



CELCON® M25UV

CELCON®

Celcon® M25UV is an acetal copolymer developed as a natural UV light stabilized low flow, high molecular weight grade. It has been formulated as a natural acetal that does not discolor, yet maintains protection from UV light exposure.

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Resin Identification Part Marking Code	POM >POM<		O 1043 11469
Rheological properties			
Melt volume-flow rate Temperature Load	190 2.16	°C kg	O 1133
Moulding shrinkage, parallel Moulding shrinkage, normal	2.2 1.8		
Typical mechanical properties			
Tensile modulus Tensile stress at yield, 50mm/min Tensile strain at yield, 50mm/min Flexural modulus Flexural stress at 3.5% Charpy notched impact strength, 23°C Izod notched impact strength, 23°C Poisson's ratio [C]: Calculated	12 2400 64 C 8.5	MPa ISO 52 % ISO 52 MPa IS MPa IS kJ/m² ISO 12	27-1/-2 27-1/-2 27-1/-2 6O 178 6O 178 79/1eA 180/1A
Thermal properties			
Melting temperature, 10°C/min Temperature of deflection under load, Coefficient of linear thermal expansion			75-1/-2
(CLTE), parallel Coefficient of linear thermal expansion normal	n (CLTE), 120	E-6/K ISO 113	59-1/-2
Physical/Other properties			
Humidity absorption, 2mm Water absorption, 2mm Density	0.2 0.75 1410	% Sim. to	
Injection			
Drying Recommended Drying Temperature Drying Time, Dehumidified Dryer Processing Moisture Content Melt Temperature Optimum Min. melt temperature Max. melt temperature	no 100 3 - 4 ≤0.2 190 180 200	h % °C °C	

Printed: 2025-05-30 Page: 1 of 4

≤0.3 m/s

100 °C

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Screw tangential speed

Mold Temperature Optimum





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Min. mould temperature
Max. mould temperature
Hold pressure range
Back pressure

80 °C 120 °C 60 - 120 MPa 4 MPa

Characteristics

Processing Injection Moulding

Delivery form Pellets

Special characteristics U.V. stabilised or stable to weather

Additional information

Injection molding

Preprocessing

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%

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.

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

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.

Printed: 2025-05-30 Page: 2 of 4

Revised: 2025-03-06 Source: Celanese Materials Database





CELCON® M25UV

Processing Notes

Printed: 2025-05-30 Page: 3 of 4

Revised: 2025-03-06 Source: Celanese Materials Database

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CELCON® M25UV

Pre-Drying

Drying is not normally required. If material has come in contact with moisture through improper storage or handling or through regrind use, drying may be necessary to prevent splay and odor problems.

Printed: 2025-05-30 Page: 4 of 4

Revised: 2025-03-06 Source: Celanese Materials Database

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