

Grilon BG-40 HM

PA6-GF40

EMS-GRIVORY | a unit of EMS-CHEMIE AG

Product Texts

Product designation according to ISO 1874:

PA 6-HI, MH, 18-120, GF40

| Mechanical properties | dry / cond | Unit | Test Standard |
|--|---------------------|-------------------|---------------|
| Tensile Modulus | 12000 / 8500 | MPa | ISO 527-1/-2 |
| Stress at break | 150 / 130 | MPa | ISO 527-1/-2 |
| Strain at break | 3 / 5 | % | ISO 527-1/-2 |
| Charpy impact strength (+23°C) | 70 / 70 | kJ/m ² | ISO 179/1eU |
| Charpy impact strength (-30°C) | 65 / 65 | kJ/m ² | ISO 179/1eU |
| Charpy notched impact strength (+23°C) | 15 / 20 | kJ/m ² | ISO 179/1eA |
| Charpy notched impact strength (-30°C) | 12 / 12 | kJ/m ² | ISO 179/1eA |

| Mechanical properties (TPE) | dry / cond | Unit | Test Standard |
|-----------------------------|------------------|------|---------------|
| Ball indentation hardness | 200 / 130 | 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) | 195 / - | °C | ISO 75-1/-2 |
| Temp. of deflection under load (8.00 MPa) | 130 / - | °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 - 100 | °C | ISO 2578 |
| Max. usage temperature (short term) | 180 | °C | EMS |

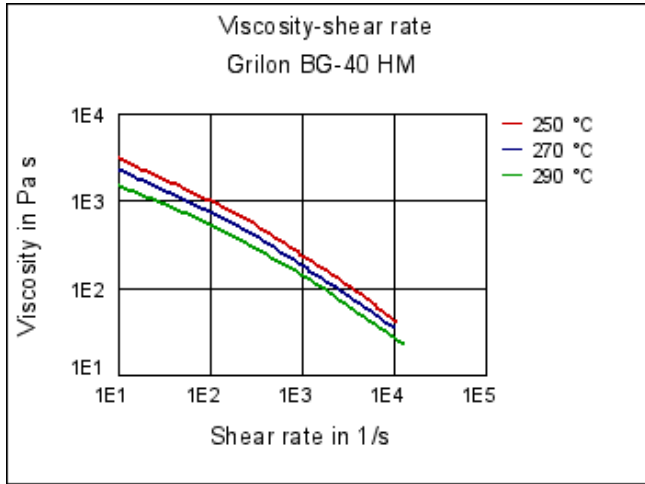
| Electrical properties | dry / cond | Unit | Test Standard |
|----------------------------|--------------------|-------|---------------|
| Volume resistivity | 1E12 / 1E11 | Ohm*m | IEC 60093 |
| Surface resistivity | - / 1E12 | Ohm | IEC 60093 |
| Electric strength | 41 / 38 | kV/mm | IEC 60243-1 |
| Comparative tracking index | - / 550 | - | 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 | 1400 / - | kg/m ³ | ISO 1183 |

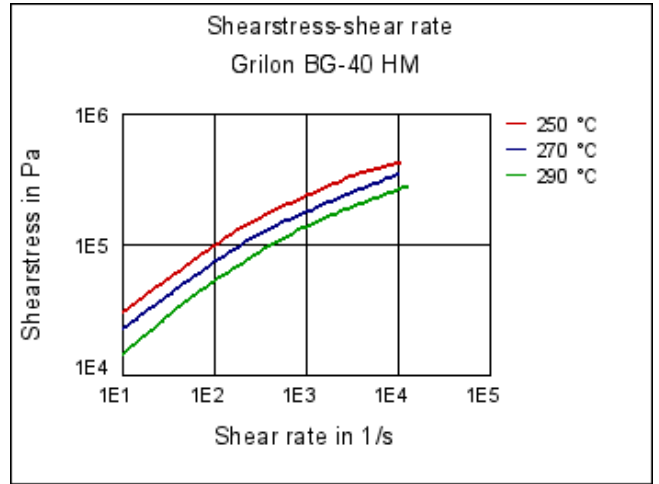
| Rheo/Phys properties | dry / cond | Unit | Test Standard |
|------------------------------|----------------|------|-----------------|
| Molding shrinkage (parallel) | 0.1 / - | % | ISO 294-4, 2577 |
| Molding shrinkage (normal) | 0.4 / - | % | ISO 294-4, 2577 |

Diagrams

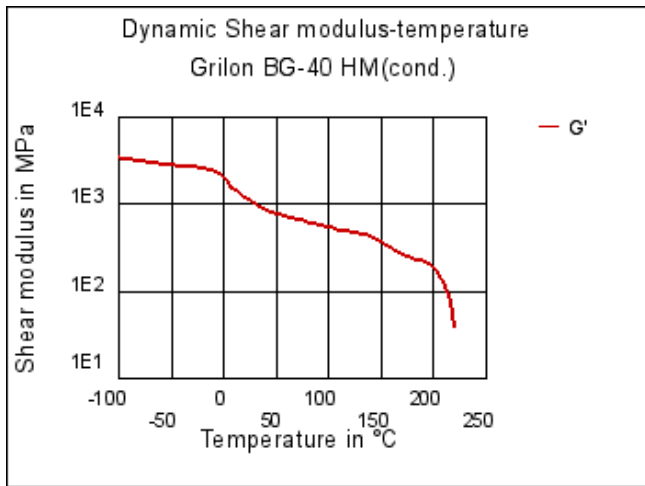
Viscosity-shear rate



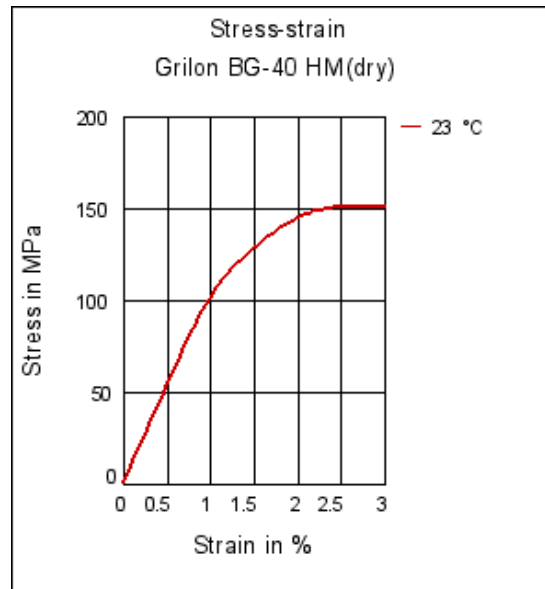
Shearstress-shear rate



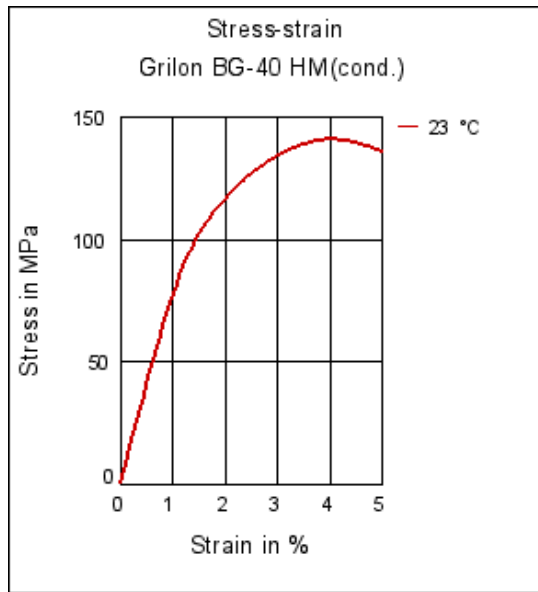
Dynamic Shear modulus-temperature



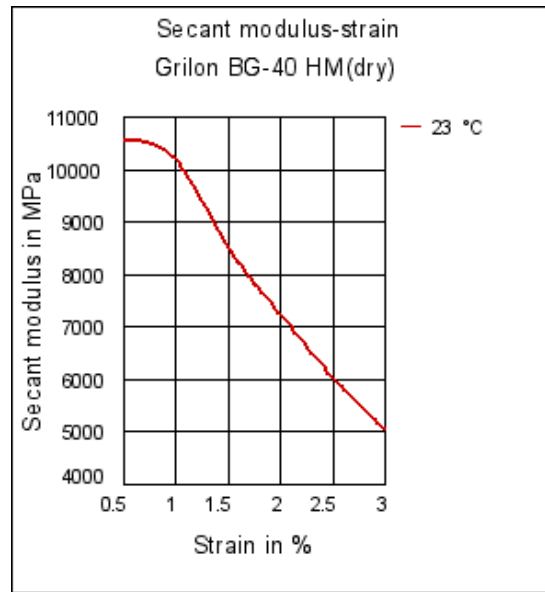
Stress-strain



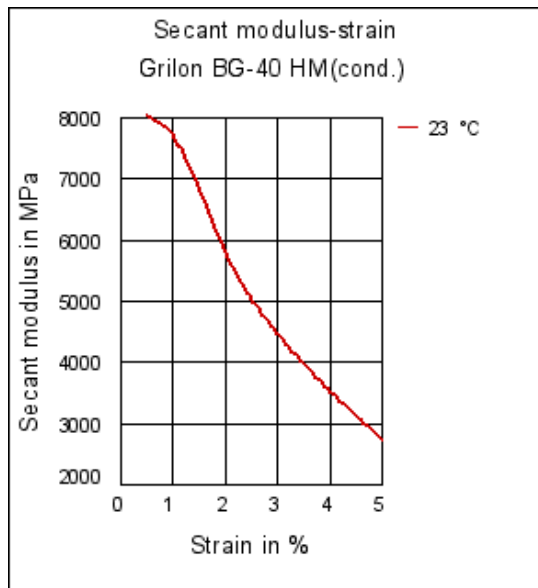
Stress-strain



Secant modulus-strain



Secant modulus-strain



Characteristics

Processing

Injection Molding

Delivery form

Granules

Special Characteristics

High impact or impact modified

Regional Availability

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

Automotive

Air intake systems, Interior

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Electricals & Electronics

Electrical appliances, Electrical equipment




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

-  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)

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- ☹️ 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)
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