CAMPUS® Datasheet

CELCON® MC90 - POM
Celanese

Celanese
The chemistry inside innovation™

Rheological properties	Value	Unit	Test Standard
Molding shrinkage, parallel	1.9	%	ISO 294-4, 2577
Molding shrinkage, normal	1.6	%	ISO 294-4, 2577

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	3000	MPa	ISO 527-1/-2
Yield stress	57	MPa	ISO 527-1/-2
Yield strain	8	%	ISO 527-1/-2
Charpy notched impact strength, +23°C	6.8	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	5.5	kJ/m²	ISO 179/1eA

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	165	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.80 MPa	97	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	152	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel	100	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	120	E-6/K	ISO 11359-1/-2

Other properties	Value	Unit	Test Standard
Water absorption	0.75	%	Sim. to ISO 62
Humidity absorption	0.2	%	Sim. to ISO 62
Density	1480	kg/m³	ISO 1183

Characteristics

Processing	Delivery form
Injection Molding	Pellets

Other text information

Injection molding

Drying is generally not required because Celcon® and Hostaform® acetal copolymers are not hydroscopic nor are they degraded by moisture during processing. 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%
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.

Melt Temperature: Preferred range 182-199 C (360-390 F). Melt temperature should never exceed 230 C (450 F).

Mold Surface Temperature: Preferred range 82-93 C (180-200 F) 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. Wall thickness greater than 3mm (1/8 in.) may use a cooler (65 C/150 F) mold surface temperature and wall thickness over 6mm (1/4 in.) may use a cold mold surface down to 25 C (80 F). In general, mold surface temperatures lower than 82 C (180 F) may hinder weld line formation and produce a hazy surface or a surface with flow lines, pits and other included defects that can hinder part performance.
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.

NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colorants or other additives may cause significant variations in data values. Properties of molded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Other than those products expressly identified as

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