

Grilamid L 20 W 20

PA12

EMS-GRIVORY | a unit of EMS-CHEMIE AG

Product Texts

Product designation according to ISO 1874:

PA12-P, GHK, 18-005

Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	650 / 500	MPa	ISO 527-1/-2
Yield stress	30 / 30	MPa	ISO 527-1/-2
Yield strain	20 / 20	%	ISO 527-1/-2
Nominal strain at break	>50 / >50	%	ISO 527-1/-2
Stress at break	60 / 60	MPa	ISO 527-1/-2
Charpy impact strength (+23°C)	N / N	kJ/m ²	ISO 179/1eU
Charpy impact strength (-30°C)	N / N	kJ/m ²	ISO 179/1eU
Charpy notched impact strength (+23°C)	- / 40	kJ/m ²	ISO 179/1eA
Charpy notched impact strength (-30°C)	- / 3	kJ/m ²	ISO 179/1eA

Mechanical properties (TPE)	dry / cond	Unit	Test Standard
Shore D hardness (15s)	- / 64	-	ISO 868

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature (10°C/min)	174 / -	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	45 / -	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	100 / -	°C	ISO 75-1/-2
Coeff. of linear therm. expansion (parallel)	140 / -	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion (normal)	160 / -	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)	80 - 100	°C	ISO 2578
Max. usage temperature (short term)	150	°C	EMS

Electrical properties	dry / cond	Unit	Test Standard
Volume resistivity	- / 1E11	Ohm*m	IEC 60093
Surface resistivity	- / 1E12	Ohm	IEC 60093
Electric strength	- / 32	kV/mm	IEC 60243-1
Comparative tracking index	- / 600	-	IEC 60112

Other properties	dry / cond	Unit	Test Standard
Water absorption	1.5 / -	%	Sim. to ISO 62
Humidity absorption	0.7 / -	%	Sim. to ISO 62
Density	1030 / -	kg/m ³	ISO 1183

Rheo/Phys properties	dry / cond	Unit	Test Standard
Molding shrinkage (parallel)	0.8 / -	%	ISO 294-4, 2577
Molding shrinkage (normal)	1.0 / -	%	ISO 294-4, 2577

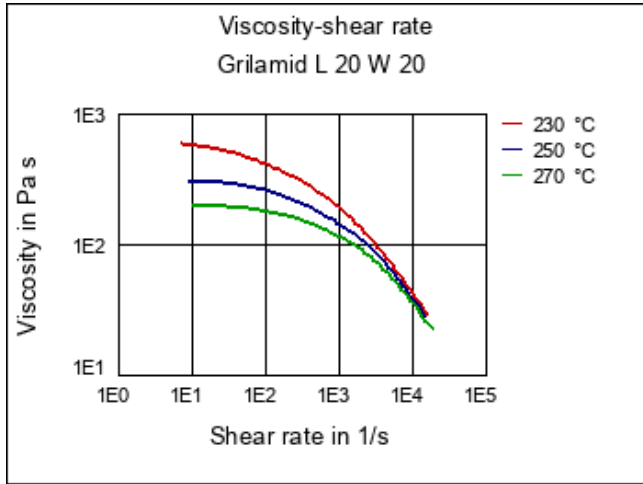
Diagrams

Grilamid L 20 W 20

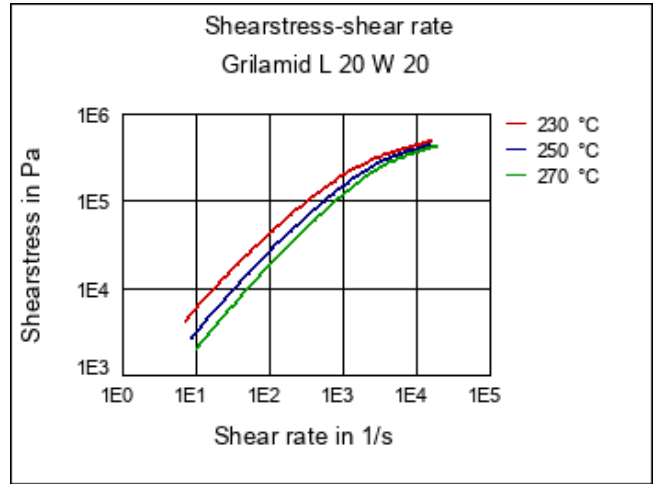
PA12

EMS-GRIVORY | a unit of EMS-CHEMIE AG

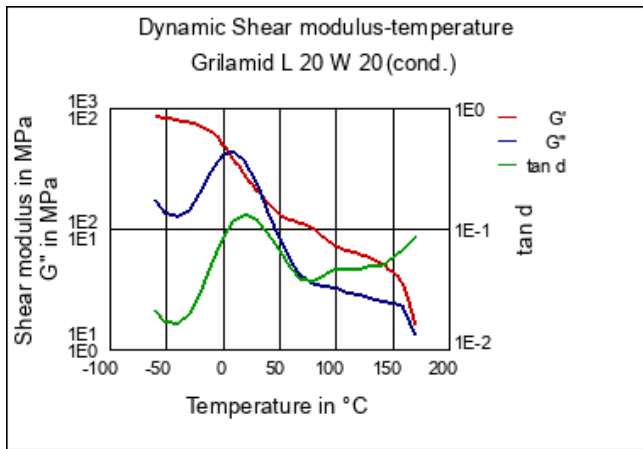
Viscosity-shear rate



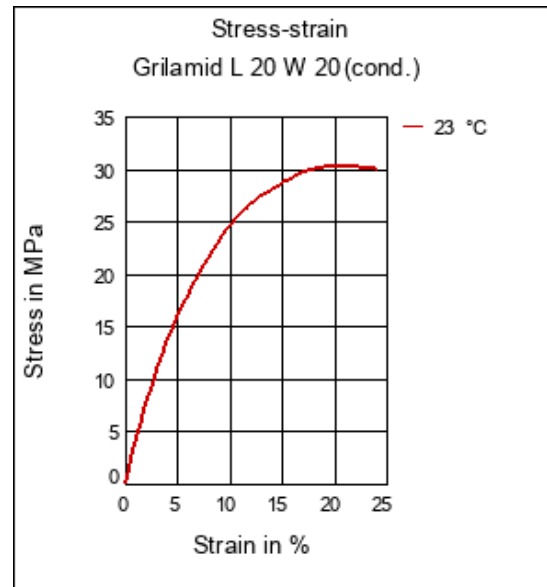
Shearstress-shear rate



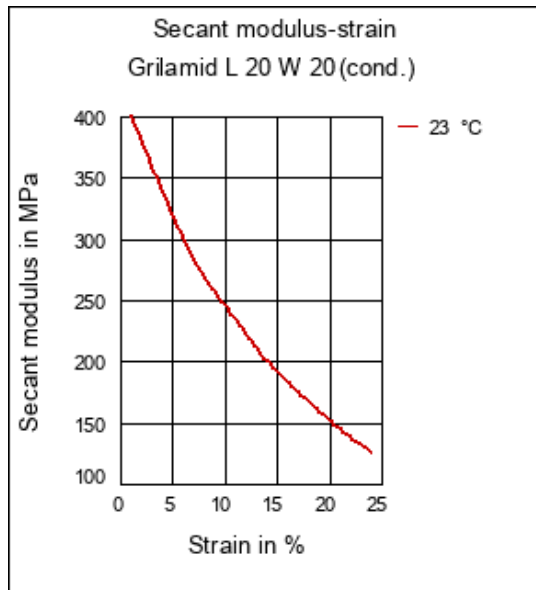
Dynamic Shear modulus-temperature



Stress-strain



Secant modulus-strain



Characteristics

Processing

Other Extrusion

Delivery form

Granules

Additives

Plasticizer

Regional Availability

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

Product Attributes

Flexible

Automotive

Compressed air systems, Powertrain and Chassis

Electricals & Electronics

Cables & Tubes

Industry & Consumer goods

Hydraulics & Pneumatics, Mechanical Engineering

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)

Grilamid L 20 W 20

PA12

EMS-GRIVORY | a unit of EMS-CHEMIE AG

 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)

Grilamid L 20 W 20

PA12

EMS-GRIVORY | a unit of EMS-CHEMIE AG



Water (23°C)



Deionized water (90°C)



Phenol solution (5% by mass) (23°C)
