

Technical Data Sheet

**Formion FI120**

Ionomer
LyondellBasell Industries
Engineering Plastics

Product Description

Zinc Ionomer, Unfilled

General

Material Status	• Commercial: Active		
Availability	• North America		
Automotive Specifications	• CHRYSLER MS-DB-546	• FORD ESB-M4D330-A2	• GM GMP.E/MA.005
Processing Method	• Injection Molding		

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density / Specific Gravity ¹	0.962	0.960 g/cm ³	ASTM D792
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength ² (Yield, Injection Molded)	3190 psi	22.0 MPa	ASTM D638
Tensile Elongation ³			ASTM D638
Break, 70°F (21°C), 0.157 in (4.00 mm), Injection Molded	200 %	200 %	
Flexural Modulus - Tangent ⁴			ASTM D790
73°F (23°C), 0.126 in (3.20 mm), Injection Molded, 1.97 in (50.0 mm) Span	30000 psi	207 MPa	
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			ASTM D256A
72°F (22°C), 0.126 in (3.20 mm)	No Break	No Break	
Multi-Axial Instrumented Impact Energy ⁵			ISO 6603-2
0.126 in (3.20 mm), Injection Molded, Ductile Failure	33.2 ft·lb	45.0 J	
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			ASTM D785
R-Scale, 72°F (22°C), 0.126 in (3.20 mm)	95	95	
Durometer Hardness (Shore D)	63	63	ASTM D2240
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648A
66 psi (0.45 MPa), Unannealed, 0.126 in (3.20 mm), Injection Molded	104 °F	40.0 °C	
CLTE - Flow (-22 to 140°F (-30 to 60°C))	8.3E-5 in/in/°F	1.5E-4 cm/cm/°C	ASTM E831

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Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature - Desiccant Dryer	120 to 140 °F	49 to 60 °C
Drying Time - Desiccant Dryer	4.0 to 8.0 hr	4.0 to 8.0 hr
Suggested Max Moisture	0.08 %	0.08 %
Rear Temperature	290 to 350 °F	143 to 177 °C
Front Temperature	420 to 475 °F	216 to 246 °C
Nozzle Temperature	400 to 475 °F	204 to 246 °C
Processing (Melt) Temp	420 to 475 °F	216 to 246 °C
Mold Temperature	122 to 176 °F	50 to 80 °C
Injection Pressure	8000 to 15000 psi	55.2 to 103 MPa
Injection Rate	Moderate	Moderate
Back Pressure	20.0 to 200 psi	0.138 to 1.38 MPa
Screw Speed	30 to 80 rpm	30 to 80 rpm
Cushion	0.200 to 0.400 in	5.08 to 10.2 mm

Injection Notes

- * Purge w/ Polyethylene,
- * Resin as Supplied does not require drying. Processing at elevated levels of moisture will lead to gassing, Splay and reduced Molded part performance. Drying May be or become necessary.

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Notes

¹ Method A

² Type I

³ Type I, 2.0 in/min (50 mm/min)

⁴ Method I (3 point load), Procedure A, Type I, 2.0 in/min (50 mm/min)

⁵ 7.2 ft/sec (2.2 m/sec)

Notes

These are typical property values not to be construed as specification limits.

Processing Techniques

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

Product Storage and Handling

- Product should be stored in dry conditions at temperatures below 50°C and protected from UV-light
- Improper storage may bring damage to the packaging and can negatively affects on the quality of this product
- Keep material completely dry for good processing

Company Information

For further information regarding the LyondellBasell company, please visit <http://www.lyb.com/>.

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