

ISOMIDE SERIES MATERIALS

ISOMIDE PI Series are completely imidized aromatic imide polymers molded from polyimide powder resin utilizing Symmtek's unique compression molding and sintering technology.

The wholly aromatic chain structure imparts high strength, thermal stability, rigidity, and hardness to ISOMIDE PI molded parts.

Applications/Grades

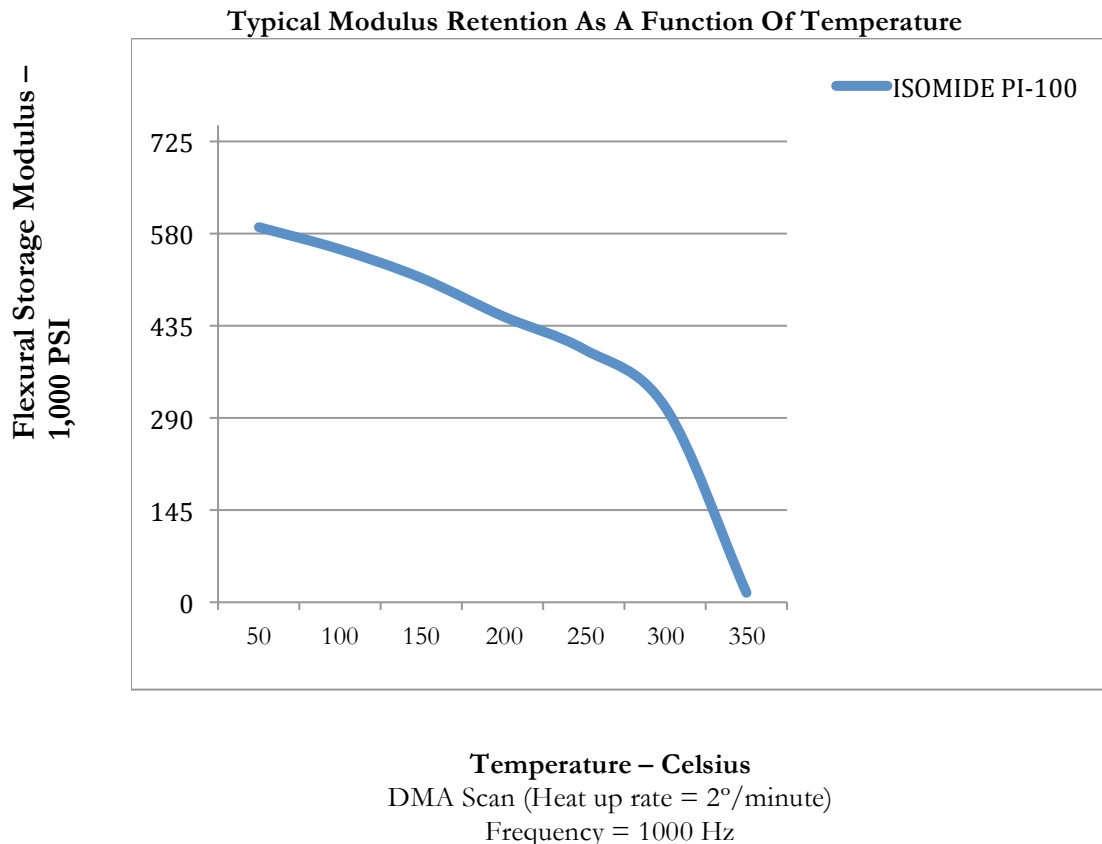
ISOMIDE PI-100: Unfilled base resin providing maximum mechanical properties, impact resistance and elasticity combined with electrical and thermal insulating characteristics. This compound covers a wide temperature range from -450° F to 580° F continuous with excursions to 750° F for short periods.

ISOMIDE PI-200: 15% graphite lubricated composite with improved resistance to wear and low coefficient of friction. Choice grade for un-lubricated bearings, mechanical seals, thrust washers, and pistons over a wide temperature range—from -450° F up to 600° F continuously, taking 750° F for short periods.

ISOMIDE PI-210: 15% graphite, 5% PTFE lubricated grade offering the lowest coefficient of friction of bearing and wear surface operation under extreme pressure and velocity over a wide range of temperatures—from cryogenic to 600° F continuously, going up to 750° F for short periods.

ISOMIDE PI-220: 20% graphite lubricated compound offers low wear and low coefficient of friction under PV factors up to 130,000 in totally un-lubricated conditions. This has the same wide range of temperature tolerances as the other grades—from -450° F up to 600° F continuously, and up to 750° F on occasion.

Corrosion resistance charts will be sent upon request. If your application demands other fillers or reinforcements different than those listed as standard, Symmtek can provide custom molded compounds to meet your specific needs.





**Summary Of Typical Properties
– Isomide Series Material –**

	Properties	Units	Test Method	PI-100	PI-200	PI-210	PI-220
Physical	Specific Gravity		ASTM D-792	1.34	1.42	1.45	1.46
	Water Absorption						
	24 hours		ASTM D-570	0.62%	0.53%	0.40%	0.43%
	48 hours		ASTM D-570	0.62%	0.53%	0.40%	0.43%
Mechanical	Tensile Strength	psi	ASTM D-638	17,500	12,500	11,800	9,500
	Tensile Modulus	psi	ASTM D-638	N/A	N/A	N/A	N/A
	Tensile Elongation	%	ASTM D-638	12.0%	4.0%	4.3%	3.7%
	Flexural Strength	psi	ASTM D-790	23,500	19,700	17,200	18,000
	Flexural Modulus	psi	ASTM D-790	580,000	590,000	580,000	590,000
	Izod Impact Strength Notched	ft*lb/in	ASTM D-256	0.63	0.6	0.6	0.6
	Compressive Strength	psi	ASTM D-695	39,000	25,000	23,600	22,000
	Hardness Shore D		ASTM-D-785	90	89	85	89
Rockwell R		ASTM-D-785	120	110	110	110	
Thermal	HDT (F) @ 264psi	F°	ASTM D-648A	575	580	580	585
	Coefficient of Linear Expansion	10 ⁻⁵ in/in*F°	ASTM C- 518	2.8	2.4	2.9	2.2
	Continuous Use Temperature	F°	ASTM D-696	580	600	600	600
Electrical	Dielectric Strength	V/ml	D-149	475	N/A	N/A	N/A
	Dielectric Constant		D-150	n/a	n/a	n/a	n/a

To be best of our knowledge the information contained herein is accurate. However, neither Symmtek Polymers LLC, nor its affiliates assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability and whether there is any infringement of patents is the sole responsibility of the user.

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