

## DESCRIPTION

Aegis® H55WC01 is a medium viscosity, heat stabilized, nylon 6 universal wire jacket compound providing excellent performance across the range of THHN, THWN and TFFN constructions. It also offers a well-balanced set of properties including flexibility and toughness, abrasion and crush resistance, and resistance to oil, gas and other hydrocarbons. Aegis® H55WC01 nylon compound has been investigated in accordance with the test methods outlined in ANSI/UL 1581 and ANSI/UL 83 and is certified under UL QMTT2 and cUL QMTT8 for use in wire, cable and flexible lighting products.

## PERFORMANCE OVERVIEW

TYPICAL PROPERTIES	TEST METHOD-ASTM	DRY	CONDITIONED*
<b>PHYSICAL PROPERTIES</b>			
Density, g/cm <sup>3</sup>	D-792	1.14	
Rockwell Hardness, R Scale	D785-08A	119	85
<b>MECHANICAL PROPERTIES</b>			
Tensile Strength, Yield, psi 23°C (73°F)	D-638-10	11,200	4,800
Elongation, Yield, % 23°C (73°F)	D-638-10	4.1	30
Elongation, Break, % 23°C (73°F)	D-638-10	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, 3.2 mm, Ω-cm	D-257-07	9.99E14	2.49E11
Dielectric Strength, Short Time, 3.2 mm, V/mil	D-149-09	383	348

\*Conditioned to 2.7% H<sub>2</sub>O (equivalent 23°C [73°F] 50% RH)

## PROCESSING GUIDELINES

### MATERIAL HANDLING

Aegis® H55WC01 nylon compound is supplied in sealed containers and drying prior to processing is typically not required. However, high moisture is known to be a primary cause of processing issues. If drying becomes necessary, a dehumidifying or desiccant dryer operating at 70°C (158°F) is recommended. Drying time is dependent on moisture level. Safe handling procedures can be found in the Safety Data Sheet available on [AdvanSix.com](http://AdvanSix.com).

## EXTRUSION GUIDELINES

Melting point: 220°C (428°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"

## NOTE

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

## CONTACT ADVANSIX

Contact AdvanSix to learn more about the benefits of Aegis® Nylon Resins.

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Good chemistry.