

Grilon TSG-30/4

PA666-GF30

EMS-GRIVORY | a unit of EMS-CHEMIE AG

Product Information

Product designation according to ISO 1874:

PA 66+PA 6, MHR, 14-100 N, GF30

Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	9700 / 6000	MPa	ISO 527-1/-2
Stress at break	190 / 125	MPa	ISO 527-1/-2
Strain at break	3 / 8	%	ISO 527-1/-2
Charpy impact strength (+23°C)	70 / 80	kJ/m ²	ISO 179/1eU
Charpy impact strength (-30°C)	60 / 60	kJ/m ²	ISO 179/1eU
Charpy notched impact strength (+23°C)	10 / 12	kJ/m ²	ISO 179/1eA
Charpy notched impact strength (-30°C)	7 / 6	kJ/m ²	ISO 179/1eA

Mechanical properties (TPE)	dry / cond	Unit	Test Standard
Ball indentation hardness	210 / 110	MPa	ISO 2039-1

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)	235 / -	°C	ISO 75-1/-2
Temp. of deflection under load (8.0 MPa)	155 / -	°C	ISO 75-1/-2
Coeff. of linear therm. expansion (parallel)	20 / -	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion (normal)	70 / -	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)	100 - 120	°C	EMS
Max. usage temperature (short term)	230	°C	EMS

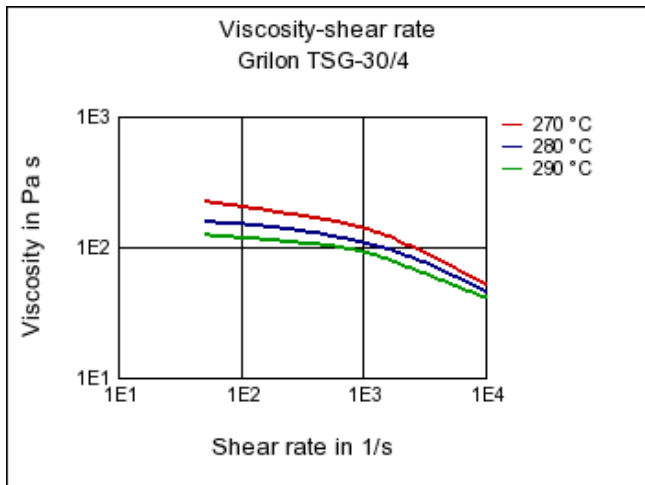
Electrical properties	dry / cond	Unit	Test Standard
Volume resistivity	1E12 / 1E11	Ohm*m	IEC 60093
Surface resistivity	- / 1E12	Ohm	IEC 60093
Electric strength	25 / 21	kV/mm	IEC 60243-1
Comparative tracking index	- / 475	-	IEC 60112

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

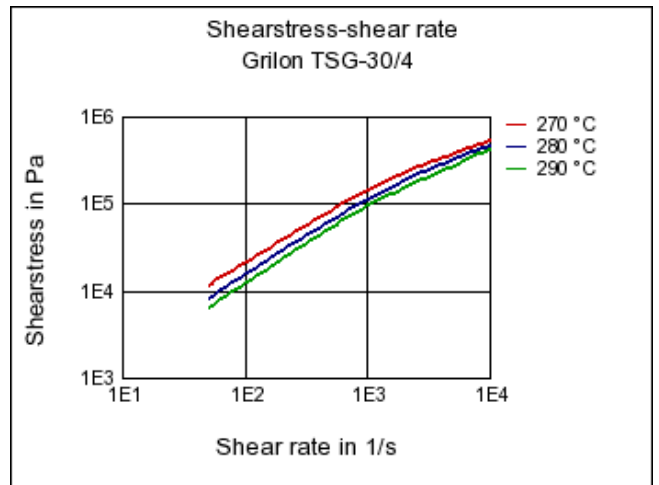
Rheo/Phys properties	dry / cond	Unit	Test Standard
Molding shrinkage (parallel)	0.1 / -	%	ISO 294-4, 2577
Molding shrinkage (normal)	0.6 / -	%	ISO 294-4, 2577

Diagrams

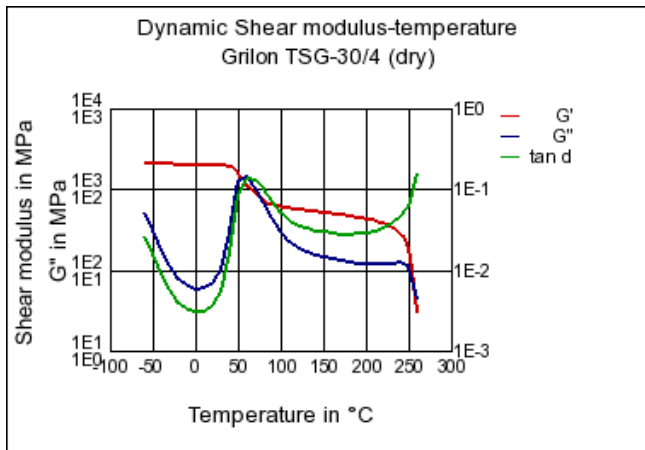
Viscosity-shear rate



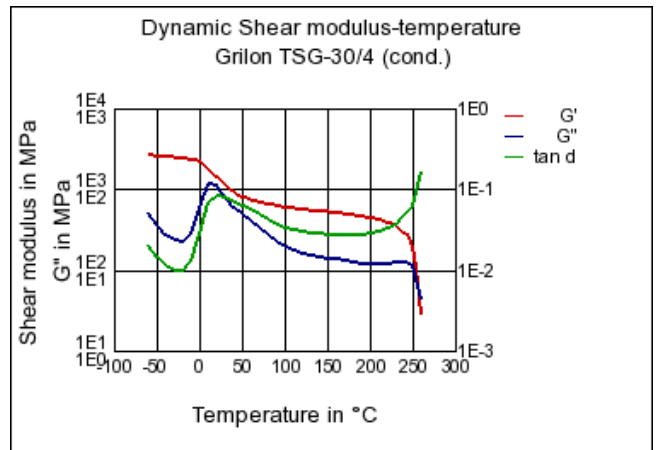
Shearstress-shear rate



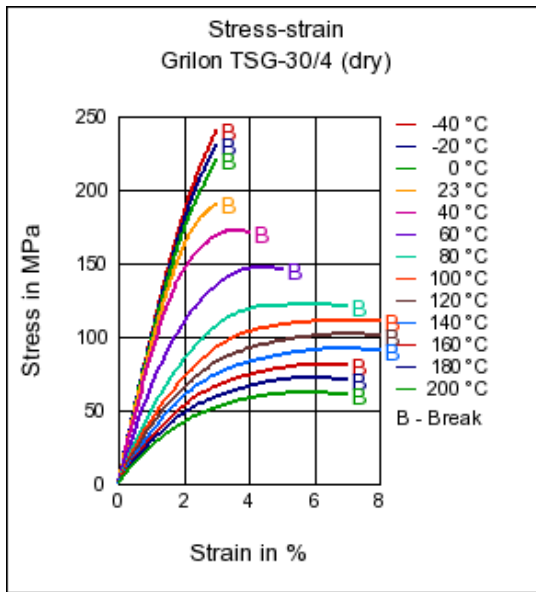
Dynamic Shear modulus-temperature



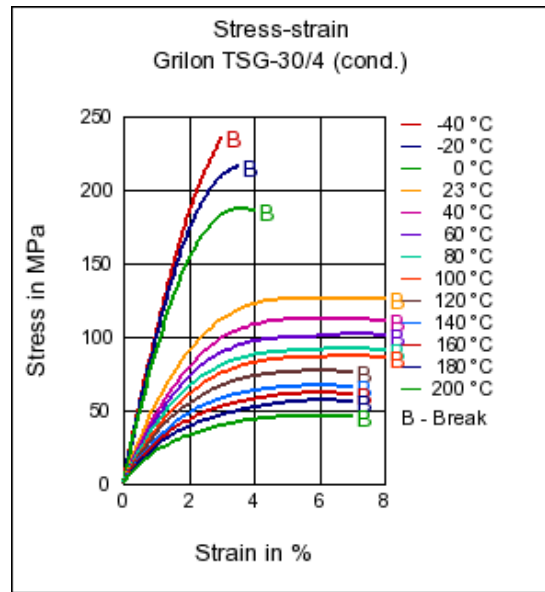
Dynamic Shear modulus-temperature



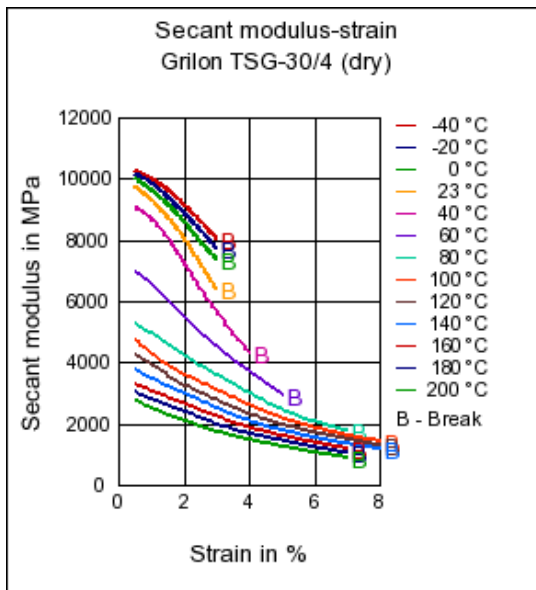
Stress-strain



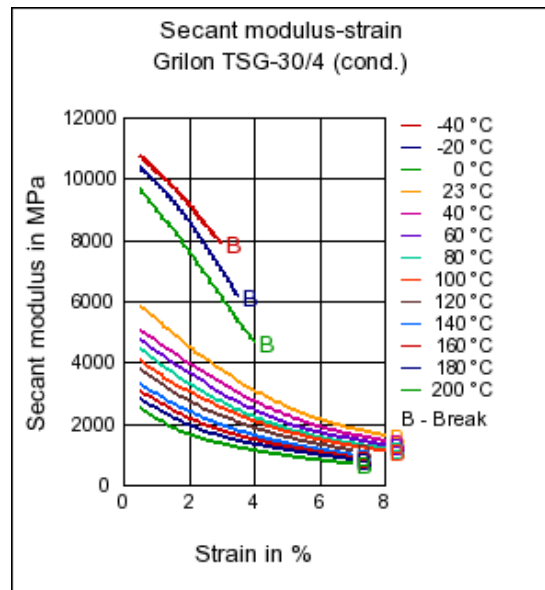
Stress-strain



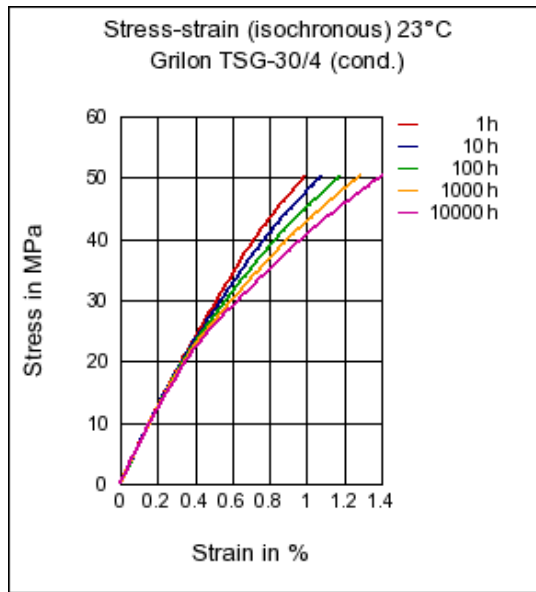
Secant modulus-strain



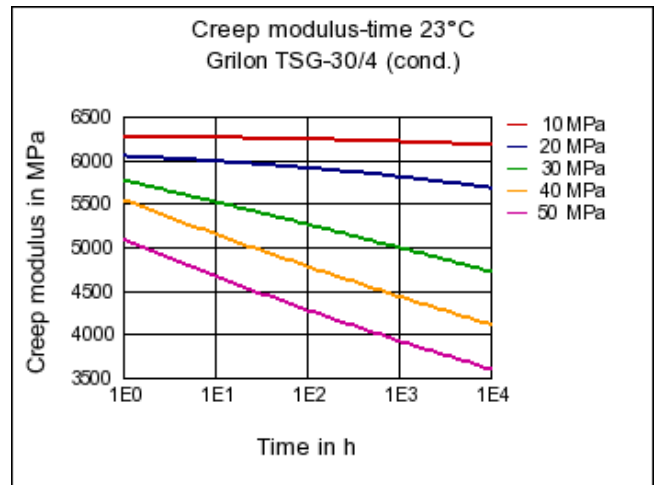
Secant modulus-strain



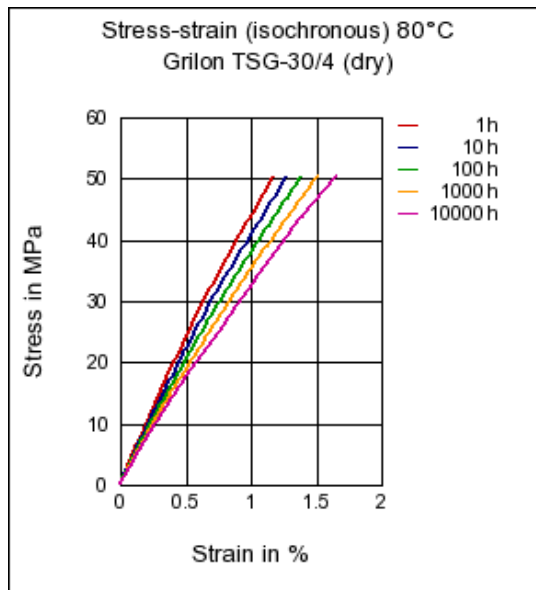
Stress-strain (isochronous) 23°C



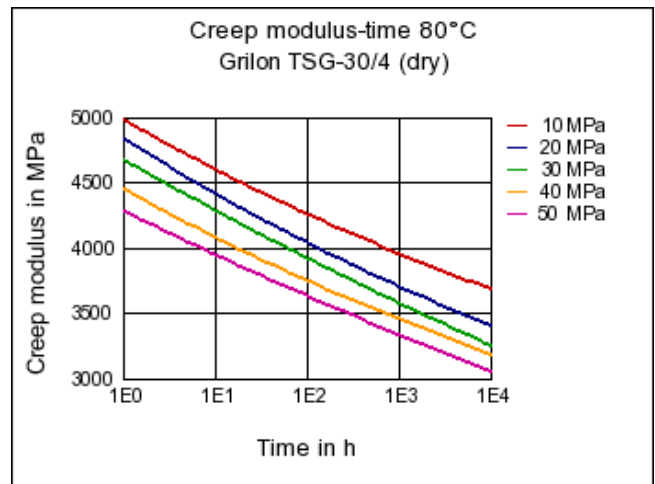
Creep modulus-time 23°C



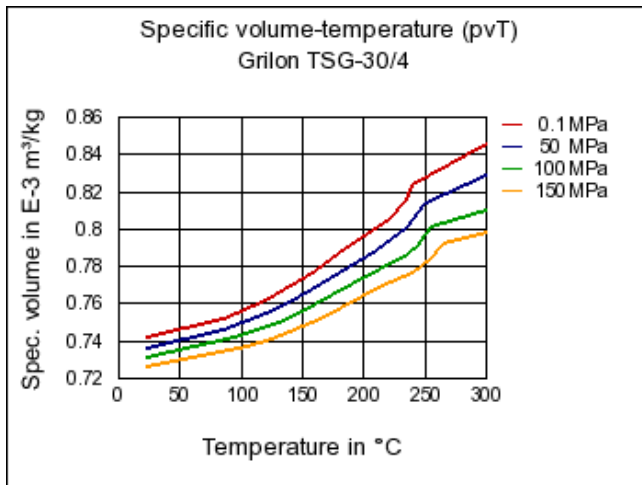
Stress-strain (isochronous) 80°C



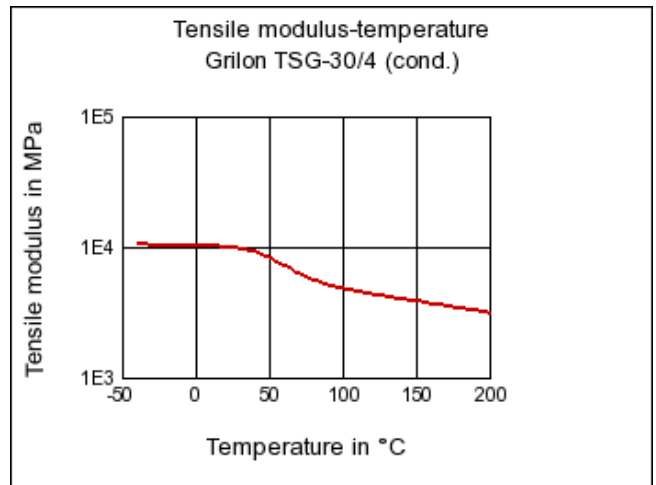
Creep modulus-time 80°C



Specific volume-temperature (pvT)



Tensile modulus-temperature



Characteristic

Processing

Injection Molding

Electricals & Electronics

Electrical appliances, Electrical equipment

Regional Availability

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

Industry & Consumer goods

Housewares, Mechanical Engineering, Sports & Leisure, Tools & Accessories

Automotive

Air intake systems, Powertrain and Chassis

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)
- ☹ Hydrochloric 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

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Page: 5/7

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- ☺ 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)
- ☺ 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)