

DuPont™ Pyralux®

FLEX CIRCUIT DESIGN TIP

Epoxy Resin Fillets

DuPont™ Pyralux® offers these design tips to aid its customers in flex circuit design and manufacture.

The purpose of the fillet is to prevent conductors from being cracked when the circuit is flexed during installation. It prevents the flex circuit from being bent at this transition area.

Also, in rigid/flex applications, there may be “prepreg squeeze out” at the rigid edge from the lamination process, which may contain sharp edges that can pierce the flex circuit and cause conductor breakage. The epoxy resin material will encapsulate the sharp edges and eliminate this issue.

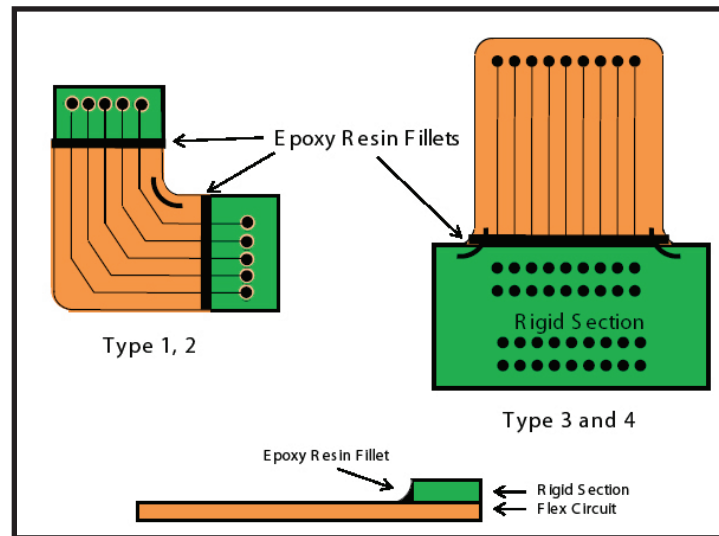
The fillet material most commonly used is Epoxy Resin 45 (a two part epoxy based material). By adjusting the amount of hardener used, there are three formulations available: rigid, semi-rigid, and flexible. The preferred formulation for this application is flexible, which provides some elasticity to stretch when the flex circuit is bent and therefore will not pull away during installation. It is available in black and clear but black is most widely used.

The fillet material is typically manually applied using a syringe with a pneumatic applicator. The bead width should be .030-.090” wide although wider widths can be permitted provided it does not interfere with installation. The height of the fillet must be kept to a minimum so it does not affect installation.

For more information on DuPont™ Pyralux® Flexible Circuit Materials, please contact your local representative, or visit our website for additional regional contacts:

Gus Gustafson
DuPont Flexible Circuit Materials
14 T.W. Alexander Drive
Research Triangle Park, NC 27709
Tel: 919-248-5280

pyralux.dupont.com



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