

UBE Nylon 3020GX6

Polyamide 12



General

Generic identification and marking	PA12-(GF+CF)
Market example	Automotive
Application example	Fuel Line
Processing example	Injection molding
Elemental Technology	Glass fiber reinforced, Carbon fiber reinforced, Conductive
Production area	Japan
Development product	Not applicable

Mechanical property

	Unit	Test standard	Typical value
Tensile strength	MPa	ISO527-1,2	130
Tensile strain at break	%	ISO527-1,2	6
Tensile modulus	MPa	ISO527-1,2	9600
Flexural strength	MPa	ISO178	195
Flexural modulus	MPa	ISO178	8100
Charpy notched impact strength	kJ/m ²	ISO179-1/1eA	21
Tensile strength after moisture absorption	MPa	ISO527-1,2	116
Tensile modulus after moisture absorption	MPa	ISO527-1,2	8200
Tensile strain at break after moisture absorption	%	ISO527-1,2	7
Flexural strength after moisture absorption	MPa	ISO178	172
Flexural modulus after moisture absorption	MPa	ISO178	6700
Charpy notched impact strength after moisture absorption	J/m	ISOxx179-1/1eA	22
Rockwell hardness (R scale)	-	ISO2039	110
Rockwell hardness (M scale)	-	ISO2039	70
Rockwell hardness (R scale) after moisture absorption	-	ISO2039	103
Rockwell hardness (M scale) after moisture absorption	-	ISO2039	58

Thermal property

	Unit	Test standard	Typical value
Melting temperature	°C	ISO11357	175-181
Temperature of deflection under load at 0.45MPa	°C	ISO75-1,2	177
Temperature of deflection under load at 1.8MPa	°C	ISO75-1,2	165
Coefficient of linear thermal expansion	× 10 ⁻⁵ /K	ISO11359-2	2.5

Electrical property

	Unit	Test standard	Typical value
Volume resistivity	Ω · cm	IEC60093	10 ⁶

Molding property

	Unit	Test standard	Typical value
Mold shrinkage(MD)	%	ISO 294-4 D-2	0.1
Mold shrinkage(TD)	%	ISO 294-4 D-2	0.6

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Other property	Unit	Test standard	Typical value
Density	g/cm ³	ISO1183	1.16
Water absorption at equilibrium	%	UBE Method	0.6

Remarks

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* The data described herein are averaged values obtained by specified measurement: they are not guaranteed figures.

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