 1817 Liquid 1 (60°C)
- ✓ ISO 1817 Liquid 2 (60°C)
- ✓ ISO 1817 Liquid 3 (60°C)
- ✓ ISO 1817 Liquid 4 (60°C)
- ✓ Standard fuel without alcohol (pref. ISO 1817 Liquid C) (23°C)
- ✓ Standard fuel with alcohol (pref. ISO 1817 Liquid 4) (23°C)
- ✓ Diesel fuel (pref. ISO 1817 Liquid F) (23°C)
- ✓ Diesel fuel (pref. ISO 1817 Liquid F) (90°C)
- ✓ Diesel fuel (pref. ISO 1817 Liquid F) (>90°C)

### Salt solutions

- ✓ Sodium Chloride solution (10% by mass) (23°C)
- ✓ Sodium Hypochlorite solution (10% by mass) (23°C)
- ✓ Zinc Chloride solution (50% by mass) (23°C)

### Other

- ✓ Ethyl Acetate (23°C)
- ✓ Hydrogen peroxide (23°C)
- ✓ DOT No. 4 Brake fluid (130°C)
- ✓ Ethylene Glycol (50% by mass) in water (108°C)