

Grilamid LV-23 ESD

PA12-GF23

EMS-GRIVORY | a unit of EMS-CHEMIE AG

Product Texts

Product designation according to ISO 1874:

PA12, MHRZ, 18-050 GF23+C

Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	5800 / 5000	MPa	ISO 527-1/-2
Stress at break	110 / 95	MPa	ISO 527-1/-2
Strain at break	3 / 5	%	ISO 527-1/-2
Charpy impact strength (+23°C)	- / 70	kJ/m ²	ISO 179/1eU
Charpy impact strength (-30°C)	- / 40	kJ/m ²	ISO 179/1eU
Charpy notched impact strength (+23°C)	- / 8	kJ/m ²	ISO 179/1eA
Charpy notched impact strength (-30°C)	- / 6	kJ/m ²	ISO 179/1eA

Mechanical properties (TPE)	dry / cond	Unit	Test Standard
Shore D hardness (15s)	- / 75	-	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)	150 / -	°C	ISO 75-1/-2
Temp. of deflection under load (8.00 MPa)	80 / -	°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)	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)	90 - 120	°C	ISO 2578
Max. usage temperature (short term)	150	°C	EMS

Electrical properties	dry / cond	Unit	Test Standard
Volume resistivity	- / 100	Ohm*m	IEC 60093
Surface resistivity	- / 10000	Ohm	IEC 60093

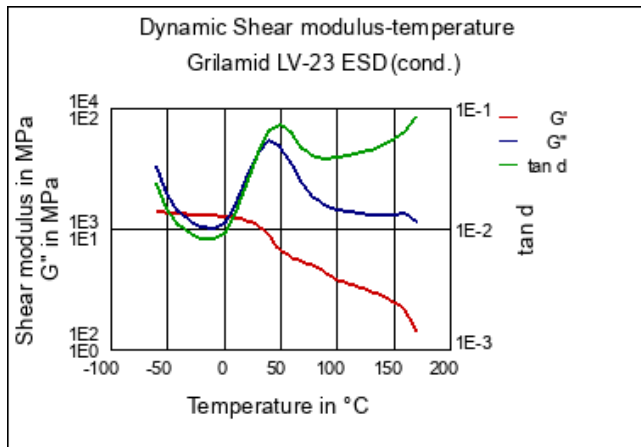
Other properties	dry / cond	Unit	Test Standard
Water absorption	1 / -	%	Sim. to ISO 62
Humidity absorption	0.5 / -	%	Sim. to ISO 62
Density	1190 / -	kg/m ³	ISO 1183

Rheo/Phys properties	dry / cond	Unit	Test Standard
Molding shrinkage (parallel)	0.1 / -	%	ISO 294-4, 2577
Molding shrinkage (normal)	0.7 / -	%	ISO 294-4, 2577

Diagrams



Dynamic Shear modulus-temperature



Characteristics

Processing

Injection Molding

Delivery form

Granules

Special Characteristics

Anti-static, High impact or impact modified, Improved UV resistance (outdoor use), Improved heat resistance

Regional Availability

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

Product Attributes

Hydrolysis resistant

Automotive

Fuel systems

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)

