

ASTALOY™ PC/ABS KMA

ASTALOY™ PC/ABS KMA is a flame retardant alloy of ABS and Polycarbonate and is designed to meet the stringent Underwriter's Laboratory UL94 V-0 test whilst offering improved 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.

Note: The letters "U" or "W" indicate additional UV stabilisation [ie: ASTALOY™ PC/ABS KMAU].

	CONDITIONS	UNITS	TYPICAL VALUES	TESTING METHODS
1. Mechanical Properties				
Notched Izod Impact Strength	12.7 mm x 3.2 mm	J/m	625	ASTM D256
Falling Dart Impact Strength	3.2 mm plaque	J	60	ASTM D3029
Tensile Strength	12.7 mm x 3.2 mm @ 5.0 mm/min	MPa	57	ASTM D638
Elongation to Fail	12.7 mm x 3.2 mm @ 5.0 mm/min	%	100	ASTM D638
Flexural Strength	12.7 mm x 3.2 mm @ 1.3 mm/min	MPa	84	ASTM D790
Flexural Modulus	12.7 mm x 3.2 mm @ 1.3 mm/min	MPa	2350	ASTM D790
2. Thermal Properties				
Heat Deflection Temperature	12.7 mm x 12.7 mm @ 1.82 Mpa	°C	118	ASTM D648
	12.7 mm x 6.4 mm @ 1.82 Mpa	°C	113	ASTM D648
	12.7 mm x 3.2 mm @ 1.82 MPa	°C	107	ASTM D648
VICAT Softening Temperature	1 kg	°C	138	ASTM D1525
Coefficient of Linear Thermal Expansion		cm/cm/°C	7.20E-05	ASTM D696
3. Flammability Properties				
UL Flammability	1.6 mm	Rating	V-0	UL 94
Glow Wire Temperature	1.6 mm	°C	960	AS/NZS 60695
4. Physical Properties				
Melt Flow Rate	250°C, 3.8 kg	g/10 min	10	ASTM D1238
	260°C, 5.0 kg	g/10 min	19	ASTM D1238
Specific Gravity		-	1.26	ASTM D792
Rockwell Hardness	R Scale	R	116	ASTM D785
Water Absorption	24 hours	%	0.25	ASTM D570
Mould Shrinkage	3.0 mm plaque	%	0.60	ASTM D955

All test results were obtained using uncoloured material.

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Material Safety Data Sheet (MSDS) Code: 17315

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TYPICAL PROCESSING CONDITIONS

ASTALOY™ PC/ABS KMA

The following typical guidelines are offered as initial processing conditions for ASTALOY™ PC/ABS KMA. 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		95 - 100°C
Minimum drying time at desired pellet bed temp		3 - 5 hours
Mould temperature		50 - 90°C
Nozzle temperature		Do not exceed stock temperature
Melt temperature		240 - 270°C
Cylinder temperatures	Rear	225 - 245°C
	Middle	235 - 255°C
	Front	245 - 265°C
Fill speed		Medium
Screw speed		40 - 60 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 ASTALOY™ PC/ABS alloy and producing contamination free moulded components.
02. ASTALOY™ PC/ABS alloys are not compatible during moulding with other polymers - this also includes ASTALAC™ ABS.
03. It is suggested that the pre-drying, moulding die 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