

# ULTEM™ RESIN 9085

REGION EUROPE

## DESCRIPTION

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

## TYPICAL PROPERTY VALUES

Revision 20170913

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 5 mm/min	84	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	74	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	7	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	72	%	ASTM D 638
Tensile Modulus, 5 mm/min	3440	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	138	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2920	MPa	ASTM D 790
Tensile Stress, yield, 5 mm/min	88	MPa	ISO 527
Tensile Stress, break, 5 mm/min	71	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	6.7	%	ISO 527
Tensile Strain, break, 5 mm/min	50	%	ISO 527
Tensile Modulus, 1 mm/min	3050	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	90	MPa	ISO 178
Flexural Modulus, 2 mm/min	2750	MPa	ISO 178
<b>IMPACT</b>			
Izod Impact, notched, 23°C	115	J/m	ASTM D 256
Izod Impact, notched 80*10*4 +23°C	13	kJ/m <sup>2</sup>	ISO 180/1A
Charpy Impact, notched, 23°C	11	kJ/m <sup>2</sup>	ISO 179/2C
<b>THERMAL</b>			
HDT, 1.82 MPa, 3.2mm, unannealed	153	°C	ASTM D 648
CTE, -30°C to 80°C, flow	6.E-05	1/°C	ASTM E 831
CTE, -30°C to 80°C, xflow	6.E-05	1/°C	ASTM E 831
Vicat Softening Temp, Rate B/120	173	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	152	°C	ISO 75/Af
<b>PHYSICAL</b>			
Specific Gravity	1.34	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.5 – 0.7	%	SABIC method

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Melt Flow Rate, 295°C/6.6 kgf	8.9	g/10 min	ASTM D 1238
Density	1.34	g/cm <sup>3</sup>	ISO 1183
Water Absorption, (23°C/sat)	0.39	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.17	%	ISO 62
Melt Volume Rate, MVR at 360°C/5.0 kg	65	cm <sup>3</sup> /10 min	ISO 1133
<b>FLAME CHARACTERISTICS</b>			
FAA Flammability, FAR 25.853 A/B	<5	-	FAR 25.853
OSU total heat release (2 minute test)	16	kW-min/m <sup>2</sup>	FAR 25.853
OSU peak heat release rate (5 minute test)	36	kW/m <sup>2</sup>	FAR 25.853
Vertical Burn a (60s) passes at	2	sec	FAR 25.853
Oxygen Index (LOI)	49	%	ASTM D 2863
<b>INJECTION MOLDING</b>			
Drying Temperature	120 – 130	°C	
Drying Time	4 – 6	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	330 – 350	°C	
Nozzle Temperature	330 – 350	°C	
Front - Zone 3 Temperature	330 – 350	°C	
Middle - Zone 2 Temperature	325 – 345	°C	
Rear - Zone 1 Temperature	315 – 340	°C	
Mold Temperature	120 – 150	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 – 0.076	mm	
<b>PROFILE EXTRUSION</b>			
Drying Temperature	120 – 130	°C	
Drying Time	4 – 6	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	280 – 310	°C	
Barrel - Zone 1 Temperature	265 – 275	°C	
Barrel - Zone 2 Temperature	280 – 295	°C	
Barrel - Zone 3 Temperature	290 – 305	°C	
Barrel - Zone 4 Temperature	295 – 310	°C	
Hopper Temperature	80 – 100	°C	
Adapter Temperature	270 – 310	°C	
Die Temperature	260 – 310	°C	
Calibrator Temperature	130 – 160	°C	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Calibrator 2 Temperature	80 – 120	°C	

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