

Grilamid L 25 W 20 X

PA12-I

EMS-GRIVORY | a unit of EMS-CHEMIE AG

Product Texts

Product designation according to ISO 1874:

PA12-HIP, EHL, 22-005

Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	450 / 450	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	40 / 35	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)	- / N	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)	- / 65	-	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)	95 / -	°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)	180 / -	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 - 110	°C	ISO 2578
Max. usage temperature (short term)	150	°C	EMS

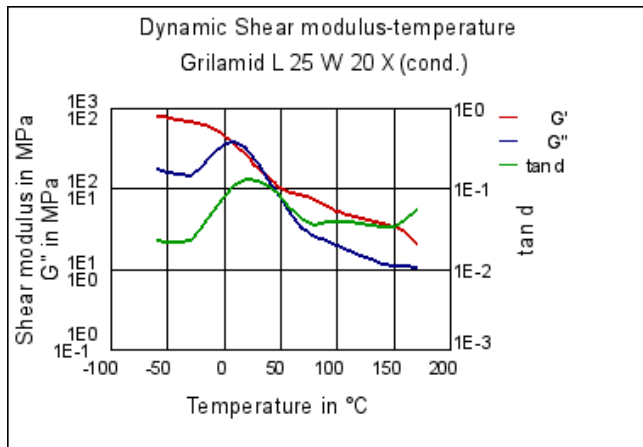
Electrical properties	dry / cond	Unit	Test Standard
Volume resistivity	- / 1E11	Ohm*m	IEC 60093
Surface resistivity	- / 1E12	Ohm	IEC 60093
Electric strength	- / 32	kV/mm	IEC 60243-1
Comparative tracking index	- / 600	-	IEC 60112

Other properties	dry / cond	Unit	Test Standard
Water absorption	1.5 / -	%	Sim. to ISO 62
Humidity absorption	0.7 / -	%	Sim. to ISO 62
Density	1020 / -	kg/m ³	ISO 1183

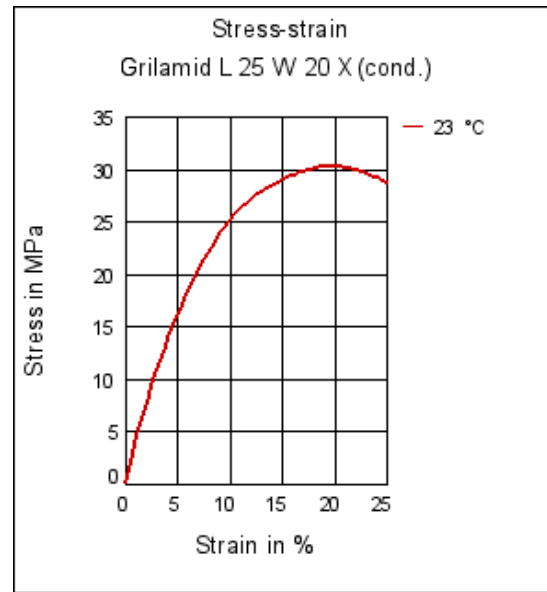
Rheo/Phys properties	dry / cond	Unit	Test Standard
Molding shrinkage (parallel)	0.8 / -	%	ISO 294-4, 2577
Molding shrinkage (normal)	1.2 / -	%	ISO 294-4, 2577

Diagrams

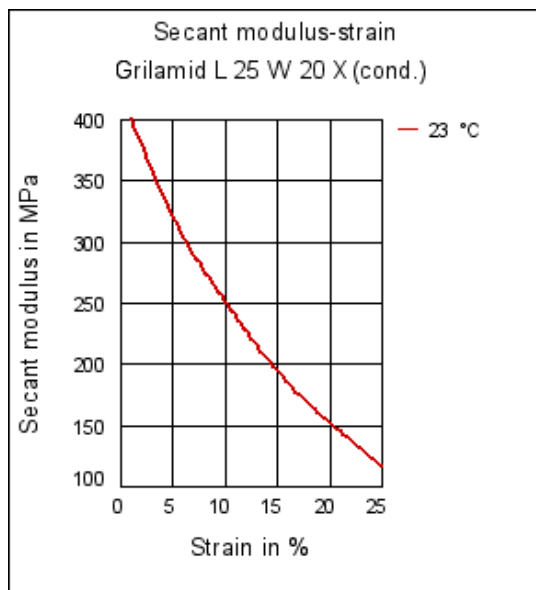
Dynamic Shear modulus-temperature



Stress-strain



Secant modulus-strain



Characteristics

Processing

Other Extrusion

Delivery form

Granules

Additives

Plasticizer

Product Attributes

Flexible, High viscosity

Automotive

Compressed air systems, Hydraulic systems, Fuel systems

Electricals & Electronics

Cables & Tubes

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Special Characteristics

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

Industry & Consumer goods









Hydraulics & Pneumatics

Regional Availability




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

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)

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- ☹️ 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)