

Aegis® H73ZP

Polyamide 6

Honeywell

Message:

Aegis® H73ZP is a low viscosity nylon 6 extrusion grade homopolymer for cast or blown film. It conforms to FDA requirements of 21 CFR 177.1500 as well as EU Directive 2002/72/EC. It possesses the combination of strength, toughness and thermoforming properties associated with nylon 6 as well as excellent heat, chemical, and abrasion resistance.

General Information			
Features	Low viscosity		
	Homopolymer		
	Good strength		
	Good wear resistance		
	Good chemical resistance		
	Heat resistance, high		
	Good toughness		
Uses	Packaging		
	cast film		
Agency Ratings	FDA 21 CFR 177.1500		
	European 2002/72/EC		
Forms	Particle		
Processing Method	Film extrusion		
	Blow film		
	cast film		
Physical	Nominal Value	Unit	Test Method
Density	1.13	g/cm ³	ASTM D1505
Melt Mass-Flow Rate (MFR) (235°C/1.0 kg)	4.5	g/10 min	ASTM D1238
Water Absorption			ASTM D570
24 hr	1.6	%	ASTM D570
Saturation	9.5	%	ASTM D570
Balance	2.7	%	ASTM D570
Moisture Content	> 800	ppm	ASTM D6869
Relative viscosity-@ 96% Sulfuric Acid	3.01		
Viscosity-FAV	73.0		ASTM D789
Elmendorf Tear Strength			ASTM D1922
MD : 23°C	590	N	ASTM D1922
TD : 23°C	530	N	ASTM D1922

Graves Tear			ASTM D1004
MD : 23°C	3530	N	ASTM D1004
TD : 23°C	3290	N	ASTM D1004
Puncture Index (23°C) ¹	193.4	kN/m	
Puncture Resistance (23°C) ²	1000	g	
Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	51	µm	
Elastic Modulus - MD ³	710	MPa	ASTM D882
Elastic Modulus - TD ⁴	620	MPa	ASTM D882
Tensile Strength ⁵			ASTM D882
MD: Yield	40.0	MPa	ASTM D882
TD: Yield	30.0	MPa	ASTM D882
MD: Fracture	90.0	MPa	ASTM D882
TD: Fracture	90.0	MPa	ASTM D882
Tensile Elongation ⁶			ASTM D882
MD: Fracture	340	%	ASTM D882
TD: Fracture	360	%	ASTM D882
Carbon Dioxide Transmission Rate (23°C)	72.8	cm ³ /m ² /24 hr	ASTM D1434
Nitrogen Transmission Rate (23°C)	14.0	cm ³ /m ² /24 hr	ASTM D1434
Oxygen Transmission Rate (23°C)	40	cm ³ /m ² /24 hr	ASTM D3985
Water Vapor Transmission Rate (38°C, 100% RH)	990	g · mm/m ² /atm/24 hr	ASTM F1249
Thermal	Nominal Value	Unit	
Melting Temperature	220	°C	
Additional Information	Nominal Value	Unit	
FAV, ASTM D789: 7396% SAV: 3Extractable Content: <.8 sp gr 23/ 23°C using ASTM D792			
Extrusion	Nominal Value	Unit	
Drying Temperature	80.0	°C	
Suggested Max Moisture	0.080	%	
Cylinder Zone 1 Temp.	230 - 260	°C	
Cylinder Zone 2 Temp.	230 - 260	°C	
Cylinder Zone 3 Temp.	230 - 260	°C	
Cylinder Zone 4 Temp.	230 - 260	°C	
Cylinder Zone 5 Temp.	230 - 260	°C	
Adapter Temperature	260 - 266	°C	
Melt Temperature	260 - 270	°C	
Die Temperature	260	°C	
Extrusion instructions			

The values listed above in Extrusion are for cast film. Typical Barrel Profile for Tubular (Blown) Films:

Barrel Temperature: 246 to 254°C (474 to 490°F)

Adapter Temperature: 260°C (500°F)

Die Temperature: 254°C (490°F)

Processing Melt Temperature: 254 to 260°C (490 to 500°F)

Screw Parameters:

Metering section: 40%

Transition section: 3 to 4 flights

Feed section balance of screw length

Compression ratio: 3.5:1 to 4.0:1

L/D ratio: 24:1

NOTE	
1.	ASTM D1306
2.	ASTM D1306
3.	23°C
4.	23°C
5.	23°C
6.	23°C

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