



strength in materials

Ultrafine E-Glass Yarns

High Performance Yarns for IC Substrate and Multilayer PCB Applications

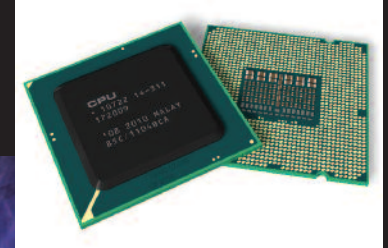
AGY's Ultrafine E-Glass yarns specifically designed to meet the demanding performance requirements of IC substrate and multilayer PCBs.

Product Application

An ongoing trend in electronic devices is miniaturization – increasing device functionality in the same or smaller form factor. Continued growth in the use and functionality of smartphones and tablet PCs has created demand for thinner and higher performing PCB substrates. AGY Ultrafine E-Glass yarns enable PCB designers to add more conducting layers in the same thickness of multilayer boards, and to develop the thinnest possible IC substrates.

Product Description

Ultrafine E-Glass yarns are available in a wide range of fiber micronage and yield/tex, allowing for production of all current thin fabric styles. The yarns are treated with AGY's electronics-grade starch/oil sizing, facilitating high-speed air-jet weaving. Lower twist yarns are available to enable production of very flat fabrics.



Features	Benefits
Low fiber micronage and yield/tex	<ul style="list-style-type: none"> Enables more conducting layers in multilayer boards Enables thinnest IC substrates
Wide range of fiber micronage and yield/tex	Allows production of all current thin fabric PCB fabrics.
Treated with electronics-grade starch/oil sizing	Fabric surface smoothness with high-speed air-jet weaving
Low hollow fibers	Excellent conductive anodic filamentation (CAF) resistance
Highly homogeneous glass quality	Consistent performance in PCB applications
Excellent balance of electrical and mechanical performance	Allows designer to utilize both mechanical and electrical performance in PCB

PRODUCT INFORMATION

AGY has been a provider of fine yarns to the electronics industry for a significant number of years and using the experience gained has now a range of fine, extra fine as well as ultrafine yarns to meet the demands of the printed circuit board industry. Today AGY offers E-Glass yarns into a number of fabric styles and weights, from fabrics used in desktop computers to light weight fabrics used in mobile devices used today and tomorrow.

Meeting the demands for the electronics market has also meant that AGY has developed a number of glass fibers to meet the demands in a range of applications, from high strength and low coefficient of thermal expansion to low dielectric loss. AGY's unique manufacturing footprint allows the manufacture of these high performance fibers in a way to meet the demand of customers during low volume start up right through to high volume manufacturing with the right volumes at the right time. AGY being an independent glass fiber producer can work with any of the fabric producers supplying the electronics industry globally.

PROPERTIES

	Units	E-Glass
Dielectric Constant, ϵ' , (Dk)	@1 GHz @10 GHz	7.0 6.9
Dissipation Factor, $\tan \delta$, (Df)	@1 GHz @10 GHz	0.005 0.007
Density	g/cm ³	2.54
Softening Point	°C	846
Coefficient of Thermal Expansion	ppm/°C	5.4
Tensile Load to Failure (D450 fiber)	N	8.9
Tensile Modulus	GPa	75

AVAILABLE PRODUCTS AND TYPICAL USES

YARN		Typical IPC Fabric Styles
US Units	SI Units	
ECC1200 1/0 1.0Z	EC4.5-4.1 1x0 Z40	1037
ECC1200 1/0 0.5Z	EC4.5-4.1 1x0 Z20	1037
ECBC1500 1/0 1.0Z	EC4-3.3 1x0 Z40	1027
ECBC1500 1/0 0.5Z	EC4-3.3 1x0 Z20	1027
ECBC2250 1/0 0.7Z	EC4-2.2 1x0 Z28	1015
ECBC3000 1/0 0.7Z	EC4-1.7 1x0 Z28	1000, 1017
ECBC3000 1/00.2Z	EC4-1.7 1x0 Z8	1000, 1017
ECBC3750 1/00.2Z	EC4-1.3 1x0 Z8	1010

All products with sizing 622 on 7636 bobbin



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