

ULTEM™ 9085 resin

Polyether Imide
SABIC Innovative Plastics

Message:
High flow Polyetherimide blend. Meets FAR 25.853 and OSU 65/65 with low toxicity, smoke and flame evolution.

General Information	
Features	High Flow
	Low Smoke Emission
	Low Toxicity
Agency Ratings	FAR 25.853
	OSU 65/65
Processing Method	Injection Molding
	Profile Extrusion

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.34	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (295°C/6.6 kg)	8.9	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (360°C/5.0 kg)	65.5	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	0.39	%	
Equilibrium, 23°C, 50% RH	0.17	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	3440	MPa	ASTM D638
--	3050	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	84.0	MPa	ASTM D638
Yield	88.0	MPa	ISO 527-2/5
Break ³	74.0	MPa	ASTM D638
Break	71.0	MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁴	7.0	%	ASTM D638
Yield	6.7	%	ISO 527-2/5
Break ⁵	72	%	ASTM D638
Break	50	%	ISO 527-2/5

Flexural Modulus			
50.0 mm Span ⁶	2920	MPa	ASTM D790
-- ⁷	2750	MPa	ISO 178
Flexural Stress			
--	90.0	MPa	ISO 178
Yield, 50.0 mm Span ⁸	138	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			
23°C	120	J/m	ASTM D256
23°C ⁹	13	kJ/m ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, Unannealed, 3.20 mm	153	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹⁰	152	°C	ISO 75-2/Af
Vicat Softening Temperature	173	°C	ISO 306/B120
Flammability	Nominal Value	Unit	Test Method
Oxygen Index	49	%	ASTM D2863
FAA Flammability ¹¹	<5		FAR 25.853
OSU Peak Heat Release Rate ¹²	36.0	kW/m ²	FAR 25.853
OSU Total Heat Release ¹³	16.0	kW · min/m ²	FAR 25.853
Vertical Burn Test - Test a (60 s), passes at	2.0	sec	FAR 25.853
Injection	Nominal Value	Unit	
Drying Temperature	135	°C	
Drying Time	4.0 to 6.0	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 to 60	%	
Rear Temperature	315 to 340	°C	
Middle Temperature	325 to 345	°C	
Front Temperature	330 to 350	°C	
Nozzle Temperature	330 to 350	°C	
Processing (Melt) Temp	330 to 350	°C	
Mold Temperature	120 to 150	°C	
Back Pressure	0.300 to 0.700	MPa	
Screw Speed	40 to 70	rpm	
Vent Depth	0.025 to 0.076	mm	
Extrusion	Nominal Value	Unit	
Drying Temperature	120 to 130	°C	
Drying Time	4.0 to 6.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	80.0 to 100	°C	
Cylinder Zone 1 Temp.	265 to 275	°C	
Cylinder Zone 2 Temp.	280 to 295	°C	

Cylinder Zone 3 Temp.	290 to 305	°C
Cylinder Zone 4 Temp.	295 to 310	°C
Adapter Temperature	270 to 310	°C
Melt Temperature	280 to 310	°C
Die Temperature	260 to 310	°C
Calibration Temp, First	130 to 160	°C
Calibration Temp, Second	80.0 to 120	°C

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
10.	80*10*4 mm
11.	Method A/B
12.	5 minute test
13.	2 minute test

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