



AGY L Glass® fiber Yarn

Making today's digital technology possible.

AGY is a leading innovator and producer of specialty glass fibers with a full line of products geared to the demanding performance requirements of the PCBs used in high-speed digital communications and IC substrates. Flexible production capabilities and cutting-edge R&D allow AGY to customize solutions and develop next-generation products for your most pressing challenges.

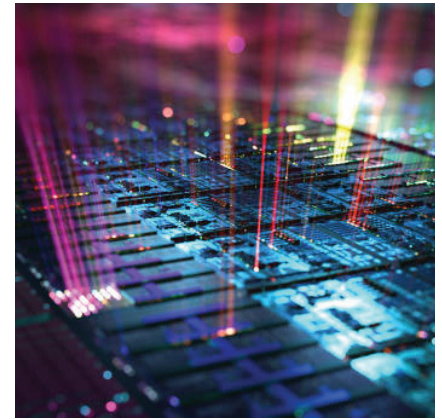
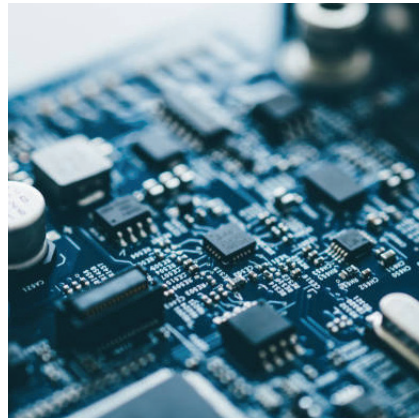
AGY L Glass family of yarns

The continuing exponential growth of mobile data traffic requires very specialized solutions, including:

- L and L2 yarns: PCB laminates made with L and or L2 glass yarns enable higher processing speeds, while minimizing signal loss, for critical applications such as high speed routers, servers, and mobile communication infrastructure.
- L-HDI yarns: IC substrates, used in state-of-the-art miniaturization of PCBs, require the low coefficient of thermal expansion (CTE) and high tensile modulus designed into L-HDI fibers.

Product description

AGY L Glass fibers are available in a wide range of fiber micronage and yield/tex, allowing production of low-loss fabrics analogous to many of the standard PCB fabrics.



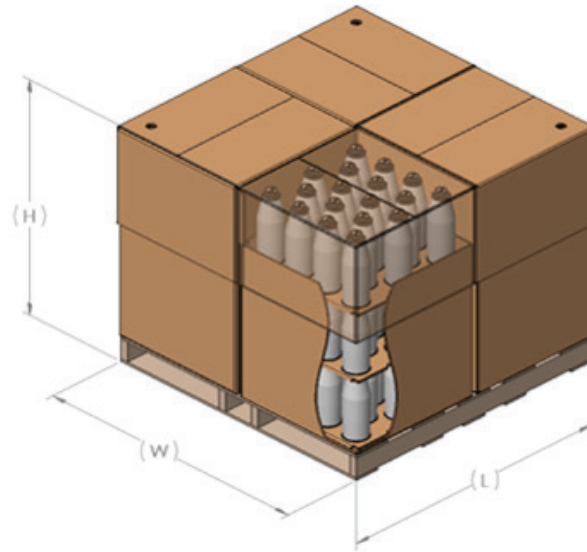
Features	Benefits
Low Dk, Df, and CTE	<ul style="list-style-type: none"> • Higher signal speeds while minimizing signal loss • Offset Dk/Df increases when switching to halogen-free resins • Minimized skew effect • Minimized CTE mismatch with silicon chips, improving substrate reliability
Low hollow fibers	Excellent conductive anodic filamentation (CAF) resistance
Wide range of fiber micronage and yield/tex	Allows production of most standard PCB fabrics
Treated with electronics-grade starch/oil sizing	Fabric surface smoothness with high-speed air-jet weaving
Excellent tolerance to damage accumulation	Ability of composite parts to withstand high levels of tension and flexural fatigue without catastrophic failure
High homogeneous glass quality	Consistent performance in PCB applications

Product information

Properties	Units	L Glass	L2 Glass	L-HDI	E Glass
Dielectric Constant, ϵ , 10 GHz	@ 10 GHz	4.8	4.4	5.2	6.1
Dielectric Loss, $\tan \delta$, 10 GHz	@ 10 GHz	0.003	0.002	0.007	0.004
Density	g/cm^3	2.3	2.25	2.5	2.54
Softening Point	$^{\circ}\text{C}$	861	930	1045	846
Coefficient of Thermal Expansion	$10^{-7}/^{\circ}\text{C}$	39	31	29	54
Fiber Tensile Modulus	GPa	51	47	88	72

Nominal packaging dimensions

Bobbin	Pallet	Bobbins/ layer	Layers/ carton	Cartons/ pallet	Bobbins/ pallet	L-in (cm)	W-in (cm)	H-in (cm)
7636	Wood	18	3	4	216	45.5 (115.6)	45.5 (115.6)	45.5 (115.6)



L Glass is a registered trademark of AGY.

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