DuPont™ Pyralux®

FLEX CIRCUIT DESIGN TIP

Stiffeners

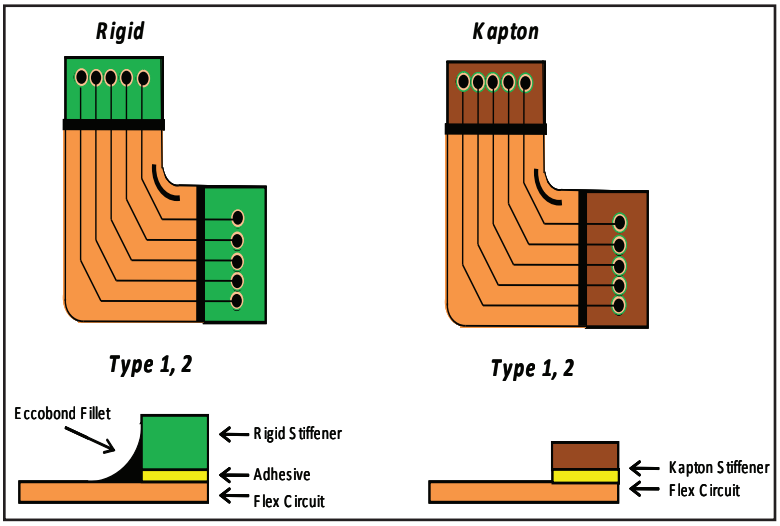
DuPont™ Pyralux® offers these design tips to aid its customers in flex circuit design and manufacture.

General:

Single-sided (Type 1) and double-sided (Type 2) flex circuits are generally too thin to adequately support mounting of connectors. Stiffeners are added to the connector mounting area to add support. There are 2 types used (rigid and Kapton®).

Rigid Stiffeners:

A rigid stiffener provides the greatest support. Typically the material used is GFN (an IPC4101 fiberglass/epoxy). Almost any thickness can be used (the thicker the more support). Thicknesses range from .010-.062". Most common is .031". A rigid stiffener requires many process operations. The material requires adhesive "pre-tacked", drilled (holes should be slightly larger than pads), routed and laminated to the flex circuit. It is preferred to have internal tooling holes added to the design so the stiffener can be registered to the flex circuit during the lamination process. After stiffener application, an epoxy adhesive fillet is recommended at the rigid/flex interface.



Kapton® Stiffeners:

Kapton® stiffeners should only be used when slight stiffness is required. The advantage is they can be applied with the covercoat lamination process. Therefore there is significant cost and time savings using this method. Typically the material is 0.001 to .002" thick adhesive with .002-.005" thick Kapton®. The Kapton® stiffener is drilled (holes should be slightly larger than pads), steel rule die cut to remove waste area, and laminated with the covercoat or laminated in an additional process after covercoat is applied. No Eccobond fillet is required.

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

The miracles of science™

K21973 12/08