

ASTALON™ K2000UR

ASTALON™ K2000UR is a medium flow, flame retardant Polycarbonate that is designed to meet the stringent Underwriter's Laboratory UL94 V-0 test whilst offering improved indoor colour stability, heat resistance and exceptional balance of impact toughness, product rigidity and mouldability. Typical applications include computer casing mouldings, electrical switchgear assemblies and whitegoods clothes dryer doors.

	CONDITIONS	UNITS	TYPICAL VALUES	TESTING METHODS
1. Mechanical Properties				
Notched Izod Impact Strength	12.7 mm x 3.2 mm	J/m	700	ASTM D256
Falling Dart Impact Strength	3.2 mm plaque	J	65	ASTM D3029
Tensile Strength	12.7 mm x 3.2 mm @ 20 mm/min	MPa	58	ASTM D638
Elongation to Fail	12.7 mm x 3.2 mm @ 20 mm/min	%	200	ASTM D638
Flexural Strength	12.7 mm x 6.4 mm @ 2.8 mm/min	MPa	90	ASTM D790
Flexural Modulus	12.7 mm x 6.4 mm @ 2.8 mm/min	MPa	2200	ASTM D790
2. Thermal Properties				
Heat Deflection Temperature	12.7 mm x 12.7 mm @ 1.82 Mpa	°C	139	ASTM D648
	12.7 mm x 6.4 mm @ 1.82 Mpa	°C	131	ASTM D648
Coefficient of Linear Thermal Expansion		cm/cm/°C	6.50E-05	ASTM D696
3. Electrical Properties				
Volume Resistivity		Ohm.cm	-	ASTM D257
Dielectric Constant		MHz	-	ASTM D150
4. Physical Properties				
Melt Flow Rate	300°C, 1.20 kg	g/10 min	16.5	ASTM D1238
Specific Gravity		-	1.21	ASTM D792
Rockwell Hardness	R Scale	R	120	ASTM D785
UL Flammability	1.6 mm	Rating	V-0	UL 94
Water Absorption	24 hours	%	0.24	ASTM D570
Total Light Transmittance	3.0 mm	%	-	ASTM D1003
Reinforcement Level	By mass	%	-	n/a
Mould Shrinkage	3.0 x Ø100 mm disc	%	0.60	ASTM D955

All test results were obtained using uncoloured material.

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Material Safety Data Sheet (MSDS) Code: 17313

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TYPICAL PROCESSING CONDITIONS

ASTALON™ K2000UR

The following typical guidelines are offered as initial processing conditions for ASTALON™ K2000UR. 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		120 - 125°C
Minimum drying time at desired pellet bed temp		4 - 6 hours
Mould temperature		60 - 110°C
Nozzle temperature		Do not exceed stock temperature
Melt temperature		255 - 270°C
Cylinder temperatures	Rear	230 - 250°C
	Middle	245 - 265°C
	Front	260 - 280°C
Fill speed		Medium
Screw speed		30 - 50 rpm
Screw back pressure		0.1 - 0.5 MPa
Injection pressure		60 - 140 MPa
Clamp pressure		4 - 8 kN/cm ²

Comments:

01. Cleanliness of the dryer, machine hopper and machine screw/barrel/nozzle assembly are essential for processing Astalon™ Polycarbonate and producing contamination free profile, rodstock and sheeting.
02. Astalon™ Polycarbonate is not compatible with other polymers.
03. It is suggested that the pre-drying, die head, roller and material temperatures are manually confirmed using a hand held temperature measuring device.

Conversions:

1 MPa = 145psi
1 MPa = 10.2kg/cm²
1 MPa = 10 bar
°C = 5(°F-32)/9
1 kN/cm² = 0.85 ton/in²