

**Technical Data Sheet**  
**January 2015**

**Product** **Aegis™ H55WC Nylon Jacket Compound**

**Product Description** Aegis™ H55WC is a medium viscosity, heat stabilized, nylon 6 universal wire jacketing resin offering excellent performance through the range of THHN, THWN, and TFFN constructions. This product possesses a balance of performance properties including flexibility, toughness and abrasion resistance combined with excellent chemical resistance to gasoline, oil and other hydrocarbons. This nylon compound has been investigated in accordance with the test methods outlined in [ANSI/UL 1581](#) and [ANSI/UL 83](#) and is listed under UL QMTT2 as a certified component for use in Wire, Cable and Flexible Lighting Products.

**Typical Properties**

	<b>ASTM (ISO) Test Method</b>	<b>Dry</b>	<b>Conditioned*</b>
<b>PHYSICAL</b>			
Specific Gravity (g/cc)	D-792	1.15	
Rockwell Hardness, R Scale	ASTM D785-08A	119	85
Moisture Spec., Max %	ISO15512	0.12	
Moisture Absorption, 23°C			
	1.6% (24 Hour)		
	2.7% (50% RH)		
	9.5% (Saturation)		
<b>MECHANICAL</b>			
Tensile Strength, Yield, PSI	D-638-10	11,200	4,800
23°C (73°F)			
Elongation, Yield, %	D-638-10		
23°C (73°F)		4.1	30
Elongation, Break, %	D-638-10		
23°C (73°F)		91	360
Flexural Modulus, PSI	D-790-10A		
-40°C (-40°F)		518,000	601,000
23°C (73°F)		364,000	90,300
121°C (250°F)		44,300	40,900
Flexural Stress at 5% Strain, PSI	D-790-10A		
-40°C (-40°F)		22,600	21,300
23°C (73°F)		13,700	3,710
121°C (250°F)		2,000	1,850
<b>IMPACT</b>			
Notched Izod Impact, ft-lbs/in	D-256-10A		
-40°C (-40°F)		0.9	0.6
23°C (73°F)		0.8	7.0
<b>ELECTRICAL</b>			
Volume Resistivity, 3.2mm, Ω-cm	D-257-07	9.99E14	2.49E11
Dielectric Strength, Short Time, 3.2mm, V/mil	D-149-09	383	348

\*Conditioned to 2.7% H<sub>2</sub>O (eq. 23C/50% RH)

# Processing Guidelines

## Material Handling

Max. Water Content: 0.12%

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 70°C (158°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 AdvanSix Inc. representative.

## Melt Viscosity vs Temperature

Melting point ASTM D738: 220°C (428 °F)

The recommended melt temperature range is 240°C (464°F) to 275°C (527°F)

## Typical Extrusion Temperature Profile

Barrel 249-266°C (480-510 °F)

Adapter 260-266 °C (500-510 °F)

Die 260-266 °C (500-510 °F)

Process Melt Temperature 260-270 °C (500-518 °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"

## Contact AdvanSix

To learn more about the benefits of Aegis® Nylon Resins, visit

[Advan6.com](http://Advan6.com) or call:

**1-844-890-8949** (toll free, U.S./Can.)

**+1-973-455-3000** (international)

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