

Test Standard

ISO 2039-1

Grilamid LKN-3H PA12-GB30

EMS-GRIVORY | a unit of EMS-CHEMIE AG

Product Texts

Product designation according to ISO 1874: PA12, MHR, 18-020, GB30

Mechanical properties (TPE)

Ball indentation hardness

77.2,, 70 020, 0200			
Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	1900 / 1600	MPa	ISO 527-1/-2
Yield stress	50 / 45	MPa	ISO 527-1/-2
Yield strain	8 / 10	%	ISO 527-1/-2
Nominal strain at break	20 / 25	%	ISO 527-1/-2
Stress at break	45 / 35	MPa	ISO 527-1/-2
Charpy impact strength (+23°C)	170 / 150	kJ/m²	ISO 179/1eU
Charpy impact strength (-30°C)	- / 45	kJ/m²	ISO 179/1eU
Charpy notched impact strength (+23°C)	5/5	kJ/m²	ISO 179/1eA
Charpy notched impact strength (-30°C)	3/3	kJ/m²	ISO 179/1eA

dry / cond	Unit	Test Standard
178 / -	°C	ISO 11357-1/-3
50 / -	°C	ISO 75-1/-2
40 / -	°C	ISO 75-1/-2
90 / -	E-6/K	ISO 11359-1/-2
90 / -	E-6/K	ISO 11359-1/-2
HB / -	class	IEC 60695-11-10
0.8 / -	mm	IEC 60695-11-10
90 - 120	°C	ISO 2578
150	°C	EMS
	178 /- 50 /- 40 /- 90 /- 90 /- HB /- 0.8 /- 90 - 120	178 / - °C 50 / - °C 40 / - °C 90 / - E-6/K 90 / - E-6/K HB / - class 0.8 / - mm 90 - 120 °C

- / 75

Electrical properties	dry / cond	Unit	Test Standard	
Volume resistivity	- / 1E11	Ohm*m	IEC 60093	
Surface resistivity	- / 1E12	Ohm	IEC 60093	
Electric strength	- / 35	kV/mm	IEC 60243-1	
Comparative tracking index	- / 600	-	IEC 60112	

Other properties	dry / cond	Unit	Test Standard
Water absorption	1.2 / -	%	Sim. to ISO 62
Humidity absorption	0.6 / -	%	Sim. to ISO 62
Density	1210 / -	kg/m³	ISO 1183

Rheo/Phys properties	dry / cond	Unit	Test Standard
Molding shrinkage (parallel)	0.9 / -	%	ISO 294-4, 2577
Molding shrinkage (normal)	1.0 / -	%	ISO 294-4, 2577

Characteristics

Processing	Automotive
Injection Molding	Automotive electr. and electronics, lighting, Powertrain and Chassis
Delivery form	Electricals & Electronics
Granules	Electrical appliances, Electrical equipment, Connectors, Mobile

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The values are intended to serve as an aid in preselecting materials and for an overview of the EMS-GRIVORY product range. The information contained in this publication is based on our present knowledge and experience. The given figures and data are guidance values and do not represent binding material specifications. No warranties of any kind, either express or implied, including warranties of merchantability or fitness for a particular purpose, are given regarding products, design, data and information. The customer is not released from his obligation to investigate the products fitness and the suitability for the intended application, compliance with legal requirements and intellectual property rights. We reserve the right to change the information at any time and without prior notice. The information in this publication is not to be considered a contractual obligation and anyliability whatsoever is expressly declined. For further questions about our products please contact our experts.

Special Characteristics

Improved UV resistance (outdoor use)

Regional Availability

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

Industry & Consumer goods

Housewares, Mechanical Engineering, Medical devices, Sanitary, water and gas supply, 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)
- Otto Toluene (23°C)
- iso-Octane (23°C)

Ketones

Acetone (23°C)

Ethers

U Diethyl ether (23°C)

Mineral oils

- SAE 10W40 multigrade motor oil (23°C)
- SAE 10W40 multigrade motor oil (130°C)
- O 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)

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- U 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)