

Grilon AS V0

PA66

EMS-GRIVORY | a unit of EMS-CHEMIE AG

Product Information

Product designation according to ISO 1874:

PA 66, MFHR, 14-040

Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	3900 / 2000	MPa	ISO 527-1/-2
Yield stress	90 / 55	MPa	ISO 527-1/-2
Yield strain	4 / 12	%	ISO 527-1/-2
Nominal strain at break	9 / >50	%	ISO 527-1/-2
Stress at break	80 / -	MPa	ISO 527-1/-2
Charpy impact strength (+23°C)	65 / 100	kJ/m ²	ISO 179/1eU
Charpy notched impact strength (+23°C)	4 / 8	kJ/m ²	ISO 179/1eA

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)	75 / -	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	225 / -	°C	ISO 75-1/-2
Coeff. of linear therm. expansion (parallel)	60 / -	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion (normal)	90 / -	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm nom. thickn.	V-0 / -	class	IEC 60695-11-10
Thickness tested	1.5 / -	mm	IEC 60695-11-10
Burning Behav. at thickness h	V-0 / -	class	IEC 60695-11-10
Thickness tested	0.8 / -	mm	IEC 60695-11-10
Oxygen index	32 / -	%	ISO 4589-1/-2
Max. usage temperature (long term)	90 - 110	°C	EMS
Max. usage temperature (short term)	200	°C	EMS

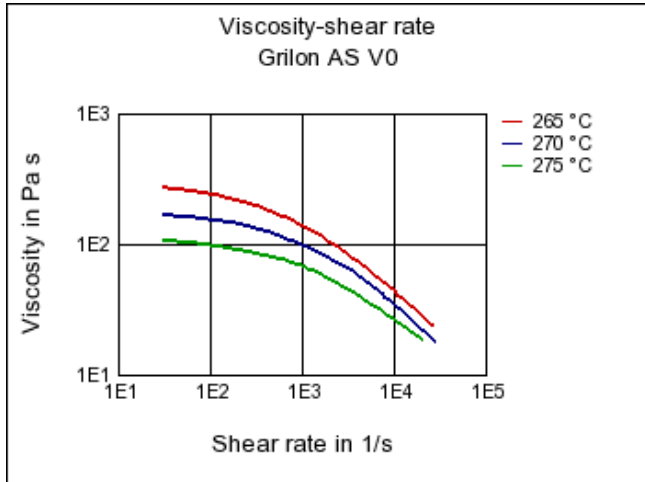
Electrical properties	dry / cond	Unit	Test Standard
Relative permittivity (100Hz)	3 / 7	-	IEC 60250
Relative permittivity (1MHz)	4 / 4	-	IEC 60250
Dissipation factor (100Hz)	30 / 1000	E-4	IEC 60250
Dissipation factor (1MHz)	200 / 650	E-4	IEC 60250
Volume resistivity	1E12 / 1E11	Ohm*m	IEC 60093
Surface resistivity	- / 1E12	Ohm	IEC 60093
Electric strength	31 / 28	kV/mm	IEC 60243-1
Comparative tracking index	- / 600	-	IEC 60112

Other properties	dry / cond	Unit	Test Standard
Water absorption	7 / -	%	Sim. to ISO 62
Humidity absorption	2 / -	%	Sim. to ISO 62
Density	1160 / -	kg/m ³	ISO 1183

Rheo/Phys properties	dry / cond	Unit	Test Standard
Molding shrinkage (parallel)	0.9 / -	%	ISO 294-4, 2577
Molding shrinkage (normal)	1.1 / -	%	ISO 294-4, 2577

Diagrams

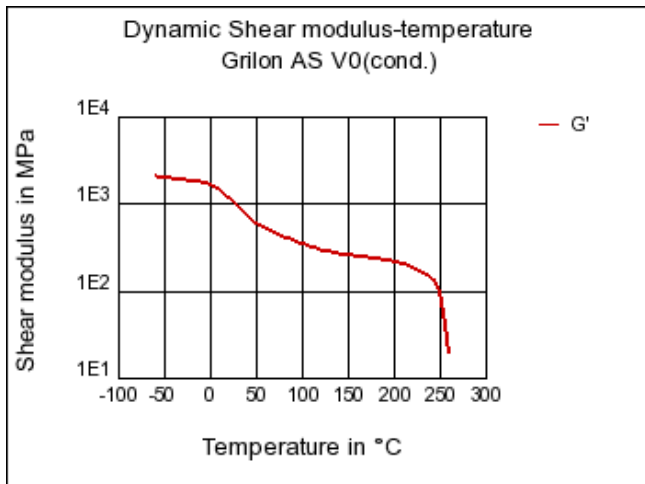
Viscosity-shear rate



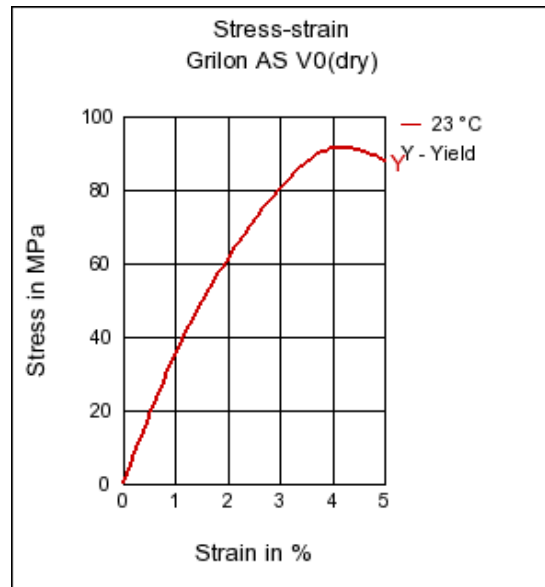
Shearstress-shear rate



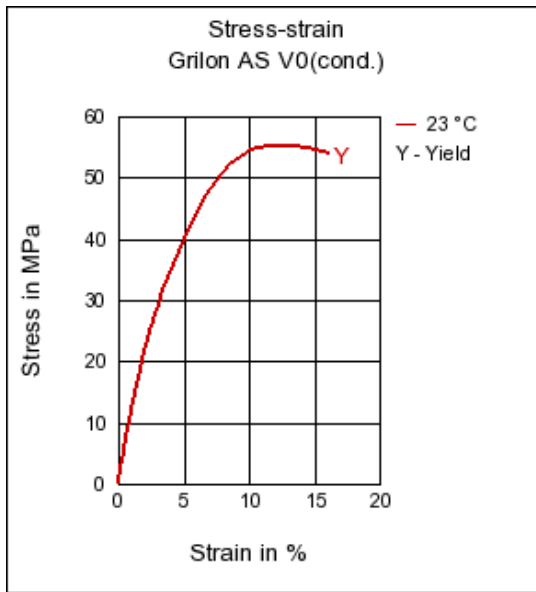
Dynamic Shear modulus-temperature



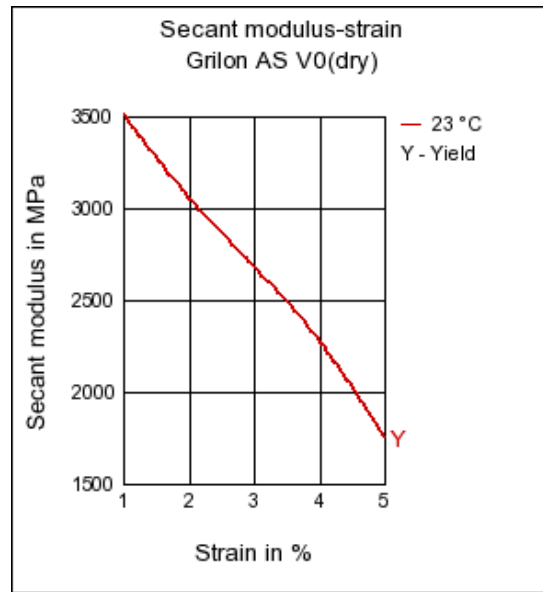
Stress-strain



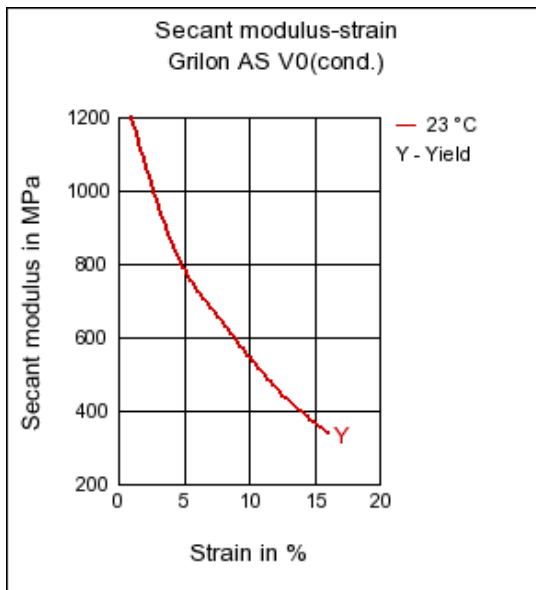
Stress-strain



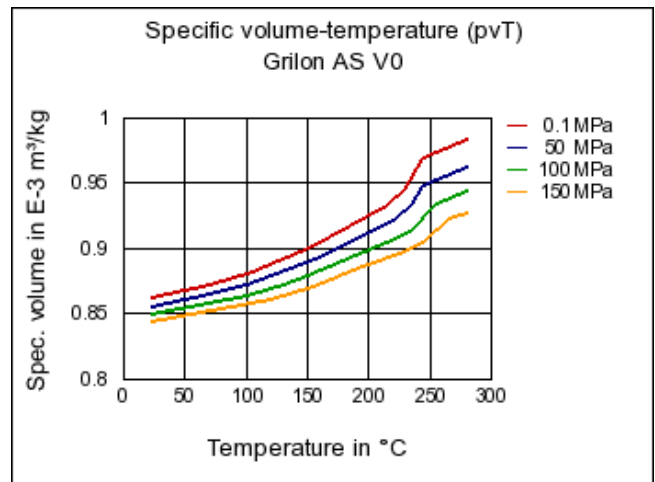
Secant modulus-strain



Secant modulus-strain



Specific volume-temperature (pvT)



Characteristic

Processing

Injection Molding

Special Characteristics

Flame retardant

Regional Availability

North America, Europe, Asia Pacific, South and Central America,

Automotive

Automotive electr. and electronics, lighting

Electricals & Electronics

Electrical appliances, Electrical equipment, Cables & Tubes, Connectors, Energy distribution, Lighting

Near East/Africa

Burning Behaviour

UL V0

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

- ☺ 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)