

ASTALOY™ PC/ASA 401

ASTALOY™ PC/ASA 401 is a general purpose alloy of ASA and Polycarbonate and is designed for standard injection moulding applications requiring a balance of UV stability, impact toughness, product rigidity, heat resistance and mouldability. Typical applications include outside use electrical switch assemblies and automotive coloured grilles, station wagon roof rails and B-pillars.

Note: The letters "U" or "W" indicate additional UV stabilisation [ie: ASTALOY™ PC/ASA 401U].

	CONDITIONS	UNITS	TYPICAL VALUES	TESTING METHODS
1. Mechanical Properties				
Notched Izod Impact Strength	12.7 mm x 3.2 mm	J/m	600	ASTM D256
Falling Dart Impact Strength	3.2 mm plaque	J	60	ASTM D3029
Tensile Strength	12.7 mm x 3.2 mm @ 50 mm/min	MPa	58	ASTM D638
Elongation to Fail	12.7 mm x 3.2 mm @ 50 mm/min	%	100	ASTM D638
Flexural Strength	12.7 mm x 3.2 mm @ 1.3 mm/min	MPa	83	ASTM D790
Flexural Modulus	12.7 mm x 3.2 mm @ 1.3 mm/min	MPa	2400	ASTM D790
2. Thermal Properties				
Heat Deflection Temperature	12.7 mm x 12.7 mm @ 1.82 Mpa	°C	112	ASTM D648
	12.7 mm x 6.4 mm @ 1.82 Mpa	°C	106	ASTM D648
	12.7 mm x 3.2 mm @ 1.82 MPa	°C	100	ASTM D648
VICAT Softening Temperature	1 kg	°C	133	ASTM D1525
Coefficient of Linear Thermal Expansion		cm/cm/°C	7.20E-05	ASTM D696
3. Flammability Properties				
UL Flammability	1.6 mm	Rating	HB	UL 94
Glow Wire Temperature	1.6 mm	°C	550	AS/NZS 60695
4. Physical Properties				
Melt Flow Rate	250°C, 3.8 kg	g/10 min	13	ASTM D1238
	260°C, 5.0 kg	g/10 min	-	ASTM D1238
Specific Gravity		-	1.12	ASTM D792
Rockwell Hardness	R Scale	R	109	ASTM D785
Water Absorption	24 hours	%	0.10	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: 17316

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TYPICAL PROCESSING CONDITIONS

ASTALOY™ PC/ASA 401

The following typical guidelines are offered as initial processing conditions for ASTALOY™ PC/ASA 401

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		250 - 280°C
Cylinder temperatures	Rear	235 - 255°C
	Middle	245 - 265°C
	Front	255 - 275°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/ASA alloy and producing contamination free moulded components.
02. ASTALOY™ PC/ASA alloys are not compatible during moulding with other polymers - this also includes ASTALAC™ ABS and ASTALAC™ ASA.
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