TECASINT™ 2011

Thermoplastic Polyimide

Ensinger Inc.

Message:

TECASINT™ 2000 series of polyimide stock shapes provide a superior combination of high temperature and bearing and wear, properties that make it an ideal choice for the most demanding applications. TECASINT™ 2011 is very pure, and exhibits low outgassing. It is also characterized by it's longterm thermal stability, outstanding wear resistance, high creep resistance, and strength up to its continuous use temperature of 536° F. TECASINT™ 2021 contains 15% graphite and is also available for applications requiring improved wear resistance & lower coefficient of friction.
TECASINT™ 2000 series with their superior physical properties, are ideal for applications in the aerospace, nuclear, automotive, electrical/electronics, and chemical processing industries. TECASINT™ shapes are excellent candidates for high purity applications in the semiconductor processing industry. Typical components produced from TECASINT™ applications include seals, thrust washers, bushings and wear pads in transportation/off-highway equipment, insulating and support elements in electrical welding and brazing equipment, and wafer-handling components in the harsh environment of semiconductor plasma ovens. Pump and valve seals, vanes, and piston rings are also commonly produced from TECASINT™ series materials.

General Information	
Features	Low (to None) Ion Content
	The degassing effect is low to no
	High purity
	Low extract
	Rigidity, high
	High strength
	Good creep resistance
	Good chemical resistance
	Good wear resistance
	Heat resistance, high
	Thermal stability, good
Uses	Pump parts
	Bushing
	Electrical/Electronic Applications
	Valve/valve components
	Aerospace applications
	Nuclear energy applications
	Insulating material
	Seals
	Application in Automobile Field
	Thrust washer
Forms	Shapes

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.38	g/cm³	ASTM D792
Water Absorption (23°C, 24 hr)	0.24	%	ASTM D570

Hardness	Nominal Value	Unit	Test Method

Rockwell Hardness (e scale, 23°C)	94		ASTM D785
Durometer Hardness (Shore D)	90		ASTM D2240
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	4700	MPa	ASTM D638
Tensile Strength (Yield, 23°C)	118	MPa	ASTM D638
Tensile Elongation (Break, 23°C)	4.4	%	ASTM D638
Flexural Modulus (23°C)	3600	MPa	ASTM D790
Flexural Strength (23°C)	177	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (23°C)	2230	J/m	ASTM D256
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (1.8 MPa, Unannealed)	> 316	°C	ASTM D648
CLTE - Flow (-40 to 38°C)	5.4E-5	cm/cm/°C	ASTM D696
Specific Heat	925	J/kg/°C	ASTM E1269
Thermal Conductivity	0.22	W/m/K	ASTM C177
Maximum Service Temperature			
Intermittent	330	°C	
Long Term	280	°C	
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	5.0E+16	ohms	ASTM D257
Volume Resistivity	8.0E+15	ohms·cm	ASTM D257
Dielectric Strength	22	kV/mm	ASTM D149
Dielectric Constant [1] (23°C, 1 MHz)	4.20		ASTM D150
Dissipation Factor (23°C, 60 Hz)	3.0E-3		ASTM D150
Additional Information			
Data obtained from extruded shapes material.			
NOTE			
1.	50% RH		

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China


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