

## Grilon TSK-30/4

PA666-GB30

EMS-GRIVORY | a unit of EMS-CHEMIE AG

### Product Texts

Product designation according to ISO 1874:

PA66+PA6, MHR, 14-040N, GB30

| Mechanical properties                  | dry / cond         | Unit              | Test Standard |
|----------------------------------------|--------------------|-------------------|---------------|
| Tensile Modulus                        | <b>4100 / 1800</b> | MPa               | ISO 527-1/-2  |
| Stress at break                        | <b>75 / 45</b>     | MPa               | ISO 527-1/-2  |
| Strain at break                        | <b>10 / 35</b>     | %                 | ISO 527-1/-2  |
| Charpy impact strength (+23°C)         | <b>30 / 85</b>     | kJ/m <sup>2</sup> | ISO 179/1eU   |
| Charpy impact strength (-30°C)         | <b>25 / 25</b>     | kJ/m <sup>2</sup> | ISO 179/1eU   |
| Charpy notched impact strength (+23°C) | <b>4 / 8</b>       | kJ/m <sup>2</sup> | ISO 179/1eA   |
| Charpy notched impact strength (-30°C) | <b>2 / 3</b>       | kJ/m <sup>2</sup> | ISO 179/1eA   |

| Mechanical properties (TPE) | dry / cond      | Unit | Test Standard |
|-----------------------------|-----------------|------|---------------|
| Ball indentation hardness   | <b>175 / 85</b> | MPa  | ISO 2039-1    |

| Thermal properties                           | dry / cond       | Unit  | Test Standard   |
|----------------------------------------------|------------------|-------|-----------------|
| Melting temperature (10°C/min)               | <b>260 / -</b>   | °C    | ISO 11357-1/-3  |
| Temp. of deflection under load (1.80 MPa)    | <b>70 / -</b>    | °C    | ISO 75-1/-2     |
| Temp. of deflection under load (8.00 MPa)    | <b>50 / -</b>    | °C    | ISO 75-1/-2     |
| Coeff. of linear therm. expansion (parallel) | <b>80 / -</b>    | E-6/K | ISO 11359-1/-2  |
| Coeff. of linear therm. expansion (normal)   | <b>80 / -</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>100 - 120</b> | °C    | ISO 2578        |
| Max. usage temperature (short term)          | <b>220</b>       | °C    | EMS             |

| Electrical properties      | dry / cond         | Unit  | Test Standard |
|----------------------------|--------------------|-------|---------------|
| Volume resistivity         | <b>1E12 / 1E11</b> | Ohm*m | IEC 60093     |
| Surface resistivity        | <b>- / 1E12</b>    | Ohm   | IEC 60093     |
| Electric strength          | <b>27 / 25</b>     | kV/mm | IEC 60243-1   |
| Comparative tracking index | <b>- / 500</b>     | -     | IEC 60112     |

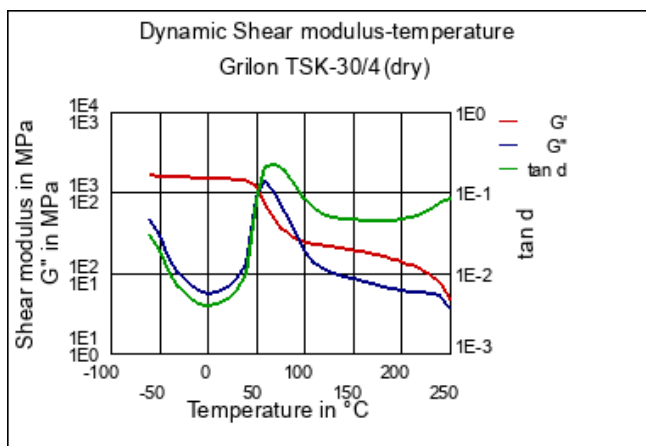
| Other properties    | dry / cond      | Unit              | Test Standard  |
|---------------------|-----------------|-------------------|----------------|
| Water absorption    | <b>5 / -</b>    | %                 | Sim. to ISO 62 |
| Humidity absorption | <b>2 / -</b>    | %                 | Sim. to ISO 62 |
| Density             | <b>1350 / -</b> | kg/m <sup>3</sup> | ISO 1183       |

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

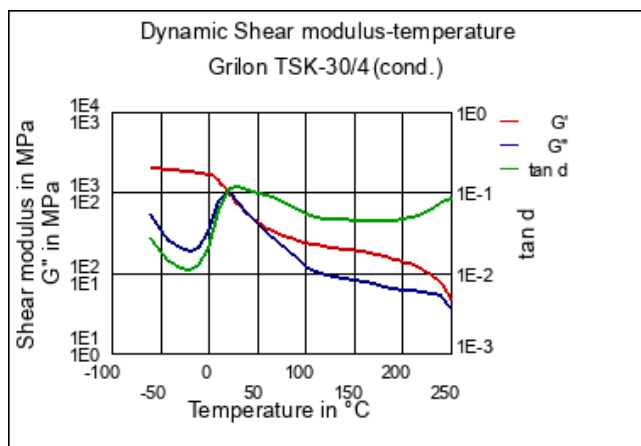
### Diagrams



#### Dynamic Shear modulus-temperature



#### Dynamic Shear modulus-temperature



#### Characteristics

##### Processing

Injection Molding

##### Delivery form

Granules

##### Regional Availability

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

##### Automotive

Interior

##### Electricals & Electronics

Electrical appliances, Lighting

##### Industry & Consumer goods

Housewares, Mechanical Engineering, 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)
- 😊 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)

