

PROTEQ™ C2K30

PROTEQ™ C2K30 is low melt flow, high impact and flame retardant grade of Polypropylene copolymer which meets the stringent UL94 V-2 and AS/NZS 60695.2.12 (IEC 60695-2-12) flammability tests. PROTEQ™ C2K30 has also been successfully validated against the requirements of AS1530.2-1993 (Flammability of Materials) in a 1.2 mm thick extruded strip. C2K30 is designed for profile extrusion and selective moulding applications requiring a tough material with a balance of rigidity, flame retardancy and processability.

	CONDITIONS	UNITS	TYPICAL VALUES	TESTING METHODS
1. Mechanical Properties				
Unnotched Izod Impact Strength	12.7 mm x 3.2 mm	J/m	>750	ASTM D256
Notched Izod Impact Strength	12.7 mm x 3.2 mm	J/m	275	ASTM D256
Falling Dart Impact Strength	3.2 mm plaque	J	40	ASTM D3029
Tensile Strength	12.7 mm x 3.2 mm @ 5.0 mm/min	MPa	26	ASTM D638
Elongation to Fail	12.7 mm x 3.2 mm @ 5.0 mm/min	%	>300	ASTM D638
Flexural Strength	12.7 mm x 3.2 mm @ 1.3 mm/min	MPa	32	ASTM D790
Flexural Modulus	12.7 mm x 3.2 mm @ 1.3 mm/min	MPa	1250	ASTM D790
2. Thermal Properties				
Heat Deflection Temperature	12.7 mm x 3.2 mm @ 0.455 MPa	°C	78	ASTM D648
VICAT Softening Temperature	1 kg	°C	148	ASTM D1525
Coefficient of Linear Thermal Expansion		cm/cm/°C		ASTM D696
3. Flammability Properties				
UL Flammability	3.0 mm	Rating	V-2	UL 94
Glow Wire Temperature	3.0 mm	°C	960	AS/NZS 60695
4. Physical Properties				
Melt Flow Rate	230°C, 2.16 kg	g/10 min	2	ASTM D1238
Shore D Hardness	15 seconds		68	ISO 868
	instantaneous		71	ISO 868
Specific Gravity		-	0.96	ASTM D792
Mould Shrinkage	3.0 mm plaque	%	1.40	ASTM D955

All test results were obtained using uncoloured material.

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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™ C2K30. 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
Cylinder temperatures	Zone 1 (Feed) 150 - 180°C
	Zone 2 160 - 190°C
	Zone 3 170 - 200°C
	Zone 4 170 - 200°C
	Zone 5 180 - 210°C
Adjust die temperature profile to ensure an even flow rate across the profile width	
Die Temperature Settings	180 - 210°C
Required Stock Temperature	190 - 220°C
Back Pressure	10 - 25 MPa
Screw Cooling	Desirable for entire stock temperature control
Take-off Roll Temperature	70 - 105°C
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 ProteQ 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