

Aegis® H95C1WP Nylon Extrusion-Grade Copolymer

Description

Aegis® H95C1WP is a lubricated, medium viscosity, nylon extrusion-grade copolymer for cast or blown film applications. Aegis® H95C1WP combines strength, toughness and thermoforming properties with excellent heat, chemical and abrasion resistance. Potential film packaging applications include processed and fresh red meat, poultry, fish, cheese, dried food and chilled fruit juices.

General Properties	Test Method	Unit	Value
Parameter			
Viscosity, FAV	ASTM D-789		95
SAV @ 96% Sulfuric Acid			3.31
Extractable Content	SOP-702-307	%	Max. 0.8
Specific Gravity, 23°C (73.4°F)	ASTM D-792		1.13
Melt Flow Rate, 235°C/1.0 kg (455°F/1.0 kg)	ASTM D-1238	g/10 min	3.5
Moisture			
Moisture Content	ASTM D-6869	%	Max. 0.08
Moisture (24 Hour)	ASTM D-570	%	1.6
Moisture (50% RH)	ASTM D-570	%	3.1
Moisture (Saturation)	ASTM D-570	%	10.5
Thermal			
Melting Point	ASTM D-3418	°C (°F)	194°C (381°F)

Gas Barrier Film Properties	Test Method	Unit	Value
Oxygen Permeability @ 23°C (73°F)/0% RH	D-3958	cc-mil/m ² /day	43
Water Vapor Permeability @ 38°C (100°F)/100% RH	F-1249	gm-mil/m ² /day	830

See next page for Mechanical Properties.

Mechanical Film Properties 23°C (73°F), 50% RH	Test Method	Unit	Value (MD)*	Value (TD)*
Tensile Modulus	ASTM D-882	MPa	285	220
Tensile Yield	ASTM D-882	MPa	24	19
Tensile Strength	ASTM D-882	MPa	100	80
Elongation	ASTM D-882	%	700	660
Puncture Force	ASTM D-5748	Newtons	57	
Puncture Energy	ASTM D-5748	Joules	1.4	
Puncture Penetration to Break	ASTM D-5748	mm	50	

*Note: MD = Machine Direction and TD = Traverse Direction. Test specimens were obtained from 2-mil thick cast film and tested as conditioned (23°C,50%RH).

Aegis® H95C1WP copolymer conforms to FDA requirements of 21 CFR 177.1500 (a) (4) and (b) (4.2) for use as articles or components of articles intended for use in processing, handling, and packaging food, provided that the finished articles meet the applicable use and/or extraction limitations and requirements of relevant regulations. Aegis® H95C1WP is also suitable for use as a component of food packaging according to the European Plastic Regulations (EC) No. 10/2011, amended in 2018 to No. 2018/79.

Processing Guidelines

Material Handling

Aegis® H95C1WP copolymer is supplied in sealed containers and drying prior to processing is not required. However, higher moisture is the primary cause of processing issues. If drying becomes necessary, a dehumidifying or desiccant dryer operating at 80°C (176°F) is recommended. Drying time is dependent on moisture level. More information about safe handling procedures can be obtained by requesting the Safety Data Sheet on AdvanSix.com.

Extrusion Guidelines

Melt Viscosity vs. Temperature

Melt Temperature: 194°C (381°F)

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

1. The molecular weight (MW) of the resin: Higher MW resins will have a higher melt viscosity than lower MW resins.
2. Temperature of the melt for any given MW resin: Higher process temperatures will provide a more fluid melt viscosity than lower process temperatures.

The values presented in this data sheet are typical values and are not to be interpreted as product specifications.

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December 2021-1

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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: 240-260°C (464-500°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: 240-260°C (464-500°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"

Note: The values in this data sheet 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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Contact AdvanSix

To learn more about the benefits of Aegis® Nylon Resins, visit [AdvanSix.com/NylonSolutions](https://www.advanSix.com/NylonSolutions) or call: **1-844-890-8949** (toll free, U.S./Can.) **+1-973-526-1800** (international)

AdvanSix
300 Kimball Drive, Suite 101
Parsippany, NJ 07054



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