

Technical Data Sheet
January 2015

Product **Aegis™ H55WCX Nylon Jacket Compound**

Product Description Aegis™ H55WCX 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			
Specific Gravity (g/cc)	D-792		1.15
Rockwell Hardness, R Scale	ASTM D785-08A	116	80
Moisture Spec., Max %	ISO15512		0.12
Moisture Absorption, 23°C			
	1.6% (24 Hour)		
	2.7% (50% RH)		
	9.5% (Saturation)		
MECHANICAL			
Tensile Strength, Yield, PSI	D-638-10	9,300	4,480
23°C (73°F)			
Elongation, Yield, %	D-638-10		
23°C (73°F)		4.6	34
Elongation, Break, %	D-638-10		
23°C (73°F)		180	360
Flexural Modulus, PSI	D-790-10A		
-40°C (-40°F)		521,000	601,000
23°C (73°F)		291,000	82,800
121°C (250°F)		42,100	39,000
Flexural Stress at 5% Strain, PSI	D-790-10A		
-40°C (-40°F)		22,500	21,300
23°C (73°F)		10,600	3,420
121°C (250°F)		1,900	1,680
IMPACT			
Notched Izod Impact, ft-lbs/in	D-256-10A		
-40°C (-40°F)		0.8	0.7
23°C (73°F)		0.9	23
ELECTRICAL			
Volume Resistivity, 3.2mm, Ω·cm	D-257-07	2.19E14	3.63E10
Dielectric Strength, Short Time, 3.2mm, V/mil	D-149-09	378	235

*Conditioned to 2.7% H₂O (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 or call:

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

+1-973-455-3000 (international)

Although AdvanSix Inc. believes that the information contained herein is accurate and reliable, it is presented without guarantee or responsibility of any kind and does not constitute any representation or warranty of AdvanSix Inc., either expressed or implied. A number of factors may affect the performance of any products used in conjunction with user's materials, such as other raw materials, application, formulation, environmental factors and manufacturing conditions among others, all of which must be taken into account by the user in producing or using the products. The user should not assume that all necessary data for the proper evaluation of these products are contained herein. Information provided herein does not relieve the user from the responsibility of carrying out its own tests and experiments, and the user assumes all risks and liabilities (including, but not limited to, risks relating to results, patent infringement, regulatory compliance and health, safety and environment) related to the use of the products and/or information contained herein.

AdvanSix

115 Tabor Road
Morris Plains, NJ 07950



Aegis is a registered trademark of AdvanSix Inc.
September 2016, Printed in U.S.A.
©2016 AdvanSix Inc. All rights reserved.