Triax® 1120

Acrylonitrile Butadiene Styrene + Nylon

INEOS Styrolution Group GmbH

Message:

Triax 1120 resin is an ABS (Acrylonitrile Butadiene Styrene)/Nylon 6 alloy for injection molding. It is a semicrystalline thermoplastic with excellent processibility, good chemical resistance, good fatigue performance, and excellent abrasion characteristics. Triax 1120 resin exhibits a good balance of impact strength and flow properties.
Typical applications include housings, shrouds and handles for components of lawn and garden equipment, power tools, appliances, and sporting goods. Automotive applications include fasteners and interior functional components, housings, and shrouds. As with any product, use of Triax 1120 resin in a given application must be tested (including but not limited to field testing) in advance by the user to determine suitability.

General Information	
UL YellowCard	E44741-235663
Features	Semicrystallization
	Impact resistance, good
	Workability, good
	Good liquidity
	Good wear resistance
	Good chemical resistance
	Fatigue resistance
Uses	Handle
	Lawn and Garden Equipment
	Power/other tools
	Home appliance components
	Fasteners
	Application in Automobile Field
	Sporting goods
	Shell
Agency Ratings	EC 1907/2006 (REACH)
Forms	Particle
Processing Method	Injection molding
Multi-Point Data	Isochronous Stress vs. Strain (ISO 11403-1)
	Isothermal Stress vs. Strain (ISO 11403-1)
	Secant Modulus vs. Strain (ISO 11403-1)
	Shear Modulus vs. Temperature (ISO 11403-1)
	Viscosity vs. Shear Rate (ISO 11403-2)

Physical	Dry	Conditioned	Unit	Test Method
Specific Gravity	1.06	1.06	g/cm^3	ASTM D792
Specific Volume	0.940	0.940	cm^3/g	ASTM D792

Molding Shrinkage - Flow	1.0	1.0	%	ASTM D955
Water Absorption				ASTM D570
23°C, 24 hr	1.1	1.1	%	ASTM D570
Saturated, 23°C	4.3	4.3	%	ASTM D570
Hardness	**Dry**	**Conditioned**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale)	105	90		ASTM D785
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus	2030	--	MPa	ASTM D638
Tensile Strength (Yield)	43.4	40.0	MPa	ASTM D638
Tensile Elongation (Break)	140	290	%	ASTM D638
Flexural Modulus	2070	1170	MPa	ASTM D790
Flexural Strength (Yield)	75.2	56.9	MPa	ASTM D790
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Notched Izod Impact				ASTM D256
-40°C, 3.18 mm	80	80	J/m	ASTM D256
-40°C, 6.35 mm	69	75	J/m	ASTM D256
23°C, 3.18 mm	800	800	J/m	ASTM D256
23°C, 6.35 mm	750	750	J/m	ASTM D256
Instrumented Dart Impact				ASTM D3763
-40°C, 2.54 mm, Total Energy	47.5	59.7	J	ASTM D3763
23°C, 2.54 mm, Total Energy	42.0	48.8	J	ASTM D3763
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Deflection Temperature Under Load				ASTM D648
0.45 MPa, unannealed, 3.18mm	90.0	87.8	°C	ASTM D648
0.45 MPa, unannealed, 6.35mm	97.2	96.1	°C	ASTM D648
1.8 MPa, unannealed, 3.18mm	65.0	62.2	°C	ASTM D648
1.8 MPa, unannealed, 6.35mm	73.9	72.2	°C	ASTM D648
Vicat Softening Temperature	197	170	°C	ASTM D1525 [1]
CLTE - Flow				ASTM D696
-40 to 22°C	9.9E-5	1.1E-4	cm/cm/°C	ASTM D696
22 to 83°C	1.5E-4	1.4E-4	cm/cm/°C	ASTM D696
RTI Elec (1.57 mm)	110	110	°C	UL 746
RTI Imp (1.57 mm)	65.0	65.0	°C	UL 746
RTI (1.57 mm)	105	105	°C	UL 746
Electrical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Surface Resistivity	8.3E+15	3.2E+13	ohms	ASTM D257

Volume Resistivity [2]	9.7E+15	9.0E+12	ohms·cm	ASTM D257
Dielectric Strength [3] (23°C, 1.57 mm, in Oil)	17	15	kV/mm	ASTM D149
Dielectric Constant [4] (1 MHz)	3.50	3.50		ASTM D150
Dissipation Factor [5] (1 MHz)	0.024	0.039		ASTM D150
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
1.57 mm	HB	HB		UL 94
3.18 mm	HB	HB		UL 94
Optical	Dry	Conditioned		Test Method
Gardner Gloss				ASTM D523
20°	78	78		ASTM D523
60°	91	91		ASTM D523

Injection	Dry	Unit
Drying Temperature	87.8	°C
Drying Time	2.0 - 4.0	hr
Suggested Max Moisture	0.15 - 0.35	%
Suggested Shot Size	50 - 70	%
Suggested Max Regrind	20	%
Rear Temperature	232 - 266	°C
Middle Temperature	232 - 266	°C
Front Temperature	232 - 266	°C
Nozzle Temperature	249 - 260	°C
Processing (Melt) Temp	238 - 271	°C
Mold Temperature	37.8 - 65.6	°C
Injection Pressure	41.4 - 82.7	MPa
Injection Rate	Fast	
Back Pressure	0.345 - 0.689	MPa
Clamp Tonnage	4.1 - 6.9	kN/cm^2
Cushion	< 3.18	mm
Screw L/D Ratio	20.0:1.0	
Screw Compression Ratio	2.5:1.0	

Injection instructions
Hold Pressure: 30 to 50% of Injection PressureScrew Speed: Moderate

NOTE	
1.	标准 B (120°C/h), 压 力1 (10N)
2.	Tinfoil Electrodes
3.	Method A (short time)
4.	Tinfoil Electrodes
5.	Tinfoil Electrodes

Recommended distributors for this material

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