TECHNICAL DATASHEET

Grilamid LC-3H black

PA12-CF30

EMS-GRIVORY
Material Database

Physical
Low moisture absorption, Low density

Chemical
Good chemical resistance

Mechanical
High stiffness, Good abrasion resistance

Processing
Injection molding

Delivery form
Granules

Special Characteristics
Light stabilized or stable to light

Product Information

Product-nomenclature: ISO 16396-PA12,CF30,M1HR,C18-120

Mechanical Properties	dry/cond	Unit	Standard
Tensile modulus	15000 / 13000	MPa	ISO 527
Stress at break	160 / 150	MPa	ISO 527
Strain at break	3.5 / 4	%	ISO 527
Charpy impact strength, +23°C	65 / 65	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	65 / 65	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C	20 / 20	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	15 / 15	kJ/m²	ISO 179/1eA
Shore D hardness	82 / -		ISO 7619-1
Ball indentation hardness	- / 130	MPa	ISO 2039-1
Shore A hardness (15s)	- / 82	-	ISO 868

Thermal Properties	dry/cond	Unit	Standard
Melting temperature, 10°C/min	178 / -	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.80 MPa	165 / -	°C	ISO 75-1/-2
Temp. of deflection under load, 8.00 MPa	125 / -	°C	ISO 75-1/-2
Max. usage temperature (long term)	90 - 120	°C	ISO 2578
Max. usage temperature (short term)	150	°C	EMS

Electrical Properties	dry/cond	Unit	Standard
Volume resistivity	- / 100	Ohm*m	IEC 62631-3-1

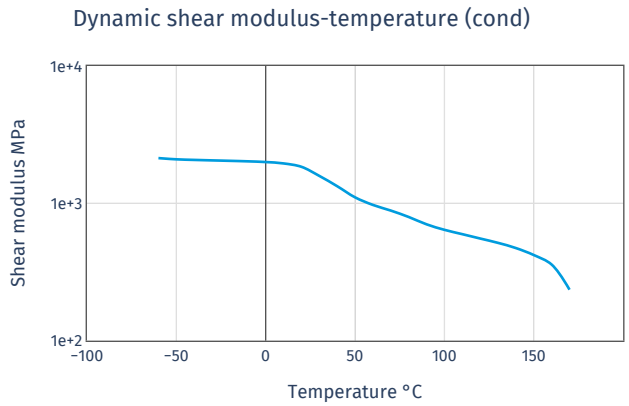
General Properties	dry/cond	Unit	Standard
Density	1150 / -	kg/m³	ISO 1183
Burning behav. at thickness h	HB / -	class	IEC 60695-11-10
Thickness tested	0.8 / -	mm	
Water absorption	1.1 / -	%	Sim. to ISO 62

Grilamid LC-3H black

General Properties	dry/cond	Unit	Standard
Humidity absorption	0.6 / -	%	Sim. to ISO 62
Molding shrinkage, parallel	0.1 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	0.3 / -	%	ISO 294-4, 2577

Processing Injection Molding	Value	Unit	Standard
Hopper zone	60 - 80	°C	
Feeding zone	250 - 270	°C	
Compression zone	260 - 280	°C	
Metering zone	260 - 280	°C	
Nozzle (IM)	260 - 290	°C	
Melt	270 - 290	°C	
Mold surface temperature	60 - 100	°C	
Injection speed	Medium - High	-	
Pressure	300 - 800	bar	
Dynamic pressure (hydraulic)	50 - 100	bar	
Circumferencial screw speed	5 - 15	m/s	

Diagrams



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)

Grilamid LC-3H black

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)

EMS-CHEMIE AG
Business Unit EMS-GRIVORY

Homepage: EMS-GRIVORY
eMail: welcome@emsgrivory.com

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 any liability whatsoever is expressly declined. For further questions about our products please contact our experts.

Created: Aug 25, 2026