

NYLON SOLUTIONS

# Aegis® H55WC01 Nylon Compound

## 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, toughness, abrasion resistance and excellent resistance to gasoline, oil 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.

Typical Properties	ASTM (ISO) Test Method	Dry	Conditioned*
<b>Physical Properties</b>			
Specific Gravity 1.15 (g/cc)	D-792		
Rockwell Hardness, R Scale	ASTM D785-08A	119	85
Moisture Spec., 0.12 Max %	ISO 15512		
<b>Mechanical Properties</b>			
Tensile Strength, Yield, psi	D-638-10		
23°C (73°F)		11,200	4,800
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, 3.2 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)

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

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## Processing Guidelines

### Material Handling

Max. Water Content: 0.12%

Aegis® H55WC01 nylon compound is supplied in sealed containers and drying prior to processing is not required. However, high moisture is the 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. More information about safe handling procedures can be obtained by requesting the Safety Data Sheet on [AdvanSix.com](http://AdvanSix.com).

### Melt Viscosity vs Temperature

Melting point, ASTM D-738: 220°C (428°F). The recommended melt temperature range is 240-275°C (464-527°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"

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Page 2 of 2

### 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.)

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