

# Aegis® H95C1ZP Nylon Extrusion-Grade Copolymer

## Description

**Aegis® H95C1ZP** is a medium viscosity, nylon extrusion-grade copolymer for cast or blown film applications. Aegis® H95C1ZP 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         |
|---|-------------|----------|---------------|
| <b>Parameter</b>                            |             |          |               |
| 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           |
| <b>Moisture</b>                             |             |          |               |
| 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          |
| <b>Thermal</b>                              |             |          |               |
| 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 <sup>2</sup> /day | 43    |
| Water Vapor Permeability @ 38°C (100°F)/100% RH | F-1249      | gm-mil/m <sup>2</sup> /day | 830   |

See next page for Mechanical Properties.

| <b>Mechanical Film Properties<br/>23°C (73°F), 50% RH</b> | <b>Test Method</b> | <b>Unit</b> | <b>Value (MD)*</b> | <b>Value (TD)*</b> |
|---|--------------------|-------------|--------------------|--------------------|
| 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® H95C1ZP 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® H95C1ZP 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® H95C1ZP 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](http://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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## 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](http://AdvanSix.com/NylonSolutions) or call: **1-844-890-8949** (toll free, U.S./Can.) **+1-973-526-1800** (international)

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