CELCON® LU02

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Celcon® acetal copolymer grade LU02 is UV stabilized material displaying a reduced gloss over standard UV acetal grades.

Product information

Resin Identification	POM		ISO 1043
Part Marking Code	>POM<		ISO 11469

Rheological properties

Melt volume-flow rate	20	cm^3/10min	ISO 1133
Temperature	374	°F	
Load	4.76	lb	
Molding shrinkage, parallel	1.9	%	ISO 294-4, 2577
Molding shrinkage, normal	1.6	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	367000	psi	ISO 527-1/-2
Tensile stress at yield, 50mm/min	8100	psi	ISO 527-1/-2
Tensile strain at yield, 50mm/min	9	%	ISO 527-1/-2
Nominal strain at break	11	%	ISO 527-1/-2
Flexural modulus	363000	psi	ISO 178
Flexural stress at 3.5%	9720	psi	ISO 178
Charpy notched impact strength, 23°C	1.76	$ftlb/in^2$	ISO 179/1eA
Charpy notched impact strength, -30°C	1.76	$ftlb/in^2$	ISO 179/1eA

Thermal properties

Melting temperature, 10°C/min	333	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	194	°F	ISO 75-1/-2

Flammability

FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	1.97	in/min	ISO 3795 (FMVSS 302)

Physical/Other properties

Density	0.0502	lb/in^3	ISO 1183

Injection

Drying Recommended	no	
Drying Temperature	212	°F
Drying Time, Dehumidified Dryer	3 - 4	h
Processing Moisture Content	≤0.2	%
Melt Temperature Optimum	374	°F
Min. melt temperature	356	°F
Max. melt temperature	383	°F
Max. screw tangential speed	≤0.3	m/s
Mold Temperature Optimum	194	°F
Min. mold temperature	176	°F
Max. mold temperature	221	°F

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Hold pressure range	8700 - 17400	psi
Hold Pressure Time (h is the max. wall thickness of the part in mm)	$2h^2$-3	s
Back pressure	580	psi

Automotive

OEM	ADDITIONAL INFORMATION
Honda	Color approved
Nissan	Color approved

Characteristics

Processing	Injection Molding
Special characteristics	U.V. stabilized or stable to weather, Reduced gloss

Additional information

Injection molding

Preprocessing

Drying is recommended for low gloss grades of Celcon® and Hostaform® acetal copolymers. Excessive moisture can lead to splay (silver streaking) in molded parts. For better uniformity in molding especially when using regrind or material that has been stored in containers open to the atmosphere, recommended drying conditions are 80 C (180 F) for 3hours. Desiccant hopper dryers are not required. Maximum water content = 0.35%

Processing

Standard reciprocating screw injection molding machines with a high compression screw (minimum 3:1 and preferably 4:1) and low back pressure (0.35 Mpa/50 PSI) are favored. Using a low compression screw (I.E. general purpose 2:1 compression ratio) can result in unmelted particles and poor melt homogeneity. Using a high back pressure to make up for a low compression ratio may lead to excessive shear heating and deterioration of the material.

Use a slow injection speed until material passes through the gate.

Melt Temperature: Preferred range 180-195 C (~356-~383 F). Melt temperature should never exceed 230 C (450 F).

Mold Surface Temperature: Preferred range 80-105 C especially with wall thickness less than 1.5 mm (0.060 in.). May require mold temperature as high as 120 C (250 F) to reproduce mold surface or to assure minimal molded in stress. In general, mold surface temperatures lower than 82 C (180 F) may produce a hazy surface or a surface with flow lines, pits and other included defects.

Postprocessing

Postprocessing conditioning and moisturizing are not required. It may be

necessary to fixture large or complicated parts with varying wall thickness to prevent warpage while cooling to ambient temperature.

Processing Notes

Pre-Drying

Predrying is required before processing to ensure a low gloss finish.

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