Grilamid L 25 nat

PA12 EMS-GRIVORY | a unit of EMS-CHEMIE AG

Product Texts

Product designation according to ISO 1874:
PA 12, E, 24-010

Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	**1400 / 1100**	MPa	ISO 527-1/-2
Yield stress	**45 / 40**	MPa	ISO 527-1/-2
Yield strain	**10 / 12**	%	ISO 527-1/-2
Nominal strain at break	**>50 / >50**	%	ISO 527-1/-2
Stress at break	**50 / 45**	MPa	ISO 527-1/-2
Charpy impact strength (+23°C)	**N / N**	kJ/m²	ISO 179/1eU
Charpy impact strength (-30°C)	**N / N**	kJ/m²	ISO 179/1eU
Charpy notched impact strength (+23°C)	**- / 10**	kJ/m²	ISO 179/1eA
Charpy notched impact strength (-30°C)	**- / 7**	kJ/m²	ISO 179/1eA

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature (10°C/min)	**178 / -**	°C	ISO 11357-1/-3
Max. usage temperature (short term)	**150**	°C	EMS

Other properties	dry / cond	Unit	Test Standard
Water absorption	**1.5 / -**	%	Sim. to ISO 62
Humidity absorption	**0.7 / -**	%	Sim. to ISO 62
Density	**1010 / -**	kg/m³	ISO 1183

Film Properties	dry / cond	Unit	Test Standard
Stress at yield (parallel)	**35 / -**	MPa	ISO 527-3
Stress at yield (normal)	**35 / -**	MPa	ISO 527-3
Strain at yield (parallel)	**6 / -**	%	ISO 527-3
Strain at yield (normal)	**6 / -**	%	ISO 527-3
Maximum strain (parallel)	**850 / -**	%	ISO 527-3
Maximum strain (normal)	**900 / -**	%	ISO 527-3
Elmendorf Tear resistance (parallel)	**10 / -**	N	ISO 6383-2
Elmendorf Tear resistance (normal)	**10 / -**	N	ISO 6383-2
Trouser Tear resistance (parallel)	**20 / -**	N/mm	ISO 6383-1
Trouser Tear resistance (normal)	**25 / -**	N/mm	ISO 6383-1
Gloss, 60°	**150 / -**	-	ISO 2813
WVTR (23°C/85%r.h.)	**8 / -**	g/(m²*d)	ISO 15106-1/-2
Oxygen transmission rate (23°C/0%r.h.)	**350 / -**	cm³/(m²*d*bar)	ISO 15105-1/-2
Oxygen transmission rate (23°C/85%r.h.)	**370 / -**	cm³/(m²*d*bar)	ISO 15105-1/-2
Carbon Dioxide transm. rate (23°C/0%r.h.)	**1500 / -**	cm³/(m²*d*bar)	ISO 15105-1/-2
Carbon Dioxide transm. rate (23°C/85%r.h.)	**1600 / -**	cm³/(m²*d*bar)	ISO 15105-1/-2
Stress at break (parallel)	**80**	MPa	ISO 527-3
Stress at break (normal)	**70**	MPa	ISO 527-3
Gelboflextest	**1300**	holes/m²	EMS

Rheo/Phys properties	dry / cond	Unit	Test Standard
Melt volume-flow rate (MVR)	**20 / -**	cm³/10min	ISO 1133
Temperature	**275 / -**	°C	ISO 1133
Load	**5 / -**	kg	ISO 1133

Diagrams

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PA12

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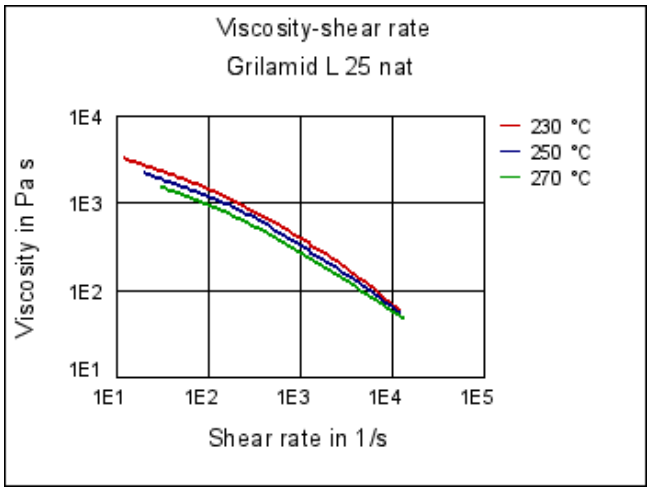
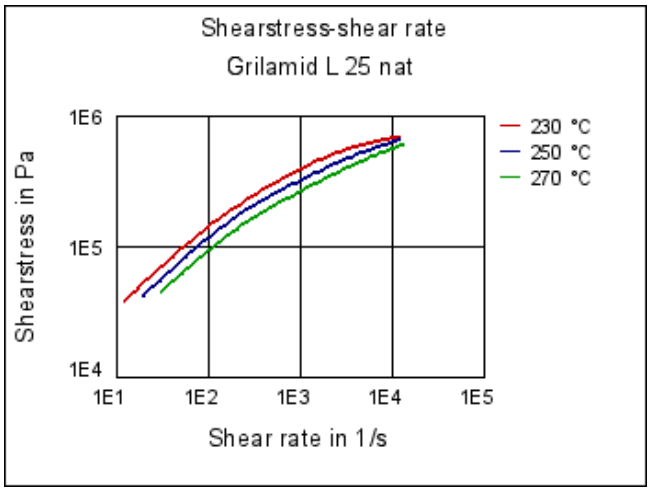
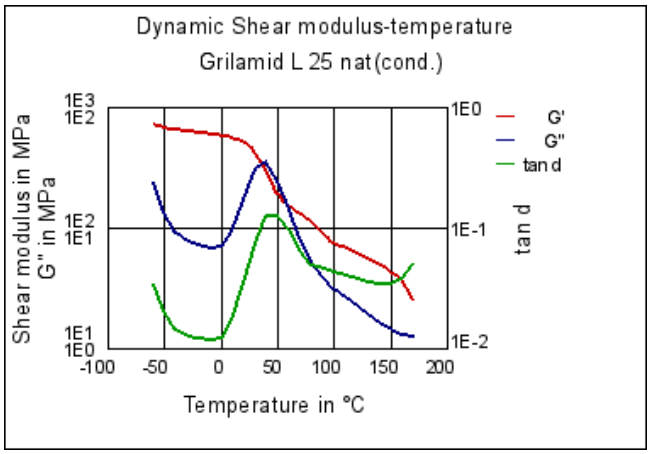
Viscosity-shear rate



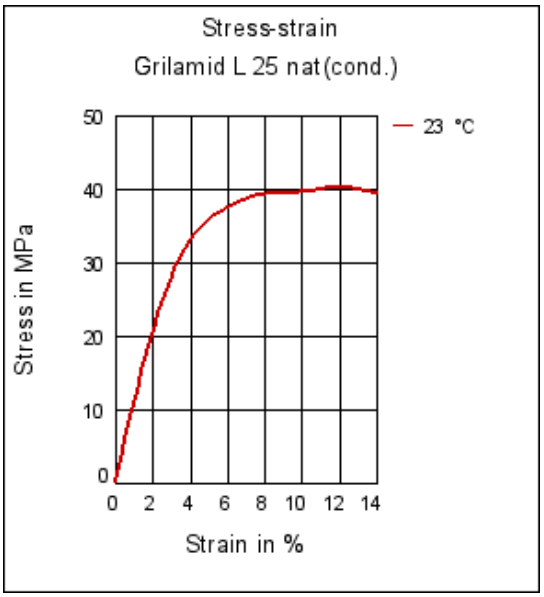
Shearstress-shear rate



Dynamic Shear modulus-temperature



Stress-strain



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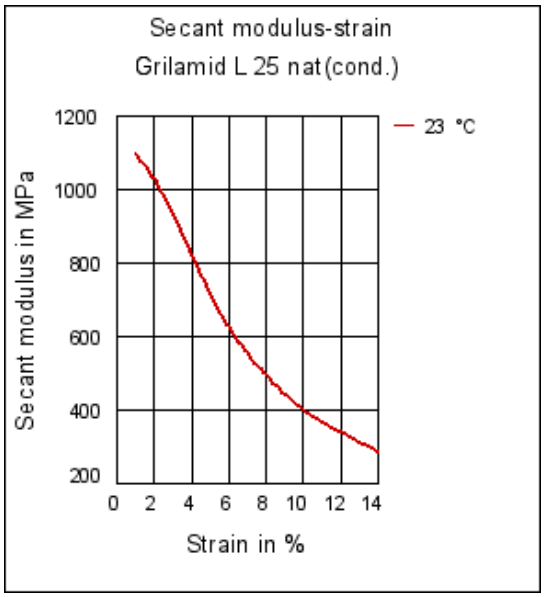
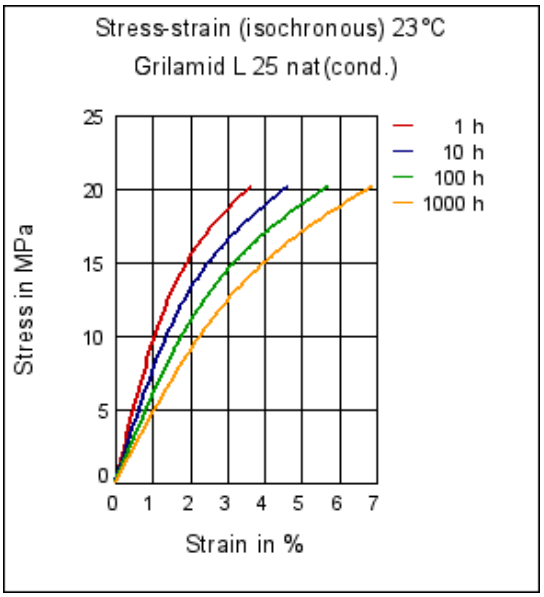
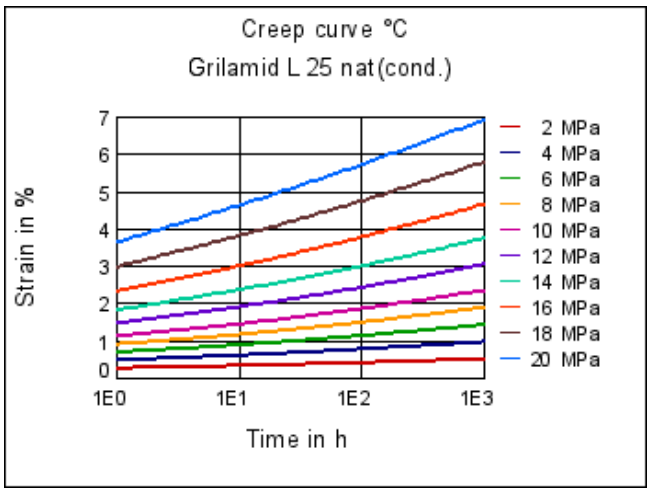
Secant modulus-strain



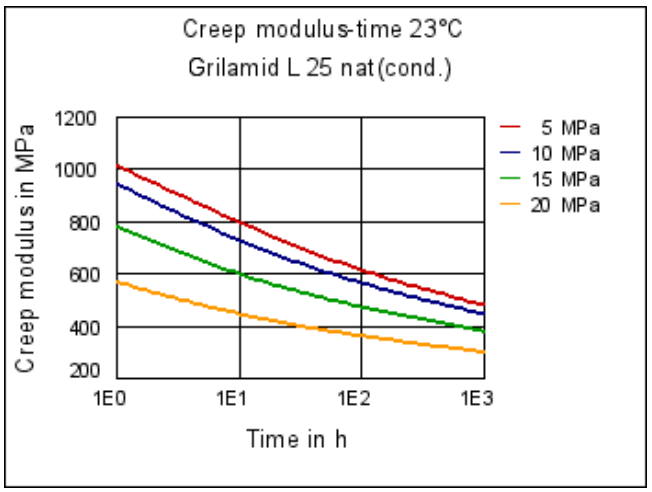
Stress-strain (isochronous) 23°C



Creep curve °C



Creep modulus-time 23°C



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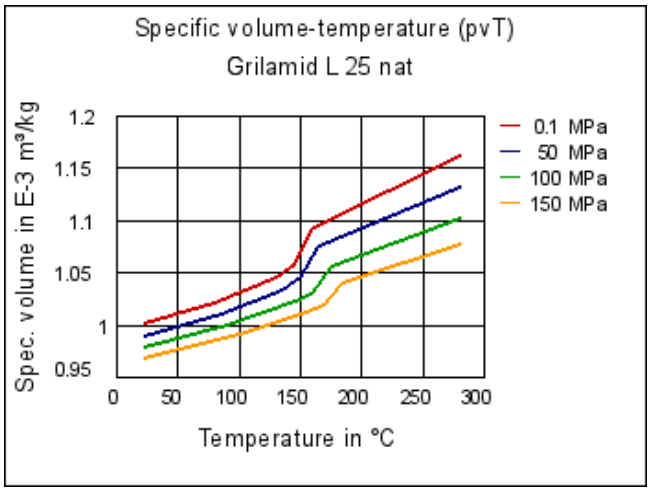
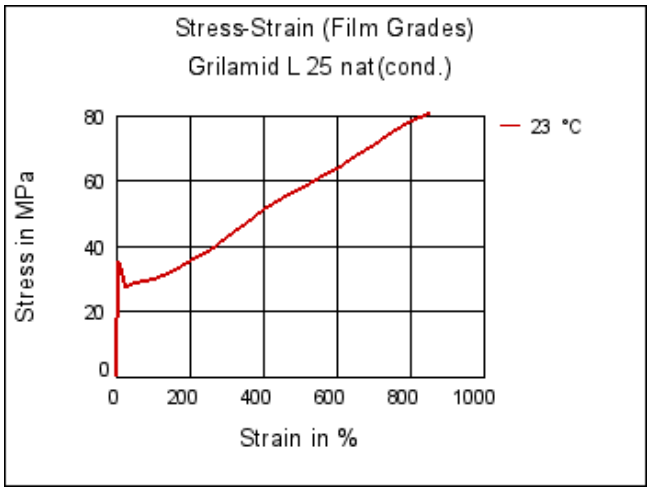
Specific volume-temperature (pvT)



Stress-Strain (Film Grades)



Characteristics

Processing

Injection Molding, Extrusion - cast film, Other Extrusion

Industry & Consumer goods

Medical devices

Delivery form

Granules

Packaging

Non oriented film

Regional Availability

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

Food Contact

EU Requirements, FDA

Biocompatibility

USP VI

Product Attributes

High viscosity

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)