

PROTEQ™ C25SK9

PROTEQ™ C25SK9 is a medium flow, heat stabilised flame retardant grade of Polypropylene copolymer for applications where long term heat aging stability and flame retardant are required. PPC25SK9 is designed to meet the stringent UL94 V-2 and AS/NZS 60695.2.12 (IEC 60695-2-12) 960°C Glow Wire flammability test. Typical applications include light fittings, electrical appliances where an elevated temperature is expected and a high level of flame retardancy is required.

	CONDITIONS	UNITS	TYPICAL VALUES	TESTING METHODS
1. Mechanical Properties				
Notched Izod Impact Strength	12.7 mm x 3.2 mm	J/m	70	ASTM D256
Unnotched Izod Impact Strength	12.7 mm x 3.2 mm	J/m	>850	ASTM D256
Falling Dart Impact Strength	3.2 mm plaque	J	8	ASTM D3029
Tensile Strength	12.7 mm x 3.2 mm @ 5.0 mm/min	MPa	27	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	38	ASTM D790
Flexural Modulus	12.7 mm x 3.2 mm @ 1.3 mm/min	MPa	1600	ASTM D790
2. Thermal Properties				
Heat Deflection Temperature	12.7 mm x 3.2 mm @ 0.455 Mpa	°C	110	ASTM D648
	12.7 mm x 3.2 mm @ 1.82 MPa	°C	-	ASTM D648
VICAT Softening Temperature	1 kg	°C	150	ASTM D1525
Coefficient of Linear Thermal Expansion		cm/cm/°C		ASTM D696
3. Flammability Properties				
UL Flammability	1.6 mm	Rating	V-2	UL 94
Glow Wire Temperature	1.6 mm	°C	960	AS/NZS 60695
4. Physical Properties				
Melt Flow Rate	230°C, 2.16 kg	g/10 min	25	ASTM D1238
Shore D Hardness	instantaneous		-	ISO 868
	15 seconds			ISO 868
Specific Gravity		-	0.979	ASTM D792
Mould Shrinkage	3.0 mm plaque	%	1.11	ASTM D955

All test results were obtained using uncoloured material.

Issued: March 2011

Material Safety Data Sheet (MSDS) Code: 17324

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TYPICAL PROCESSING CONDITIONS

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The following typical guidelines are offered as initial processing conditions for PROTEQ™ C25SK9

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		85 - 90°C
Minimum drying time at desired pellet bed temp		2-4 hours
Mould temperature		20 - 60°C
Nozzle temperature		Do not exceed stock temperature
Melt temperature		200 - 220°C
Cylinder temperatures	Rear	180 - 210°C
	Middle	200 - 210°C
	Front	200 - 220°C
Fill speed		Medium
Screw speed		40 - 60 rpm
Screw back pressure		0.1 - 0.5 MPa
Injection pressure		60 - 140 MPa
Clamp pressure		3 - 6 kN/cm ²

Comments:

01. Cleanliness of the dryer, machine hopper and machine screw/barrel/nozzle assembly are essential for processing Astaprop PP and producing contamination free moulded components.
02. PROTEQ™ is not compatible with other polymers.
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