MARPLEX AUSTRALIA PTY LTD

Material Safety Data Sheet (MSDS): Code Reny

RENY® MODIFIED MXD6 POLYAMIDE
ENGINEERING THERMOPLASTIC

RENY® IS A REGISTRED TRADEMARK OF MITSUBISHI ENGINEERING PLASTICS CORPORATION (JAPAN)

RENY® 1032

RENY® 1032 is the 60% glass fibre filled Polyamide MXD6 grade in the Reny® range. Compared to standard Nylon 6 and 66 reinforced grades, Reny® 1032 offers exceptional high strength and rigidity, low water absorption and a high glass transition temperature. Reny® 1032 is especially suitable as a metal replacement for structural components with typical uses being automotive door handles, clutch master cylinders, cylinder head rocker covers and timing belt pulleys.

	CONDITIONS	UNITS	DRY VALUES	WET VALUES	TESTING METHODS
1. Mechanical Properties					
Izod Impact Strength	12.7 x 6.4 mm - notched	J/m	110	-	ASTM D256
	12.7 x 6.4 mm - unnotched	J/m	960	-	ASTM D256
Tensile Strength	12.7 x 3.2 mm @ 5.0 mm/min	MPa	275	196	ASTM D638
Tensile Modulus	12.7 x 3.2 mm @ 5.0 mm/min	MPa	23,300	17,800	ASTM D638
Elongation to Fail	12.7 x 3.2 mm @ 5.0 mm/min	%	1.8	2.0	ASTM D638
Flexural Strength	12.7 x 6.4 mm @ 2.8 mm/min	MPa	377	289	ASTM D790
Flexural Modulus	12.7 x 6.4 mm @ 2.8 mm/min	MPa	20,900	17,800	ASTM D790
Compressive Strength	6.4 mm	MPa	227	176	ASTM D695
Shear Strength	2.0 mm	MPa	121	-	ASTM D732
Tensile Impact Strength	1.6 mm	kJ/m²	216	-	ASTM D1822
2. Thermal Properties					
Heat Deflection Temperature	12.7 x 6.4 mm @ 1.82 MPa	ºC	226	-	ASTM D648
Coefficient of Linear Thermal Expansion		cm/cm/°C	1.7 exp-5	-	ASTM D696
4. Physical Properties					
Specific Gravity		-	1.77	-	ASTM D792
Rockwell Hardness		M	108	-	ASTM D785
UL Flammability	1.6 mm	Rating	HB	-	UL 94
Water Absorbtion	24 hours	%	0.11	-	ASTM D570
Moisture Regain	65% RH	%	1.3	-	ASTM D570
Reinforcement Level		%	60	-	n/a
Taber Abrasion	1000 cycles	mg	23	-	ASTM D1044
Mould Shrinkage		%	0.4±0.2	-	ASTM D955

TYPICAL PROCESSING CONDITIONS

RENY® 1032

The following typical guidelines are offered as initial processing conditions for **RENY® 1032**
In practice, processing parameters may need to be varied to give commercially acceptable performance in conjunction with optimum physical properties. For specific technical advice on part design or processing conditions, contact the Marplex Technical Service Department.

Temperature of pellet bed in dehumidifying drier		75 - 85 ºC
Minimum drying time at desired pellet bed temp		2 hours if unopened bag >12 if already opened bag
Mould temperature		120 - 140 ºC
Nozzle temperature		Do not exceed stock temperature
Stock temperature		255 - 285 ºC
Cylinder temperatures	Rear	240 - 260 ºC
	Middle	250 - 270 ºC
	Front	260 - 280 ºC
Fill speed		Fast
Screw speed		40 - 60 rpm
Screw back pressure		0.1 - 0.5 MPa
Injection pressure		60 - 140 MPa
Clamp pressure		5 - 9 kN/cm²

Comment(s):

1 Reny® MXD6 absorbs moisture readily once the original packaging is opened. Ensure adequate drying of stored material and regrind to avoid moulding splay, nozzle drooling and embrittlement.

2 Reny® MXD6 is not compatible with other polymers.

3 It is strongly suggested that the actual drying, moulding die and material temperatures are manually confirmed using a hand held temperature measuring device.

Conversions:

1 MPa = 145 psi
= 10.2 kg/cm²
= 10 bar
ºC = 5(ºF-32)/9
1 kN/cm² = 0.65 ton/in²