

Grilon TSZ 1

PA666

EMS-GRIVORY | a unit of EMS-CHEMIE AG

Product Texts

Product-nomenclature acc. ISO 1874:
PA66+PA6-HI, MHR, 14-020N

Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	2400 / 750	MPa	ISO 527-1/-2
Yield stress	65 / 35	MPa	ISO 527-1/-2
Yield strain	4 / 20	%	ISO 527-1/-2
Nominal strain at break	25 / >50	%	ISO 527-1/-2
Stress at break	40 / -	MPa	ISO 527-1/-2
Charpy impact strength (+23°C)	N / N	kJ/m²	ISO 179/1eU
Charpy impact strength (-30°C)	N / N	kJ/m²	ISO 179/1eU
Charpy notched impact strength (+23°C)	11 / 45	kJ/m²	ISO 179/1eA
Charpy notched impact strength (-30°C)	10 / 8	kJ/m²	ISO 179/1eA

Mechanical properties (TPE)	dry / cond	Unit	Test Standard
Ball indentation hardness	125 / 45	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)	55 / -	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	160 / -	°C	ISO 75-1/-2
Coeff. of linear therm. expansion (parallel)	120 / -	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion (normal)	150 / -	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	ISO 2578
Max. usage temperature (short term)	220	°C	EMS

Electrical properties	dry / cond	Unit	Test Standard
Volume resistivity	1E12 / 1E10	Ohm*m	IEC 60093
Surface resistivity	- / 1E11	Ohm	IEC 60093
Electric strength	31 / 27	kV/mm	IEC 60243-1
Comparative tracking index	- / 600	-	IEC 60112

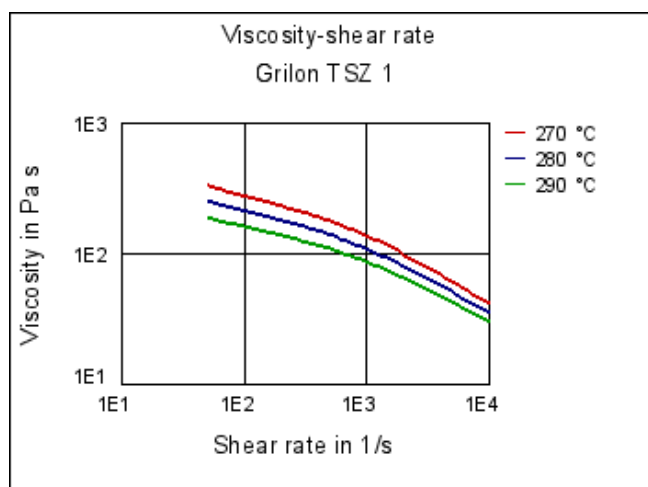
Other properties	dry / cond	Unit	Test Standard
Water absorption	8.5 / -	%	Sim. to ISO 62
Humidity absorption	2.5 / -	%	Sim. to ISO 62
Density	1120 / -	kg/m³	ISO 1183

Rheo/Phys properties	dry / cond	Unit	Test Standard
Molding shrinkage (parallel)	1.2 / -	%	ISO 294-4, 2577
Molding shrinkage (normal)	1.4 / -	%	ISO 294-4, 2577

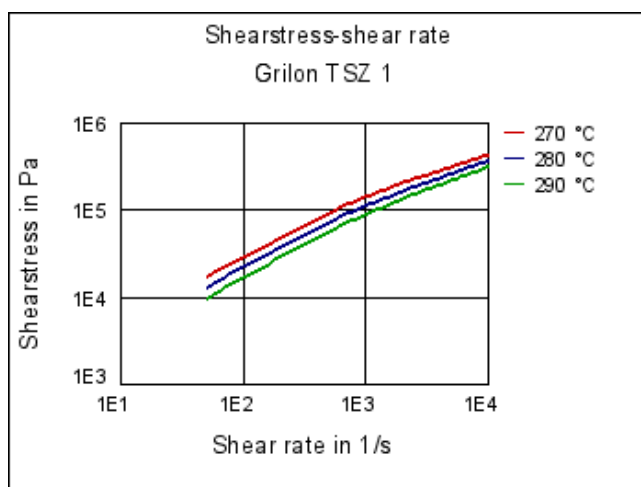
Diagrams



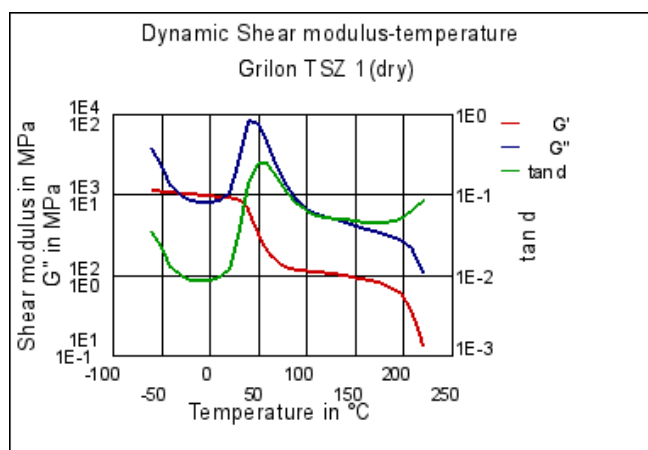
Viscosity-shear rate



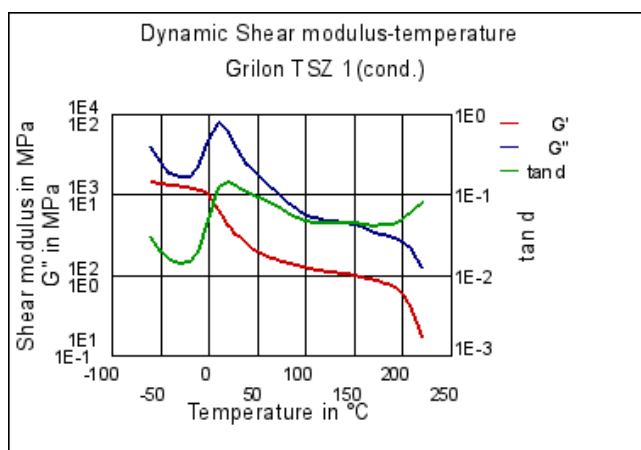
Shearstress-shear rate



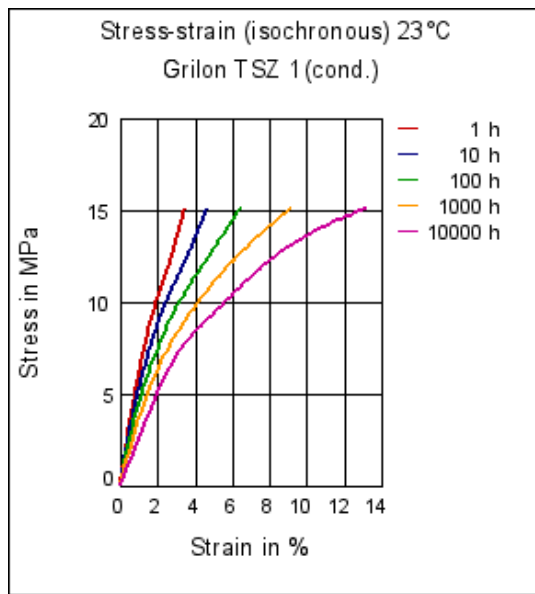
Dynamic Shear modulus-temperature



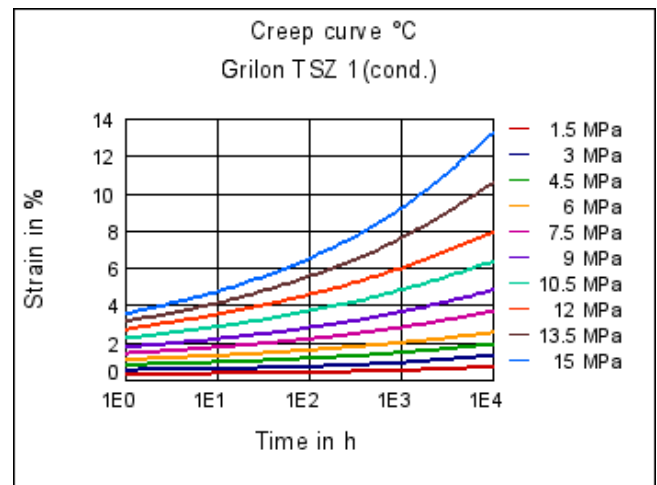
Dynamic Shear modulus-temperature



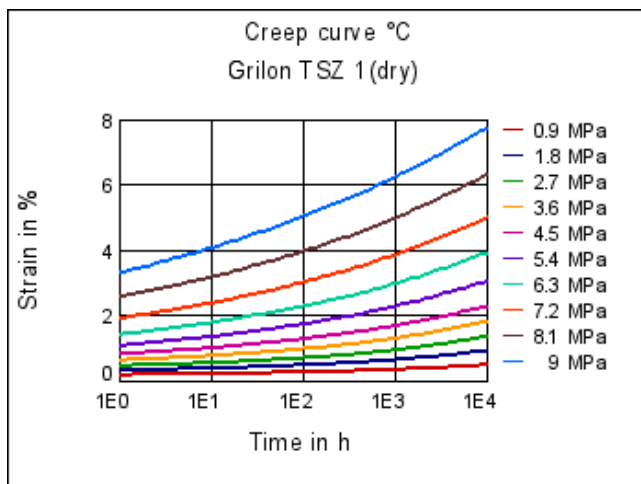
Stress-strain (isochronous) 23°C



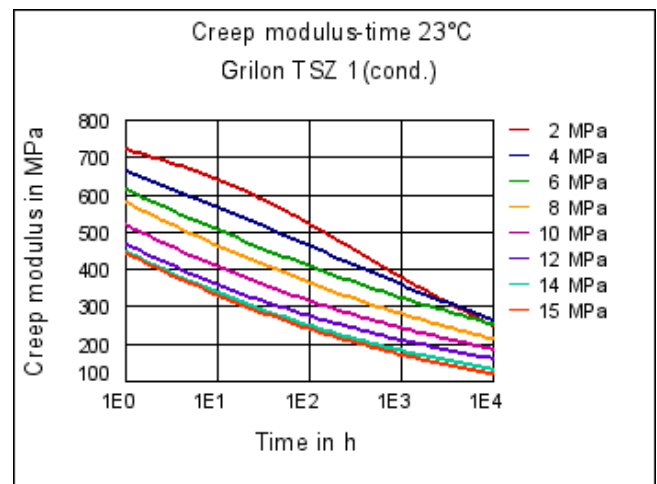
Creep curve °C



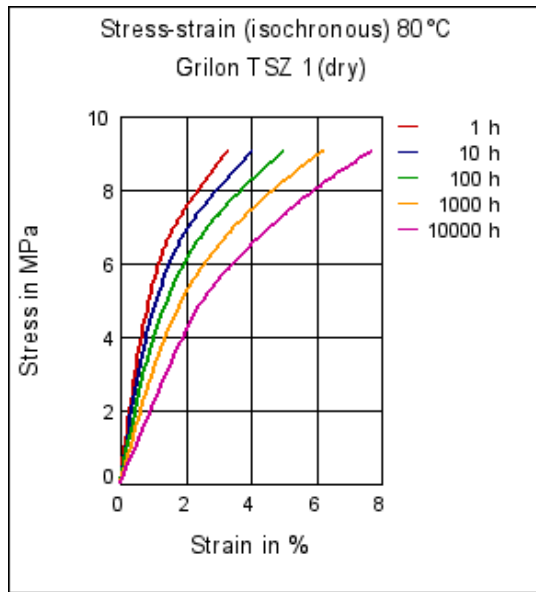
Creep curve °C



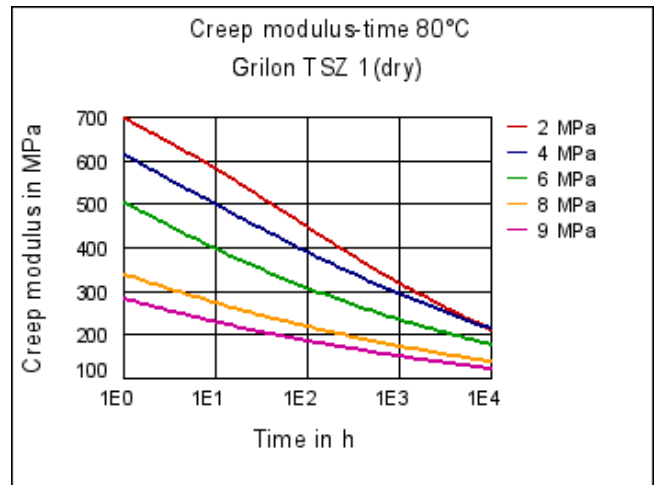
Creep modulus-time 23°C



Stress-strain (isochronous) 80°C



Creep modulus-time 80°C



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

Automotive electr. and electronics, lighting

Electricals & Electronics

Connectors

Industry & Consumer goods

Mechanical Engineering, Power transmission, 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)

