

Technical Data Sheet

Schulaketon MV 4DE

Polyketone, Aliphatic
LyondellBasell Industries
Engineering Plastics

Product Description

Medium viscosity aliphatic Polyketone, flame-retardant, halogen free

General

Features	• Flame Retardant	• Halogen Free
Processing Method	• Injection Molding	
Resin ID (ISO 1043)	• PK FR(40)	

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.24 g/cm ³	1.24 g/cm ³	ISO 1183/A
Melt Volume-Flow Rate (MVR) (240°C/2.16 Kg)	30 cm ³ /10min	30 cm ³ /10min	ISO 1133

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	247000 psi	1700 MPa	ISO 527-1/1A/1
Tensile Stress (Yield)	7250 psi	50.0 MPa	ISO 527-2/1A/50
Tensile Strain (Yield)	18 %	18 %	ISO 527-2/1A/50
Flexural Modulus ¹	283000 psi	1950 MPa	ISO 178
Flexural Stress ¹ (3.5% Strain)	7250 psi	50.0 MPa	ISO 178

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C)	1.7 ft·lb/in ²	3.5 kJ/m ²	
73°F (23°C)	3.3 ft·lb/in ²	7.0 kJ/m ²	
Charpy Unnotched Impact Strength			
-22°F (-30°C)	29 ft·lb/in ²	60 kJ/m ²	ISO 179
73°F (23°C)	No Break	No Break	ISO 179/1eU

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 Psi (0.45 Mpa), Unannealed	363 °F	184 °C	ISO 75-2/Bf
264 Psi (1.8 Mpa), Unannealed	181 °F	83.0 °C	ISO 75-2/Af
Vicat Softening Temperature			
--	369 °F	187 °C	ISO 306/B50
--	415 °F	213 °C	ISO 306/A50
Ball Pressure Test (266°F (130°C))	Pass	Pass	IEC 60695-10-2

Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Surface Resistivity	> 1.0E+15 ohms	> 1.0E+15 ohms	IEC 60093
Volume Resistivity	> 1.0E+13 ohms·m	> 1.0E+13 ohms·m	IEC 62631-3-1
Comparative Tracking Index (CTI)	600 V	600 V	UL 746A

Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Burning Rate			
0.0787 In (2.00 Mm), Self-extinguishing	0.0 in/min	0.0 mm/min	ISO 3795
0.0787 In (2.00 Mm), Self-extinguishing	0.0 in/min	0.0 mm/min	FMVSS 302

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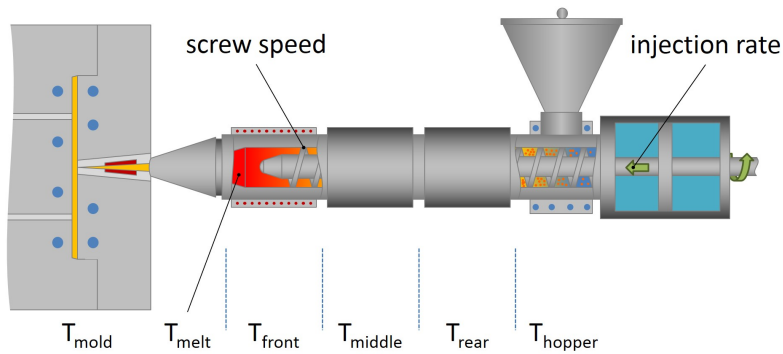
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Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating			
0.016 In (0.40 Mm)	V-0	V-0	UL 94 IEC 60695-11-10, -20
0.031 In (0.8 Mm)	V-0	V-0	UL 94
0.06 In (1.6 Mm)	V-0	V-0	UL 94 IEC 60695-11-10, -20
0.13 In (3.2 Mm)	V-0	V-0	UL 94 IEC 60695-11-10, -20
0.03 In (0.8 Mm)	V-0	V-0	IEC 60695-11-10, -20
Glow Wire Flammability Index			IEC 60695-2-12
0.030 In (0.75 Mm)	1760 °F	960 °C	
0.06 In (1.5 Mm)	1760 °F	960 °C	
0.12 In (3.0 Mm)	1760 °F	960 °C	
Glow Wire Ignition Temperature			IEC 60695-2-13
0.030 In (0.75 Mm)	1470 °F	800 °C	
0.06 In (1.5 Mm)	1470 °F	800 °C	
0.12 In (3.0 Mm)	1470 °F	800 °C	
Oxygen Index	33 %	33 %	ISO 4589-2

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Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	176 °F	80 °C
Drying Time	2.0 to 4.0 hr	2.0 to 4.0 hr
Suggested Max Moisture	0.15 %	0.15 %
Processing (Melt) Temp	437 to 464 °F	225 to 240 °C
Mold Temperature	140 to 212 °F	60 to 100 °C
Injection Rate	Slow-Moderate	Slow-Moderate
Back Pressure	290 to 1160 psi	2.00 to 8.00 MPa
Screw Speed	< 591 in/min	< 15 m/min

Injection Notes

Before start, nozzle, screw, barrel and hot-runner have to be cleaned with Polyolefin. Contamination of other material leads to degradation or crosslinking of SCHULAKETON®.

Avoid shut down for more than 10 minutes at moulding temperature, because of degradation and crosslinking of SCHULAKETON®. Purge with Polyolefin!

Mould surfaces in contact with melt are recommended to be of non-corrosive steel, chrome content >12%

Notes

¹ 0.079 in/min (2.0 mm/min)

Notes

These are typical property values not to be construed as specification limits.