

CELCON® MR270B - POM

Description

Celcon® MR270B is a high flow specialty media resistant grade developed for improved bleach resistance.

Physical properties	Value	Unit	Test Standard
Density	1410	kg/m ³	ISO 1183
Melt volume rate, MVR	24	cm ³ /10min	ISO 1133
MVR temperature	190	°C	ISO 1133
MVR load	2.16	kg	ISO 1133

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	2750	MPa	ISO 527-2/1A
Tensile stress at yield, 50mm/min	66	MPa	ISO 527-2/1A
Tensile strain at yield, 50mm/min	7	%	ISO 527-2/1A
Flexural modulus, 23°C	2800	MPa	ISO 178
Flexural stress at 3.5% strain	75	MPa	ISO 178
Charpy impact strength, 23°C	100	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	95	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	5	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	5	kJ/m ²	ISO 179/1eA
Izod impact notched, 23°C	5.5	kJ/m ²	ISO 180/1A

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	166	°C	ISO 11357-1/-3
DTUL at 1.8 MPa	100	°C	ISO 75-1, -2

Typical injection moulding processing conditions

Pre Drying	Value	Unit	Test Standard
Drying time	3 - 4	h	-
Drying temperature	100 - 120	°C	-
Temperature	Value	Unit	Test Standard
Zone1 temperature	170 - 180	°C	-
Zone2 temperature	180 - 190	°C	-
Zone3 temperature	180 - 190	°C	-
Zone4 temperature	180 - 200	°C	-
Nozzle temperature	180 - 200	°C	-
Melt temperature	180 - 200	°C	-
Mold temperature	80 - 120	°C	-
Hot runner temperature	180 - 200	°C	-
Pressure	Value	Unit	Test Standard
Back pressure max.	40	bar	-
Speed	Value	Unit	Test Standard
Injection speed	slow-medium	-	-

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.

Injection molding

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.

