

Grilamid L 20 EC

PA12-CD25

EMS-GRIVORY | a unit of EMS-CHEMIE AG

Product Texts

Product designation according to ISO 1874:

PA12, MHLRZ, 18-020, CD25

Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	2200 / 1900	MPa	ISO 527-1/-2
Yield stress	55 / 50	MPa	ISO 527-1/-2
Yield strain	5 / 10	%	ISO 527-1/-2
Nominal strain at break	25 / 30	%	ISO 527-1/-2
Stress at break	50 / 40	MPa	ISO 527-1/-2
Charpy impact strength (+23°C)	N / N	kJ/m ²	ISO 179/1eU
Charpy impact strength (-30°C)	- / 50	kJ/m ²	ISO 179/1eU
Charpy notched impact strength (+23°C)	3 / 2	kJ/m ²	ISO 179/1eA
Charpy notched impact strength (-30°C)	3 / 2	kJ/m ²	ISO 179/1eA

Mechanical properties (TPE)	dry / cond	Unit	Test Standard
Shore D hardness (15s)	- / 72	-	ISO 868

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature (10°C/min)	178 / -	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	65 / -	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	135 / -	°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)	130 / -	E-6/K	ISO 11359-1/-2
Max. usage temperature (long term)	90 - 110	°C	ISO 2578
Max. usage temperature (short term)	150	°C	EMS

Electrical properties	dry / cond	Unit	Test Standard
Volume resistivity	- / 1	Ohm*m	IEC 60093
Surface resistivity	- / 100	Ohm	IEC 60093

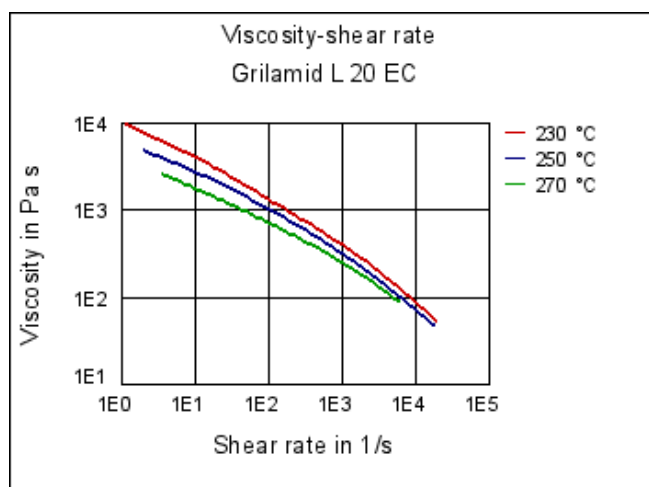
Other properties	dry / cond	Unit	Test Standard
Water absorption	1.1 / -	%	Sim. to ISO 62
Humidity absorption	0.6 / -	%	Sim. to ISO 62
Density	1160 / -	kg/m ³	ISO 1183

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

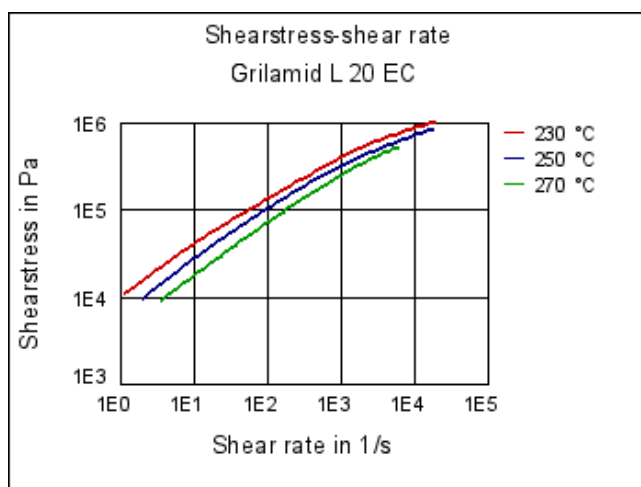
Diagrams



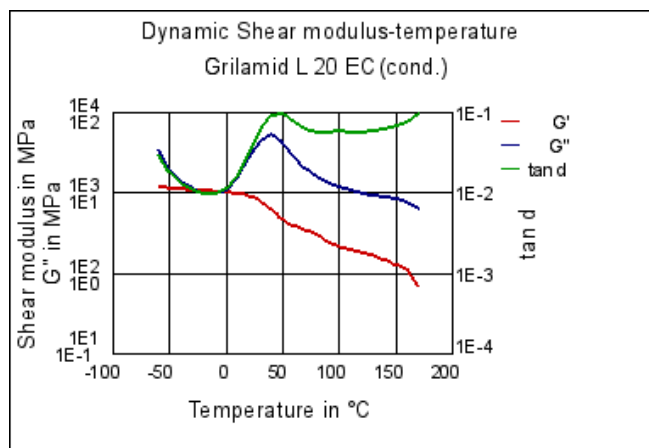
Viscosity-shear rate



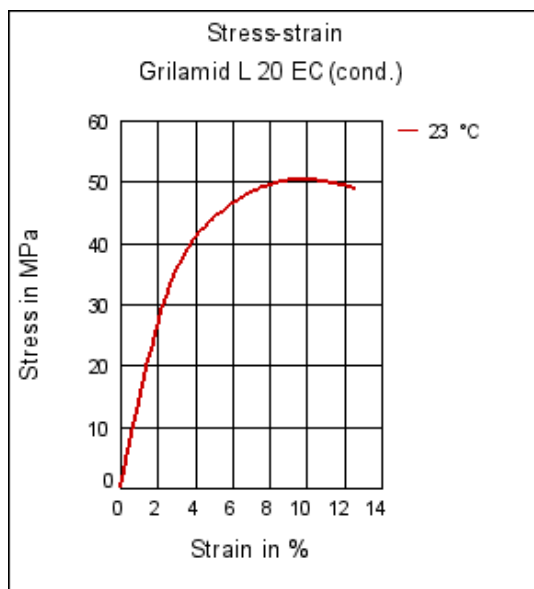
Shearstress-shear rate



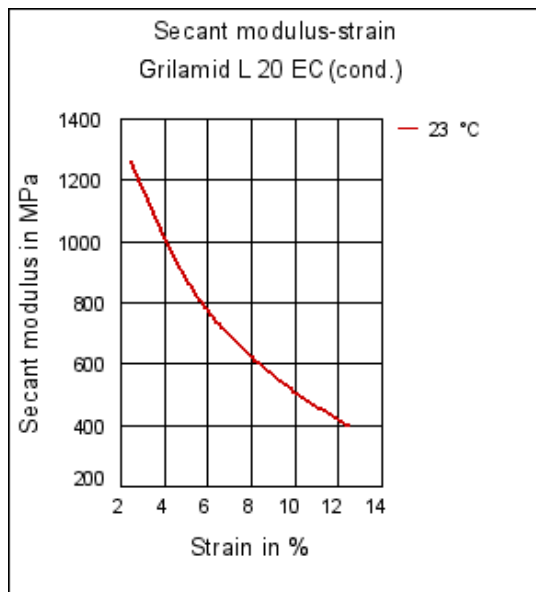
Dynamic Shear modulus-temperature



Stress-strain



Secant modulus-strain



Characteristics

Processing

Injection Molding

Delivery form

Granules

Special Characteristics

Anti-static, Improved heat resistance

Regional Availability

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

Automotive

Automotive electr. and electronics, lighting, Powertrain and Chassis

Electricals & Electronics

Electrical equipment, Connectors

Industry & Consumer goods

Mechanical Engineering, 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)

