

ULTEM™ EXUM0169 resin

Polyether Imide
SABIC Innovative Plastics

Message:
Improved ductility, transparent, enhanced flow Polyetherimide blend (Tg 200C) with internal mold release and enhanced ductility. ECO Conforming.

General Information			
Additive	Mold Release		
Features	Ductile		
	ECO Compliant		
	Good Flow		
Agency Ratings	EU Eco		
Appearance	Clear/Transparent		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.28	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (337°C/6.6 kg)	43	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (360°C/5.0 kg)	56.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.50 to 0.70	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	0.36	%	
Equilibrium, 23°C, 50% RH	0.080	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	108		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	3210	MPa	ASTM D638
--	2500	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	103	MPa	ASTM D638
Yield	98.0	MPa	ISO 527-2/5
Break ³	85.0	MPa	ASTM D638
Break	80.0	MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁴	7.0	%	ASTM D638
Yield	7.0	%	ISO 527-2/5
Break ⁵	80	%	ASTM D638
Break	80	%	ISO 527-2/5

Flexural Modulus			
50.0 mm Span ⁶	3320	MPa	ASTM D790
-- ⁷	3100	MPa	ISO 178
Flexural Stress			
--	135	MPa	ISO 178
Yield, 50.0 mm Span ⁸	145	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹ (23°C)	2.0	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
-30°C	35	J/m	ASTM D256
23°C	32	J/m	ASTM D256
-30°C ¹⁰	2.0	kJ/m ²	ISO 180/1A
23°C ¹¹	2.0	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			ASTM D4812
-30°C	No Break		
23°C	No Break		
Reverse Notch Izod Impact (3.20 mm)	2100	J/m	ASTM D256
Instrumented Dart Impact			ASTM D3763
-20°C, Total Energy	8.50	J	
23°C, Total Energy	48.0	J	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, Unannealed, 3.20 mm	173	°C	ASTM D648
1.8 MPa, Unannealed, 6.40 mm	178	°C	ASTM D648
1.8 MPa, Unannealed, 100 mm Span ¹²	168	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	192	°C	ASTM D1525, ISO 306/B50 ¹³
--	195	°C	ISO 306/B120
CLTE			
Flow : -40 to 150°C	6.0E-5	cm/cm/°C	ASTM E831
Flow : 23 to 150°C	5.5E-5	cm/cm/°C	ISO 11359-2
Transverse : -40 to 150°C	6.0E-5	cm/cm/°C	ASTM E831
Transverse : 23 to 150°C	5.5E-5	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.6E+17	ohms	ASTM D257
Volume Resistivity	1.0E+17	ohms · cm	ASTM D257
Dissipation Factor (1 MHz)	6.1E-3		ASTM D150
Injection	Nominal Value	Unit	
Drying Temperature	135	°C	
Drying Time	4.0 to 6.0	hr	
Drying Time, Maximum	12	hr	

Suggested Max Moisture	0.020	%
Suggested Shot Size	40 to 60	%
Rear Temperature	310 to 332	°C
Middle Temperature	321 to 343	°C
Front Temperature	332 to 354	°C
Nozzle Temperature	327 to 349	°C
Processing (Melt) Temp	332 to 354	°C
Mold Temperature	93.3 to 135	°C
Back Pressure	0.345 to 0.689	MPa
Screw Speed	40 to 70	rpm
Vent Depth	0.025 to 0.076	mm

NOTE

1.	5.0 mm/min
2.	Type I, 5.0 mm/min
3.	Type I, 5.0 mm/min
4.	Type I, 5.0 mm/min
5.	Type I, 5.0 mm/min
6.	1.3 mm/min
7.	2.0 mm/min
8.	1.3 mm/min
9.	80*10*4 sp=62mm
10.	80*10*4
11.	80*10*4
12.	120*10*4 mm
13.	Rate B (120°C/h), Loading 2 (50 N)

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