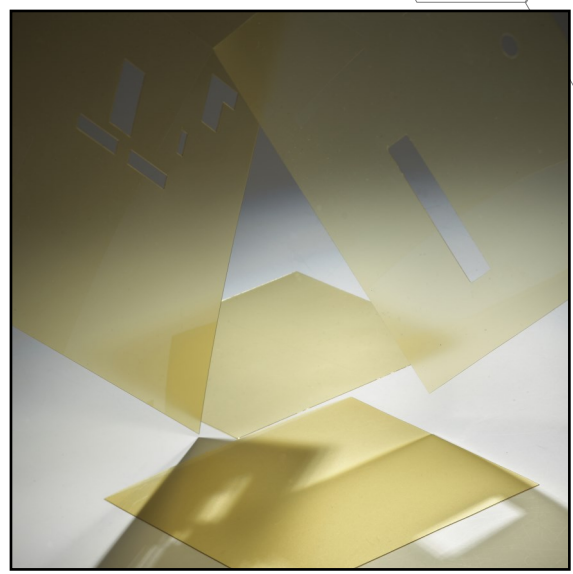


N003

Electrical Insulating, Thermal Material

N003 is a thermoplastic polyetherimide material with a high performance. Its great features include resistance to high temperature, flame resistance, low moisture absorption and exceptional dielectric properties. These qualities make N003 a versatile option for a wide array of electronic applications. N003 is thermos-formidable and can be heat-sealed with many different materials.



Properties	Unit	N003	Test Method
Base material		Polyetherimide film	
Color		Natural amber	
Thermal Properties			
Thermal conductivity	W/m°C	0.22	ASTM C177
Coefficient of thermal expansion	ppm/°C	52	IPC-TM-650
Electrical Properties			
Dielectric strength @ 125 µm oil	Volts/mil	3,650	ASTM D149

Ordering example:

N003-025

N = Nulla / 025 = 0.25mm thickness

Electrical Insulating, Thermal Material

Properties	Unit	N003	Test Method
Base material		Polyetherimide film	
Color		Natural amber	Visual
Thermal Properties			
Thermal conductivity	W/m°C	0.22	ASTM C177
Coefficient of thermal expansion	ppm/°C	52	IPC-TM-650
Shrinkage @ 170°C EXT. DIR.	%	0.33	IPC-TM-650
Shrinkage @ 170°C CROSS. DIR.	%	0.24	IPC-TM-650
Glass Transition Temperature	°C	217	DMA
Electrical Properties			
Dielectric strength @ 125 µm oil	Volts/mil	3.650	ASTM D149
Dielectric constant		3.2	IPC-TM-650
Dissipation factor		0.005	IPC-TM-650
Volume resistivity	M 'Ω-cm	2.5 x 10 ¹⁵	ASTM D257
Surface resistivity	M 'Ω	1.9 x 10 ¹⁶	ASTM D257
Mechanical Properties			
Tensile modulus	MPa	3000	ISO R527
Tensile strength @ Yield	MPa	100	ISO R527
Tensile strength @ Break	%	60	ISO R527
Tensile elongation @ Yield	%	6.5	ISO R527
Tear strength initiation @ 75 µm	N/mm	360	ASTM D1004
Tear strength propagation @ 75 µm	N/mm	3.5	ASTM D1938
Physical Properties			
Flame rating	UL94	VTM-0	
Specific gravity	ISO 1183	g/cc	1.27
Water absorption, immersion, 23°C, 24h	%	1.25	ASTM D570
Water absorption, 50%RH, 23°C, 24h	%	0.48	ASTM D570
Standard thicknesses	mm	0.13 / 0.25	

The data presented in this leaflet are in accordance with the present state of our knowledge. All statements, technical information and recommendations herein are based on tests we believe to be reliable. The customer is thereby not absolved from carefully checking all supplies immediately on receipt. The recommendations made in this catalogue should be checked by preliminary trials because of conditions during processing over which we have no control, especially where other companies' raw materials are also being used. Before using, user shall determine the suitability of the product for its intended use, and the user assumes all risks and liability whatsoever in connection there with. We reserve the right to alter product constants within the

scope of technical process or new developments. The recommendations do not absolve the customer from the obligation of investigating the possibility of infringement of third parties right and, if necessary, clarifying the position. Sellers' and manufacturer' only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable either in tort or contract for any loss or damage, direct or incidental, or consequential, including loss of profits or revenue arising out of the use or the inability to use a product. No statement, purchase order or recommendations by seller or purchaser not contained herein shall have any force or effect unless in an agreement signed by the officers of the seller