

Grilon AS V0

EMS-GRIVORY | a unit of EMS-CHEMIE AG

Product Information

Product designation according to ISO 1874:

PA 66, MFHR, 14-040

| Mechanical properties | dry / cond | Unit | Test Standard |
|--|-------------|-------|---------------|
| Tensile Modulus | 3900 / 2000 | MPa | ISO 527-1/-2 |
| Yield stress | 90 / 55 | MPa | ISO 527-1/-2 |
| Yield strain | 4 / 12 | % | ISO 527-1/-2 |
| Nominal strain at break | 9 / >50 | % | ISO 527-1/-2 |
| Stress at break | 80 / - | MPa | ISO 527-1/-2 |
| Charpy impact strength (+23°C) | 65 / 100 | kJ/m² | ISO 179/1eU |
| Charpy notched impact strength (+23°C) | 4 / 8 | kJ/m² | ISO 179/1eA |

| Thermal properties | dry / cond | Unit | Test Standard |
|--|------------|-------|-----------------|
| Melting temperature (10°C/min) | 260 / - | °C | ISO 11357-1/-3 |
| Temp. of deflection under load (1.80 MPa) | 75 / - | °C | ISO 75-1/-2 |
| Temp. of deflection under load (0.45 MPa) | 225 / - | °C | ISO 75-1/-2 |
| Coeff. of linear therm. expansion (parallel) | 60 / - | E-6/K | ISO 11359-1/-2 |
| Coeff. of linear therm. expansion (normal) | 90 / - | E-6/K | ISO 11359-1/-2 |
| Burning Behav. at 1.5 mm nom. thickn. | V-0 / - | class | IEC 60695-11-10 |
| Thickness tested | 1.5 / - | mm | IEC 60695-11-10 |
| Burning Behav. at thickness h | V-0 / - | class | IEC 60695-11-10 |
| Thickness tested | 0.8 / - | mm | IEC 60695-11-10 |
| Oxygen index | 32 / - | % | ISO 4589-1/-2 |
| Max. usage temperature (long term) | 90 - 110 | °C | EMS |
| Max, usage temperature (short term) | 200 | °C | EMS |

| Electrical properties | dry / cond | Unit | Test Standard |
|-------------------------------|-------------|-------|---------------|
| Relative permittivity (100Hz) | 3 / 7 | - | IEC 60250 |
| Relative permittivity (1MHz) | 4 / 4 | - | IEC 60250 |
| Dissipation factor (100Hz) | 30 / 1000 | E-4 | IEC 60250 |
| Dissipation factor (1MHz) | 200 / 650 | E-4 | IEC 60250 |
| Volume resistivity | 1E12 / 1E11 | Ohm*m | IEC 60093 |
| Surface resistivity | - / 1E12 | Ohm | IEC 60093 |
| Electric strength | 31 / 28 | kV/mm | IEC 60243-1 |
| Comparative tracking index | - / 600 | - | IEC 60112 |

| Other properties | dry / cond | Unit | Test Standard |
|---------------------|------------|-------|----------------|
| Water absorption | 7 / - | % | Sim. to ISO 62 |
| Humidity absorption | 2 / - | % | Sim. to ISO 62 |
| Density | 1160 / - | kg/m³ | ISO 1183 |

| Rheo/Phys properties | dry / cond | Unit | Test Standard |
|------------------------------|------------|------|-----------------|
| Molding shrinkage (parallel) | 0.9 / - | % | ISO 294-4, 2577 |
| Molding shrinkage (normal) | 1.1 / - | % | ISO 294-4, 2577 |

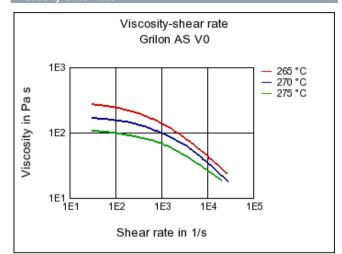
Diagrams

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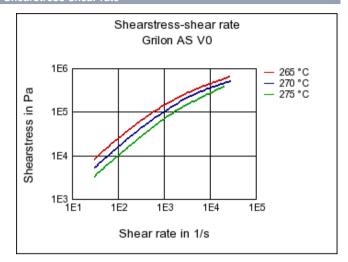
Page: 1/5

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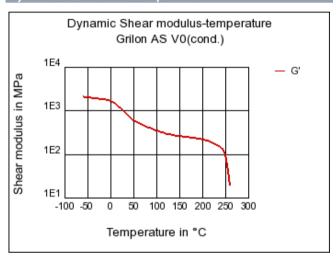
Viscosity-shear rate



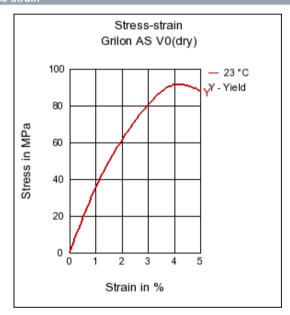
Shearstress-shear rate



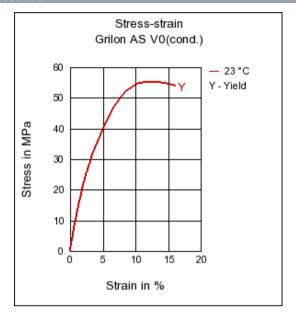
Dynamic Shear modulus-temperature



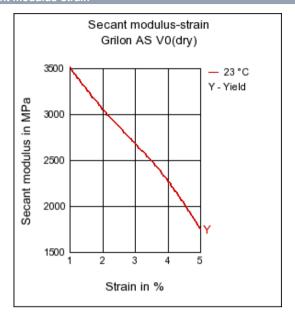
Stress-strain



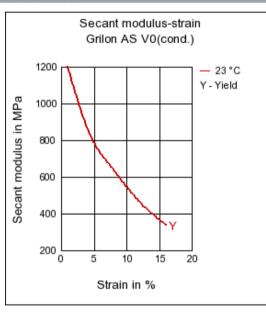
Stress-strain



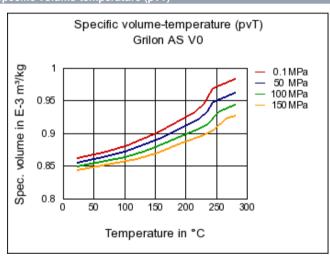
Secant modulus-strain



Secant modulus-strain



Specific volume-temperature (pvT)



Characteristic

Processing

Injection Molding

Special Characteristics

Flame retardant

Regional Availability

North America, Europe, Asia Pacific, South and Central America,

Automotive

Automotive electr. and electronics, lighting

Electricals & Electronics

Electrical appliances, Electrical equipment, Cables & Tubes, Connectors, Energy distribution, Lighting

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Page: 3/5

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Near East/Africa

Burning Behaviour

UL V0

Chemical Media Resistance

Acids

- Acetic Acid (5% by mass) (23°C)
- Chromic Acid solution (40% by mass) (23°C)
- Citric Acid solution (10% by mass) (23°C)
- Hvdrochloric Acid (36% by mass) (23°C)
- Lactic Acid (10% 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)

Bases

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

Alcohols

- ethanol (23°C)
- Isopropyl alcohol (23°C)
- Methanol (23°C)

Hydrocarbons

- Toluene (23°C)
- iso-Octane (23°C)
- n-Hexane (23°C)

Ketones

Acetone (23°C)

Ethers

Diethyl ether (23°C)

Mineral oils

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

Standard Fuels

- 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)
- ISO 1817 Liquid 1 (60°C)
- ISO 1817 Liquid 2 (60°C)
- ISO 1817 Liquid 3 (60°C)

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Page: 4/5

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- \odot ISO 1817 Liquid 4 (60°C)
- Standard fuel with alcohol (pref. ISO 1817 Liquid 4) (23°C)
- Standard fuel without alcohol (pref. ISO 1817 Liquid C) (23°C)

Salt solutions

- Sodium Carbonate solution (2% by mass) (23°C)
- Sodium Carbonate solution (20% by mass) (23°C)
- 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

- 1% nonylphenoxy-polyethyleneoxy ethanol in water (23°C)
- 50% Oleic acid + 50% Olive Oil (23°C)
- DOT No. 4 Brake fluid (130°C)
- Deionized water (90°C)
- Ethyl Acetate (23°C)
- Ethylene Glycol (50% by mass) in water (108°C)
- Hydrogen peroxide (23°C)
- Phenol solution (5% by mass) (23°C)
- Water (23°C)