

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 for use in wire, cable and flexible lighting products.

PERFORMANCE OVERVIEW

<u>TYPICAL PROPERTIES</u>	<u>TEST METHOD-ASTM</u>	<u>DRY</u>	<u>CONDITIONED*</u>
PHYSICAL PROPERTIES			
Density, g/cm ³	D-792	1.14	
Rockwell Hardness, R Scale	D785-08A	119	85
MECHANICAL PROPERTIES			
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
IMPACT			
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
ELECTRICAL			
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% H2O (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](https://www.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.

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CONTACT ADVANSIX

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

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Good chemistry.