

Aegis® H55WC01 Nylon Jacket Compound

Description

Aegis® H55WC01 nylon jacket compound 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 | ASTM (ISO) Test Method | Dry | Conditioned* |
|--|------------------------|---------|--------------|
| Physical Properties | | | |
| Specific Gravity 1.15 (g/cc) | D-792 | | |
| Rockwell Hardness, R Scale | ASTM D785-08A | 119 | 85 |
| Moisture Spec., 0.12 Max % | ISO 15512 | | |
| Mechanical Properties | | | |
| 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 |
| 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)

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

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 Safety Data Sheet. Alternatively, please contact your AdvanSix representative.

Melt Viscosity vs Temperature

Melting point, ASTM D738: 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" |

Contact AdvanSix

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

AdvanSix.com/NylonSolutions or call:

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

+1-973-526-1800 (international)

AdvanSix

300 Kimball Drive, Suite 101
Parsippany, NJ 07054



AdvanSix Caring™

Aegis® is a registered trademark of AdvanSix Inc.
September 2017, Printed in U.S.A. v4
©2017 AdvanSix Inc. All rights reserved.

ADVANSIX