TECHNICAL DATASHEET

Grilamid L XE 11357 natural

PA12-I-GB10

EMS-GRIVORY
Material Database

Physical
Low density

Chemical
Excellent chemical resistance, Excellent weatherability

Mechanical
Good cold impact 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-I,GB10,M1SHL1,C18-010

Mechanical Properties	dry/cond	Unit	Standard
Tensile modulus	1500 / 1000	MPa	ISO 527
Yield stress	30 / 30	MPa	ISO 527
Yield strain	4.5 / 12	%	ISO 527
Nominal strain at break	40 / >50	%	ISO 527
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	20 / 20	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	8 / 8	kJ/m²	ISO 179/1eA
Shore D hardness	70 / -		ISO 7619-1
Shore A hardness (15s)	70 / 75	-	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	50 / -	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	110 / -	°C	ISO 75-1/-2
Max. usage temperature (long term)	90 - 100	°C	ISO 2578
Max. usage temperature (short term)	145	°C	EMS

Electrical Properties	dry/cond	Unit	Standard
Electric strength	38 / 38	kV/mm	IEC 60243-1
Comparative tracking index	- / 600		IEC 60112
Volume resistivity	1E9 / 1E9	Ohm*m	IEC 62631-3-1
Surface resistivity	- / 1E11	Ohm	IEC 62631-3-2

General Properties	dry/cond	Unit	Standard
Density	910 / -	kg/m³	ISO 1183

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General Properties	dry/cond	Unit	Standard
Burning behav. at thickness h	HB / -	class	IEC 60695-11-10
Thickness tested	0.8 / -	mm	
Water absorption	1.5 / -	%	Sim. to ISO 62
Humidity absorption	0.6 / -	%	Sim. to ISO 62
Molding shrinkage, parallel	1.1 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	1.5 / -	%	ISO 294-4, 2577

Processing Injection Molding	Value	Unit	Standard
Hopper zone	≤40	°C	
Feeding zone	240 - 260	°C	
Compression zone	245 - 265	°C	
Metering zone	250 - 270	°C	
Nozzle (IM)	250 - 270	°C	
Melt	250 - 270	°C	
Mold surface temperature	≤40	°C	
Injection speed	Low - Medium	-	
Pressure	300 - 800	bar	
Dynamic pressure (hydraulic)	50 - 100	bar	
Circumferencial screw speed	0.08 - 0.16	m/s	

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