

NORYL™ HNA055 resin

Polyphenylene Ether + PS

SABIC Innovative Plastics

Message:

>PPE+PS-HI< Autoclavable engineering thermoplastic. Biocompatible per ISO10993 (color dependent).

General Information			
Features	Autoclavable		
	Biocompatible		
Agency Ratings	ISO 10993		
Processing Method	Injection Molding		
Part Marking Code (ISO 11469)	>PPE+PS-HI<		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.08	g/cm³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/5.0 kg)	6.2	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/5.0 kg)	5.70	cm³/10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.60 to 0.80	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	0.23	%	
Equilibrium, 23°C, 50% RH	0.060	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	3250	MPa	ASTM D638
--	2410	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	67.9	MPa	ASTM D638
Yield	61.8	MPa	ISO 527-2/50
Break ³	55.5	MPa	ASTM D638
Break	57.6	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	4.8	%	ASTM D638
Yield	3.8	%	ISO 527-2/50
Break ⁵	16	%	ASTM D638
Break	13	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁶	2540	MPa	ASTM D790
-- ⁷	2490	MPa	ISO 178
Flexural Stress			

--	107	MPa	ISO 178
Yield, 50.0 mm Span ⁸	101	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹ (23°C)	27	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
-30°C	140	J/m	ASTM D256
23°C	290	J/m	ASTM D256
-30°C ¹⁰	15	kJ/m ²	ISO 180/1A
23°C ¹¹	25	kJ/m ²	ISO 180/1A
Instrumented Dart Impact (23°C, Total Energy)	54.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, Unannealed, 3.20 mm	147	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹²	148	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	168	°C	ASTM D1525, ISO 306/B50 10 ¹³
--	169	°C	ISO 306/B120
CLTE			ASTM E831, ISO 11359-2
Flow : -40 to 40°C	8.7E-5	cm/cm/°C	
Transverse : -40 to 40°C	9.3E-5	cm/cm/°C	
Injection	Nominal Value	Unit	
Drying Temperature	104 to 110	°C	
Drying Time	3.0 to 4.0	hr	
Drying Time, Maximum	8.0	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	30 to 70	%	
Rear Temperature	260 to 304	°C	
Middle Temperature	271 to 310	°C	
Front Temperature	282 to 316	°C	
Nozzle Temperature	293 to 316	°C	
Processing (Melt) Temp	293 to 316	°C	
Mold Temperature	76.7 to 104	°C	
Back Pressure	0.345 to 0.689	MPa	
Screw Speed	20 to 100	rpm	
NOTE			
1.	5.0 mm/min		
2.	Type I, 50 mm/min		
3.	Type I, 50 mm/min		
4.	Type I, 50 mm/min		
5.	Type I, 50 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.	80*10*4 mm
13.	Rate B (120°C/h), Loading 2 (50 N)

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