

Technical Data Sheet



Schulaketon HV 4DE

Polyketone, Aliphatic
LyondellBasell Industries
Engineering Plastics

Product Description

High viscosity aliphatic Polyketone, flame-retardant, halogen free

General

Material Status	• Experimental: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Flame Retardant • Halogen Free		
Processing Method	• Extrusion		
Resin ID (ISO 1043)	• PK FR(40)		

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.25 g/cm ³	1.25 g/cm ³	ISO 1183/A
Melt Volume-Flow Rate (MVR) (240°C/2.16 kg)	5.0 cm ³ /10min	5.0 cm ³ /10min	ISO 1133
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	297000 psi	2050 MPa	ISO 527-1/1A/1
Tensile Stress (Yield)	7250 psi	50.0 MPa	ISO 527-2/1A/50
Tensile Strain (Yield)	35 %	35 %	ISO 527-2/1A/50
Flexural Modulus ¹	341000 psi	2350 MPa	ISO 178
Flexural Stress ¹ (3.5% Strain)	7980 psi	55.0 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C)	1.9 ft·lb/in ²	4.0 kJ/m ²	
73°F (23°C)	4.8 ft·lb/in ²	10 kJ/m ²	
Charpy Unnotched Impact Strength			
-22°F (-30°C)	38 ft·lb/in ²	80 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	352 °F	178 °C	ISO 75-2/Bf
264 psi (1.8 MPa), Unannealed	234 °F	112 °C	ISO 75-2/Af
Vicat Softening Temperature			
--	363 °F	184 °C	ISO 306/B50
--	417 °F	214 °C	ISO 306/A50
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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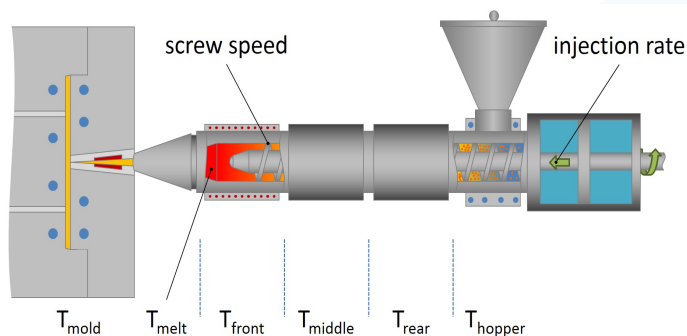
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating			
0.016 in (0.40 mm)	V-0	V-0	UL 94 IEC 60695-11-10, -20
0.031 in (0.8 mm)	V-0	V-0	UL 94
0.06 in (1.6 mm)	V-0	V-0	UL 94 IEC 60695-11-10, -20
0.13 in (3.2 mm)	V-0	V-0	UL 94 IEC 60695-11-10, -20
0.03 in (0.8 mm)	V-0	V-0	IEC 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)	1520 °F	825 °C	
0.06 in (1.5 mm)	1520 °F	825 °C	
0.12 in (3.0 mm)	1560 °F	850 °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	446 to 482 °F	230 to 250 °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%

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Notes

¹ 0.079 in/min (2.0 mm/min)

Notes

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

Processing Techniques

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

Product Storage and Handling

- Product should be stored in dry conditions at temperatures below 50°C and protected from UV-light
- Improper storage may bring damage to the packaging and can negatively affects on the quality of this product
- Keep material completely dry for good processing

Company Information

For further information regarding the LyondellBasell company, please visit <http://www.lyb.com/>.

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