

**Grilamid LV-2H**

PA12-GF20

EMS-GRIVORY | a unit of EMS-CHEMIE AG

**Product Texts**

Product designation according to ISO 1874:

PA12, MHR, 18-050, GF20

| Mechanical properties                  | dry / cond         | Unit              | Test Standard |
|--|--------------------|-------------------|---------------|
| Tensile Modulus                        | <b>5500 / 4400</b> | MPa               | ISO 527-1/-2  |
| Stress at break                        | <b>105 / 90</b>    | MPa               | ISO 527-1/-2  |
| Strain at break                        | <b>7 / 10</b>      | %                 | ISO 527-1/-2  |
| Charpy impact strength (+23°C)         | <b>80 / 75</b>     | kJ/m <sup>2</sup> | ISO 179/1eU   |
| Charpy impact strength (-30°C)         | <b>- / 75</b>      | kJ/m <sup>2</sup> | ISO 179/1eU   |
| Charpy notched impact strength (+23°C) | <b>- / 20</b>      | kJ/m <sup>2</sup> | ISO 179/1eA   |
| Charpy notched impact strength (-30°C) | <b>- / 15</b>      | kJ/m <sup>2</sup> | ISO 179/1eA   |

| Mechanical properties (TPE) | dry / cond    | Unit | Test Standard |
|-----------------------------|---------------|------|---------------|
| Shore D hardness (15s)      | <b>- / 74</b> | -    | ISO 868       |

| Thermal properties                           | dry / cond      | Unit  | Test Standard   |
|--|-----------------|-------|-----------------|
| Melting temperature (10°C/min)               | <b>178 / -</b>  | °C    | ISO 11357-1/-3  |
| Temp. of deflection under load (1.80 MPa)    | <b>150 / -</b>  | °C    | ISO 75-1/-2     |
| Temp. of deflection under load (8.00 MPa)    | <b>80 / -</b>   | °C    | ISO 75-1/-2     |
| Coeff. of linear therm. expansion (parallel) | <b>30 / -</b>   | E-6/K | ISO 11359-1/-2  |
| Coeff. of linear therm. expansion (normal)   | <b>150 / -</b>  | E-6/K | ISO 11359-1/-2  |
| Burning Behav. at thickness h                | <b>HB / -</b>   | class | IEC 60695-11-10 |
| Thickness tested                             | <b>0.8 / -</b>  | mm    | IEC 60695-11-10 |
| Max. usage temperature (long term)           | <b>90 - 120</b> | °C    | ISO 2578        |
| Max. usage temperature (short term)          | <b>150</b>      | °C    | EMS             |

| Electrical properties      | dry / cond      | Unit  | Test Standard |
|----------------------------|-----------------|-------|---------------|
| Volume resistivity         | <b>- / 1E11</b> | Ohm*m | IEC 60093     |
| Surface resistivity        | <b>- / 1E12</b> | Ohm   | IEC 60093     |
| Electric strength          | <b>- / 35</b>   | kV/mm | IEC 60243-1   |
| Comparative tracking index | <b>- / 600</b>  | -     | IEC 60112     |

| Other properties    | dry / cond      | Unit              | Test Standard  |
|---------------------|-----------------|-------------------|----------------|
| Water absorption    | <b>1.2 / -</b>  | %                 | Sim. to ISO 62 |
| Humidity absorption | <b>0.6 / -</b>  | %                 | Sim. to ISO 62 |
| Density             | <b>1160 / -</b> | kg/m <sup>3</sup> | ISO 1183       |

| Rheo/Phys properties         | dry / cond     | Unit | Test Standard   |
|------------------------------|----------------|------|-----------------|
| Molding shrinkage (parallel) | <b>0.1 / -</b> | %    | ISO 294-4, 2577 |
| Molding shrinkage (normal)   | <b>0.7 / -</b> | %    | ISO 294-4, 2577 |

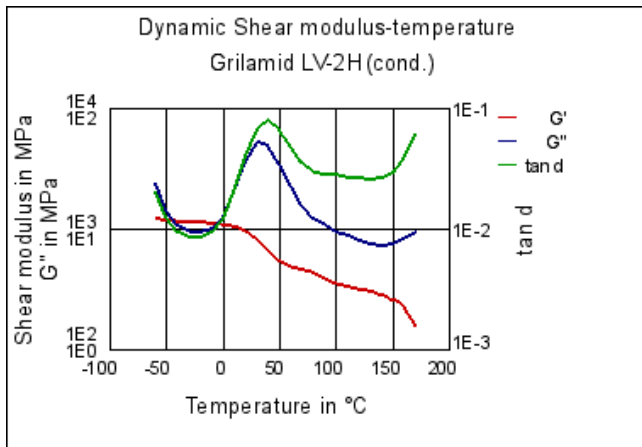
**Diagrams**

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**Dynamic Shear modulus-temperature**



**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

**Product Attributes**

Hydrolysis resistant

**Automotive**

Air intake systems, Compressed air systems, Hydraulic systems, Automotive electr. and electronics, lighting, Cooling and climate control, Fuel systems, Powertrain and Chassis

**Electricals & Electronics**

Electrical appliances, Connectors, Mobile phones and other portable devices

**Industry & Consumer goods**

Heating systems, Housewares, Hydraulics & Pneumatics, Mechanical Engineering, Medical devices, Power transmission, Sanitary, water and gas supply, Sports & Leisure, Tools & Accessories

**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)

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 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)

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Water (23°C)



Deionized water (90°C)



Phenol solution (5% by mass) (23°C)

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