TECHNICAL DATASHEET

Grilamid L XE 4301 black 9544

PA12-GF30

EMS-GRIVORY
Material Database

Physical
Low moisture absorption

Chemical
Good chemical resistance

Mechanical
Good abrasion resistance

Processing
Injection molding

Delivery form
Granules

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

Product Information

Product-nomenclature ISO 16396-PA12,GF30,M1H,C18-040

Mechanical Properties	dry/cond	Unit	Standard
Tensile modulus	4000 / 3000	MPa	ISO 527
Stress at break	60 / 50	MPa	ISO 527
Strain at break	8 / 10	%	ISO 527
Charpy impact strength, +23°C	60 / 70	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	60 / 60	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C	6 / 6	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	6 / 6	kJ/m²	ISO 179/1eA
Ball indentation hardness	115 / 95	MPa	ISO 2039-1

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	105 / -	°C	ISO 75-1/-2
Temp. of deflection under load, 8.00 MPa	50 / -	°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
Electric strength	39 / 43	kV/mm	IEC 60243-1
Comparative tracking index	- / 600		IEC 60112
Volume resistivity	1E9 / 1E9	Ohm*m	IEC 62631-3-1
Surface resistivity	- / 1E10	Ohm	IEC 62631-3-2

General Properties	dry/cond	Unit	Standard
Density	1240 / -	kg/m³	ISO 1183
Burning behav. at thickness h	HB / -	class	IEC 60695-11-10

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General Properties	dry/cond	Unit	Standard
Thickness tested	0.8 / -	mm	
Water absorption	1 / -	%	Sim. to ISO 62
Humidity absorption	0.5 / -	%	Sim. to ISO 62
Molding shrinkage, parallel	0.65 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	0.7 / -	%	ISO 294-4, 2577

Processing Injection Molding	Value	Unit	Standard
Hopper zone	70 - 90	°C	
Feeding zone	240 - 260	°C	
Compression zone	250 - 270	°C	
Metering zone	260 - 280	°C	
Nozzle (IM)	260 - 280	°C	
Melt	260 - 290	°C	
Mold surface temperature	70 - 90	°C	
Injection speed	Medium - High	-	
Pressure	300 - 800	bar	
Dynamic pressure (hydraulic)	50 - 100	bar	
Circumferencial screw speed	0.1 - 0.3	m/s	

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Created: Aug 25, 2026