

Product Description

MVR 14 cm³/10 min; General purpose; Medium viscosity; Easy release; Food contact quality; Good hydrolysis resistance; Injection molding; Available in transparent, translucent and opaque colors; Suitable for medical devices

General

Material Status	• Commercial: Active		
Availability	• North America		
Features	• General Purpose • Good Mold Release	• Hydrolysis Resistant • Medium Viscosity	
Uses	• Medical/Healthcare Applications		
Agency Ratings	• EU 2000/53/EC • EU 2002/96/EC	• EU 2003/11/EC • FDA Unspecified Rating	• USP Class VI • USP XXII, Class VI
RoHS Compliance	• RoHS Compliant		
Appearance	• Clear/Transparent • Colors Available	• Opaque • Translucent	• White
Forms	• Pellets		
Processing Method	• Injection Molding		

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Specific Gravity	1.20	1.20 g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	15 g/10 min	15 g/10 min	ASTM D1238
Molding Shrinkage			ASTM D955
Flow	0.0060 to 0.0080 in/in	0.60 to 0.80 %	
Across Flow	0.0060 to 0.0080 in/in	0.60 to 0.80 %	
Water Absorption			ASTM D570
73°F (23°C), 24 hr	0.12 %	0.12 %	
Saturation, 73°F (23°C)	0.30 %	0.30 %	

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus ²	350000 psi	2410 MPa	ASTM D638
Tensile Strength			ASTM D638
Yield	9400 psi	64.8 MPa	
Break	8700 psi	60.0 MPa	
Tensile Elongation (Break)	120 %	120 %	ASTM D638
Flexural Modulus	340000 psi	2340 MPa	ASTM D790
Flexural Strength	12500 psi	86.2 MPa	ASTM D790

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			ASTM D256
73°F (23°C), 0.125 in (3.18 mm)	16 ft-lb/in	850 J/m	
73°F (23°C), 0.250 in (6.35 mm)	2.0 ft-lb/in	110 J/m	

Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			ASTM D785
M-Scale	75	75	
R-Scale	120	120	

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
66 psi (0.45 MPa), Unannealed, 0.250 in (6.35 mm)	275 °F	135 °C	
264 psi (1.8 MPa), Unannealed, 0.250 in (6.35 mm)	266 °F	130 °C	
Vicat Softening Temperature	291 °F	144 °C	ASTM D1525 ³
CLTE			ASTM D696
Flow	0.000033 in/in/°F	0.000060 cm/cm/°C	
Transverse	0.000033 in/in/°F	0.000060 cm/cm/°C	
Specific Heat	0.280 Btu/lb/°F	1170 J/kg/°C	ASTM C351
Thermal Conductivity	1.4 Btu-in/hr/ft²/°F	0.20 W/m/K	ASTM C177

Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Surface Resistivity	1.0E+16 ohms	1.0E+16 ohms	ASTM D257
Volume Resistivity	1.0E+16 ohm·cm	1.0E+16 ohm·cm	ASTM D257
Dielectric Strength ⁴ (73°F (23°C), in Oil)	810 V/mil	32 kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.00	3.00	
1 MHz	2.90	2.90	
Dissipation Factor			ASTM D150
60 Hz	0.00090	0.00090	
1 MHz	0.010	0.010	

Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating - UL			UL 94
0.118 in (3.00 mm)	HB	HB	
0.236 in (6.00 mm)	HB	HB	
0.0591 in (1.50 mm)	V-2	V-2	
Oxygen Index	28 %	28 %	ASTM D2863

UL 746	Nominal Value (English)	Nominal Value (SI)	Test Method
RTI Str (0.0591 in (1.50 mm))	257 °F	125 °C	UL 746
RTI Imp (0.0591 in (1.50 mm))	239 °F	115 °C	UL 746
RTI Elec (0.0591 in (1.50 mm))	257 °F	125 °C	UL 746

Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Refractive Index	1.586	1.586	ASTM D542
Transmittance (125 mil (3180 µm))	88.0 %	88.0 %	ASTM D1003
Haze (125 mil (3180 µm))	< 0.80 %	< 0.80 %	ASTM D1003

Additional Information

Flexural Stress, ASTM D790, 5% Strain: 12500 psi
Specific Volume, ASTM D792: 23.1 in³/lb

Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	250 °F	121 °C
Drying Time	4.0 hr	4.0 hr
Suggested Max Moisture	0.020 %	0.020 %
Rear Temperature	465 to 510 °F	241 to 266 °C
Middle Temperature	510 to 550 °F	266 to 288 °C
Front Temperature	530 to 570 °F	277 to 299 °C
Nozzle Temperature	515 to 585 °F	268 to 307 °C
Processing (Melt) Temp	540 to 575 °F	282 to 302 °C
Mold Temperature	150 to 220 °F	65.6 to 104 °C
Injection Pressure	10000 to 20000 psi	68.9 to 138 MPa
Injection Rate	Moderate-Fast	Moderate-Fast
Back Pressure	50.0 to 100 psi	0.345 to 0.689 MPa
Screw Speed	50 to 75 rpm	50 to 75 rpm
Clamp Tonnage	3.0 to 5.0 tons/in²	4.1 to 6.9 kN/cm²
Cushion	0.125 to 0.250 in	3.18 to 6.35 mm

Injection Notes

Inlet Air Temp: 250°F
Dew Point: <= 20°F
Hold Pressure: 50 - 70% of the injection pressure

Notes

¹ Typical properties: these are not to be construed as specifications.

² 0.039 in/min (1.0 mm/min)

³ Rate A (50°C/h), Loading 2 (50 N)

⁴ Method A (Short-Time)