

UBE Nylon 3014U

Polyamide 12



General

Generic identification and marking	PA12
Market example	Automotive, General
Application example	Electric Powertrain, Electrical & Electronics, General
Processing example	Injection molding
Elemental Technology	Neat resin, Heat resistant
Production area	Japan
Development product	Not applicable

Mechanical property

	Unit	Test standard	Typical value
Tensile strength	MPa	ISO527-1,2	47
Tensile strain at break	%	ISO527-1,2	>150
Tensile modulus	MPa	ISO527-1,2	1500
Flexural strength	MPa	ISO178	60
Flexural modulus	MPa	ISO178	1500
Charpy notched impact strength	kJ/m ²	ISO179-1/1eA	3
Rockwell hardness (R scale)	-	ISO2039	105
Shore D hardness	-	ISO868	77

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	95
Temperature of deflection under load at 1.8MPa	°C	ISO75-1,2	45
Coefficient of linear thermal expansion	x10 ⁻⁵ /K	ISO11359-2	13.0

Electrical property

	Unit	Test standard	Typical value
Dielectric strength	kV/mm	IEC60243-1	30
Arc resistance	sec	ASTMD495	180
Volume resistivity	Ω · cm	IEC60093	10 ¹⁵
Dielectric constant (1 MHz)	-	ASTMD150	2.9

Molding property

	Unit	Test standard	Typical value
Mold shrinkage(MD)	%	ISO 294-4 D-2	0.9
Mold shrinkage(TD)	%	ISO 294-4 D-2	0.9

Other property

	Unit	Test standard	Typical value
Density	g/cm ³	ISO1183	1.02
Water absorption at equilibrium	%	UBE 法	0.7
Flammability rating	-	UL94	HB

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