

Aegis[®] H100QP

Aegis[®] H100QP is a lubricated, medium 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.

TYPICAL PROPERTIES

	ASTM Test Method	Dry	Conditioned
VISCOSITY			
FAV	D-789	100	-
96% SAV		3.35	-
Melt Flow Rate (235/1.0) (g/10 min)	D-1238	2.6	-
GAS BARRIER At 23 °C (73 °F)/0% RH			
Oxygen Permeability, cc/m ² /day (cc/100in ² /day)		40.3 (2.600)	-
Nitrogen Permeability, cc/m ² /day (cc/100in ² /day)		14.0 (0.903)	-
Carbon Dioxide Permeability, cc/m ² /day (cc/100in ² /day)		72.8 (4.697)	-
MOISTURE			
Moisture Content, %		0.08	
Extractable Content, %		0.7	
Water Absorption in 24 hrs, %		1.6	
Equilibrium Moisture @ 50% RH, %		2.7	
Saturation Moisture Content, %		9.5	
SPECIFIC GRAVITY (TYPICAL)			
Specific Gravity	D-1505	1.13	-
THERMAL			
Melting Point, °C (°F)	D-3418	220 (428)	-

PROCESSING GUIDELINES

Material Handling

Max. Water content: 0.08

This product is supplied in sealed containers and drying prior to processing is not required. However, high moisture is the primary cause of processing problems. If drying becomes necessary a dehumidifying or desiccant dryer operating at 80 °C (176 °F) is recommended. Drying time is dependent on moisture level. Further information concerning safe handling procedures can be obtained from the Material Safety Data Sheet. Alternatively, please contact your Honeywell representative.

PROCESSING GUIDELINES

Melt Viscosity vs Temperature

Melt Temperature 220 °C (428 °F)

The melt temperature range is 232 °C (450 °F) to 271 °C (520 °F).

Two factors affect the melt viscosity (stiffness or fluidity of the melt).

1. Mw of the resin. Higher Mw resin will have a higher melt viscosity than lower Mw resin.
2. Temperature of the melt. For any given Mw resin, higher process temperature will provide a more fluid melt viscosity than lower process temperatures.

Typical Barrel Profile for Cast Films

Barrel 230-260 °C (446-500 °F)

Adapter 260-266 °C (500-510 °F)

Die 260 °C (500 °F)

Process Melt Temperature 260-270 °C (500-518 °F)

Typical Barrel Profile for Tubular (Blown) Films

Barrel 246-254 °C (474-490 °F)

Adapter 260 °C (500 °F)

Die 254 °C (490 °F)

Process Melt Temperature 254-260 °C (490-500 °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

Metering Section Flight Depth:

Screw Diameter	Recommended Depth
1"	0.055"
1.5"	0.060"
2"	0.070"
2.5"	0.080"
3.5"	0.100"
4.5"	0.115"
6"	0.135"

These values are for natural color resins only. Colorants or other additives may alter some or all of these properties. The data listed here fall within the normal range of product properties, but should not be used to establish specification limits nor used alone as the basis of design.

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