

Grilon BG-50 S

PA6-GF50

EMS-GRIVORY | a unit of EMS-CHEMIE AG

Product Texts

Product designation according to ISO 1874:

PA 6, MH, 14-190, GF50

| Mechanical properties | dry / cond | Unit | Test Standard |
|--|----------------------|-------------------|---------------|
| Tensile Modulus | 17500 / 11500 | MPa | ISO 527-1/-2 |
| Stress at break | 245 / 165 | MPa | ISO 527-1/-2 |
| Strain at break | 3 / 6 | % | ISO 527-1/-2 |
| Charpy impact strength (+23°C) | 90 / 95 | kJ/m ² | ISO 179/1eU |
| Charpy impact strength (-30°C) | 85 / 90 | kJ/m ² | ISO 179/1eU |
| Charpy notched impact strength (+23°C) | 15 / 25 | kJ/m ² | ISO 179/1eA |
| Charpy notched impact strength (-30°C) | 11 / 12 | kJ/m ² | ISO 179/1eA |

| Mechanical properties (TPE) | dry / cond | Unit | Test Standard |
|-----------------------------|------------------|------|---------------|
| Ball indentation hardness | 270 / 155 | MPa | ISO 2039-1 |

| Thermal properties | dry / cond | Unit | Test Standard |
|--|-----------------|-------|-----------------|
| Melting temperature (10°C/min) | 222 / - | °C | ISO 11357-1/-3 |
| Temp. of deflection under load (1.80 MPa) | 210 / - | °C | ISO 75-1/-2 |
| Temp. of deflection under load (8.00 MPa) | 170 / - | °C | ISO 75-1/-2 |
| Coeff. of linear therm. expansion (parallel) | 15 / - | E-6/K | ISO 11359-1/-2 |
| Coeff. of linear therm. expansion (normal) | 100 / - | E-6/K | ISO 11359-1/-2 |
| Burning Behav. at thickness h | HB / - | class | IEC 60695-11-10 |
| Thickness tested | 0.8 / - | mm | IEC 60695-11-10 |
| Max. usage temperature (long term) | 90 - 140 | °C | ISO 2578 |
| Max. usage temperature (short term) | 160 | °C | EMS |

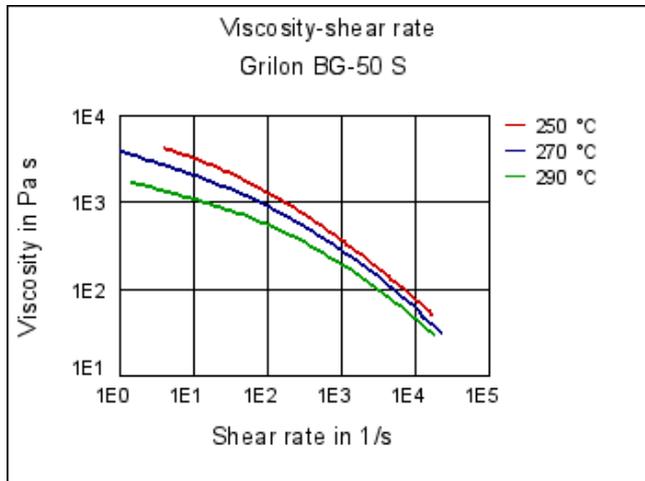
| Electrical properties | dry / cond | Unit | Test Standard |
|----------------------------|--------------------|-------|---------------|
| Volume resistivity | 1E12 / 1E12 | Ohm*m | IEC 60093 |
| Surface resistivity | - / 1E12 | Ohm | IEC 60093 |
| Electric strength | 40 / 37 | kV/mm | IEC 60243-1 |
| Comparative tracking index | - / 575 | - | IEC 60112 |

| Other properties | dry / cond | Unit | Test Standard |
|---------------------|-----------------|-------------------|----------------|
| Water absorption | 5 / - | % | Sim. to ISO 62 |
| Humidity absorption | 1.5 / - | % | Sim. to ISO 62 |
| Density | 1580 / - | kg/m ³ | ISO 1183 |

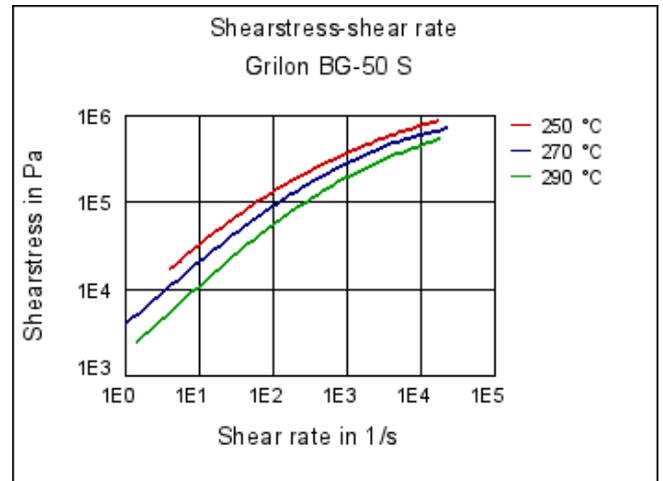
| Rheo/Phys properties | dry / cond | Unit | Test Standard |
|------------------------------|----------------|------|-----------------|
| Molding shrinkage (parallel) | 0.1 / - | % | ISO 294-4, 2577 |
| Molding shrinkage (normal) | 0.5 / - | % | ISO 294-4, 2577 |

Diagrams

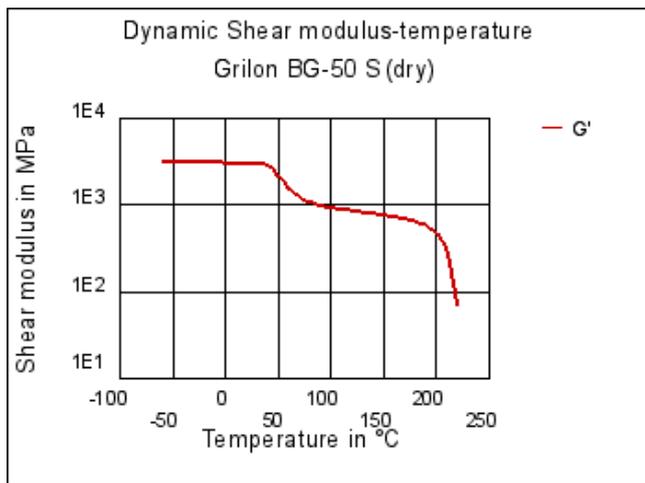

Viscosity-shear rate



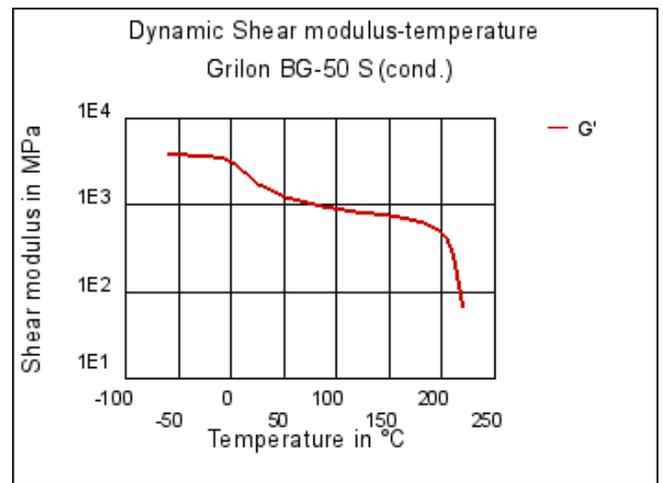
Shearstress-shear rate



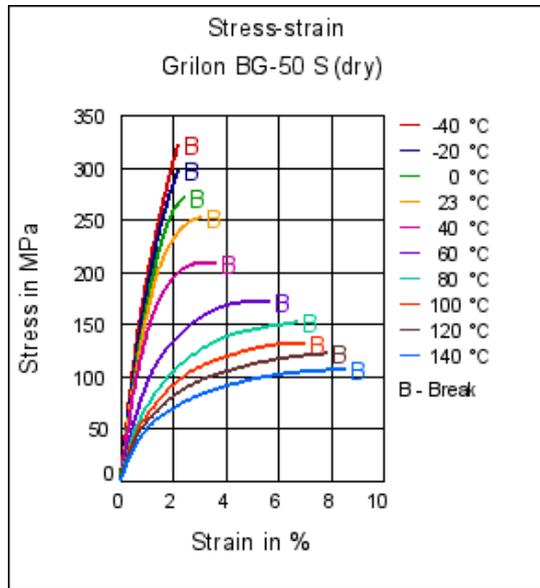
Dynamic Shear modulus-temperature



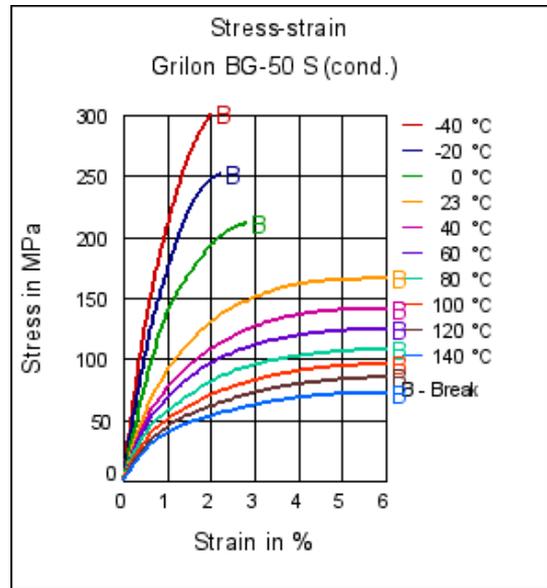
Dynamic Shear modulus-temperature



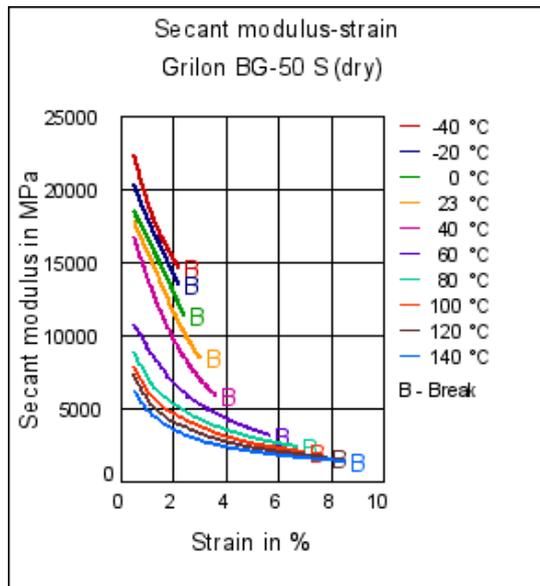
Stress-strain



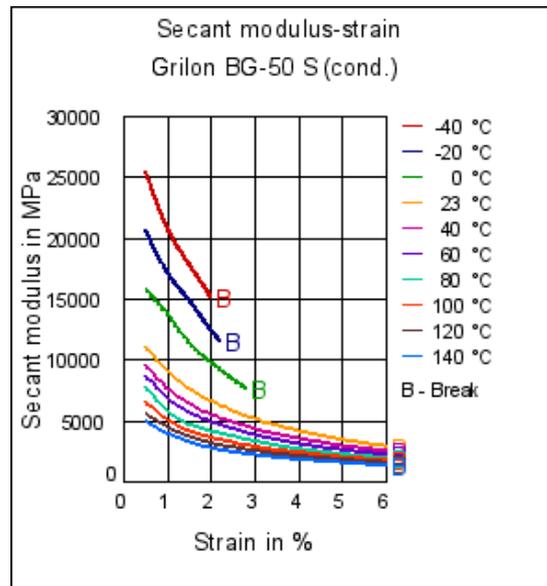
Stress-strain



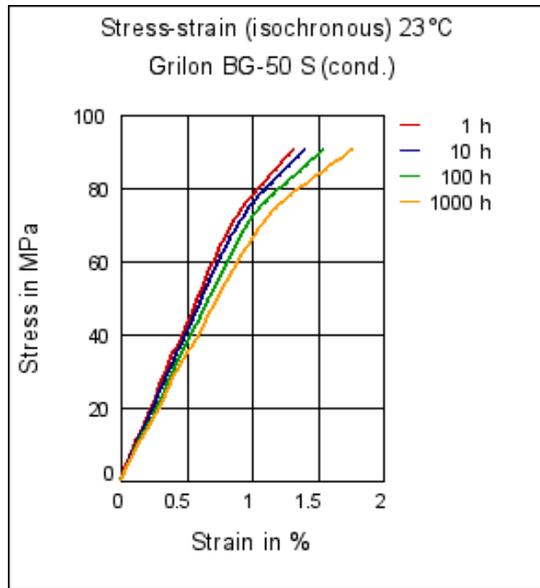
Secant modulus-strain



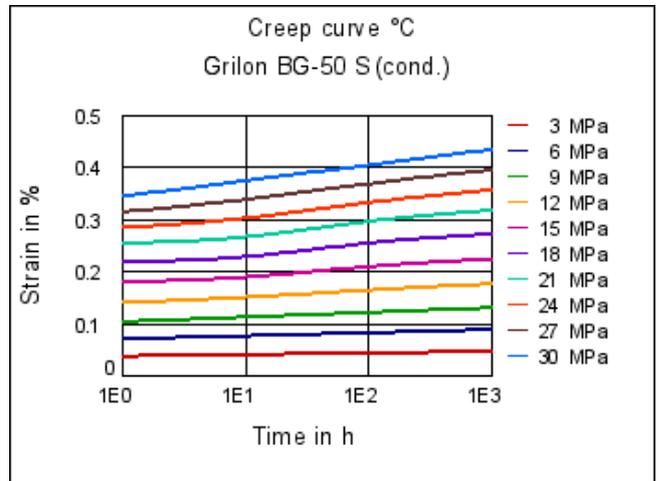
Secant modulus-strain



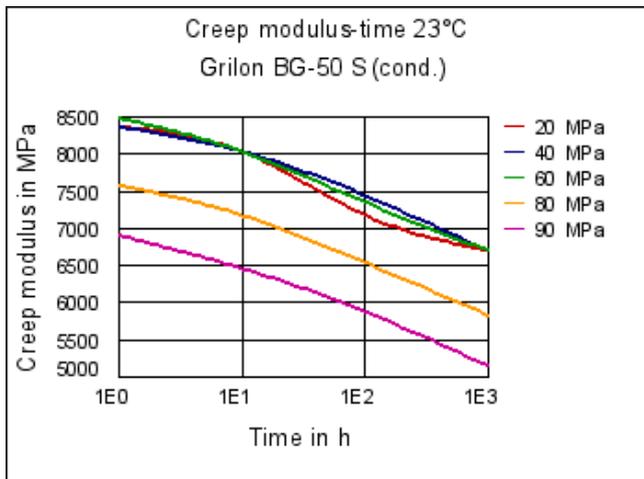
Stress-strain (isochronous) 23°C



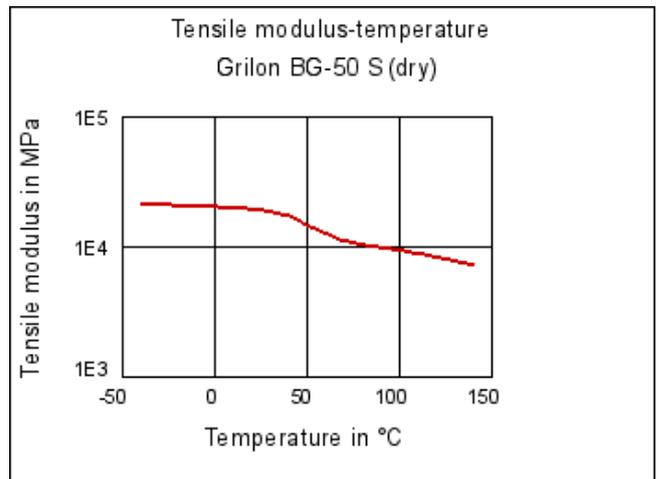
Creep curve °C



Creep modulus-time 23°C



Tensile modulus-temperature



Characteristics

Processing

Injection Molding

Delivery form

Granules

Regional Availability

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

Chemical Media Resistance

Automotive

Interior

Electricals & Electronics

Electrical appliances, Electrical equipment



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

- ☺ Isopropyl alcohol (23°C)
- ☺ Methanol (23°C)
- ☺ Ethanol (23°C)

Hydrocarbons

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

Ketones

- ☺ Acetone (23°C)

Ethers

- ☺ Diethyl ether (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)
- ☺ Sodium Carbonate solution (20% by mass) (23°C)
- ☺ Sodium Carbonate solution (2% 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)
- ☺ 1% nonylphenoxy-polyethyleneoxy ethanol in water (23°C)
- ☺ 50% Oleic acid + 50% Olive Oil (23°C)
- ☺ Water (23°C)
- ☺ Deionized water (90°C)
- ☹ Phenol solution (5% by mass) (23°C)

