Aegis® PIR-H8202NLB Nylon 6 Injection Molding Homopolymer

NYLON SOLUTIONS

DESCRIPTION

Aegis® PIR-H8202NLB resin from AdvanSix contains 100% post-industrial recycled (PIR) raw materials[1] while providing the same top performance and processability as Aegis® H8202NLB, its standard, non-recycled counterpart. Aegis® PIR-H8202NLB is an unfilled, low/medium viscosity, non-lubricated, nylon 6 injection molding homopolymer exhibiting excellent melt fluidity for filling thin sections. It exhibits good strength, stiffness, and toughness as well as excellent heat, chemical and abrasion resistance.

PHYSICAL AND CHEMICAL PROPERTIES

GENERAL PROPERTIES	TEST METHOD	UNIT	VALUE
Parameter			
Viscosity, FAV	ASTM D-789		49+/-3
96% SAV			2.61
Extractable Content	SOP-702-307	%	Max. 0.8
Physical			
Density	ASTM D-792	g/cm^3	1.13
Mold Shrinkage Linear Flow	ASTM D-955	%	1.28
Rockwell Hardness, R Scale	ASTM D-785		119
Melt Flow Rate, 235°C/1.0 kg (455°F/1.0 kg)	ASTM D-1238	g/10 min	9.8
Moisture			
Moisture Content	ASTM D-6869	%	Max. 0.10
Water Absorption in 24 hrs, %	ASTM D-570	%	1.6
Equilibrium Moisture @ 50% RH, %	ASTM D-570	%	2.7
Saturation Moisture Content, %	ASTM D-570	%	9.5
Mechanical			
Tensile Modulus, 23°C (73°F)	ASTM D-638	MPa (psi)	2,850 (413,500)
Tensile Strength, Yield, 23°C (73°F)	ASTM D-638	MPa (psi)	79 (11,500)
Elongation, Yield, 23°C (73°F)	ASTM D-638	%	4.0
Elongation, Break, 23°C (73°F)	ASTM D-638	%	55
Flexural Modulus, 23°C (73°F)	ASTM D-790	MPa (psi)	3,010 (436,000)
Flexural Strength, 23°C (73°F)	ASTM D-790	MPa (psi)	110 (15,900)
Impact			
Notched Izod Impact, -40°C (-40°F)	ASTM D-256	J/m (ft-lbs/in)	50 (0.9)
Notched Izod Impact, 23°C (73°F)	ASTM D-256	J/m (ft-lbs/in)	60 (1.1)
Thermal			
Melting Point	ASTM D-3418	°C (°F)	220°C (428°F)
Heat Deflection @ 264 psi (1.8 MPa)	ASTM D-648	°C (°F)	65°C (149°F)
Heat Deflection @ 66 psi (0.45 MPa)	ASTM D-648	°C (°F)	178°C (352°F)
Coef. of Linear Thermal Expansion	ASTM D-831	µm/mm °C	83

[1] Using an industry-accepted mass balance method, AdvanSix allocates recycled material into 100% PIR Aegis® resins. PIR grades are certified by an independent third-party organization (SCS Global Services) for recycled content, with annual audits.

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

PROCESSING GUIDELINES

Material Handling

Aegis® PIR-H8202NLB is supplied in sealed containers and drying prior to processing is not required. However, higher moisture is the primary cause of processing issues. If drying becomes necessary, a dehumidifying or desiccant dryer operating at 80°C (176°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.

INJECTION MOLDING GUIDELINES

Typical Profile

Melt Temperature: 240-280°C (464-536°F)
Melt Temperature: 80-95°C (176-203°F)
Injection and Packing Pressure: 35-125 bar (500-1500 psi)

Mold Temperatures

A mold temperature of 80-95°C (176-203°F) is recommended, but temperatures as low as 10°C (50°F) can be used where applicable.

Pressures

Injection pressure controls the filling of the part and should not be applied for 90% of ram travel. Packing pressure affects the final part and can be used effectively in controlling sink marks and shrinkage. It should be applied and maintained until the gate area is completely frozen off.

Fill Rate

Fast fill rates are recommended to ensure uniform melt delivery to the cavity and to prevent premature freezing.
Note: The values in this data sheet are for natural color resins only. Colorants or other additives may alter some or all of these properties. The data listed here fall within the normal range of product properties, but should not be used to establish specification limits nor used alone as the basis of design.

CERTIFIED RECYCLED CONTENT ® SCS GLOBAL SERVICES

100% MASS BALANCED
RECYCLED CONTENT
PRE-CONSUMER

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CONTACT ADVANSIX

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

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