

PTH/Via Spacing to Flex Transition Zones





0.040" Minimum Spacing Required to Meet IPC 2223C

This prevents PTH & Vias from being drilled through Coverlay adhesive and from being subjected to Z-Axis thermal expansion due to Coverlay adhesive.

Coverlay engages rigid areas approximately 20-30 mils.

-PRO TIP

When designing a Rigid-Flex PCB, a 0.040" minimum spacing is required to meet IPC 2223C. This is also required to ensure PTH/Via reliability.

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Insufficient Flex Lengths



Flex Areas = 3mm min.



Coverlay Manufacturability and Lamination

Coverlay layers require that rigid sections be removed prior to lamination to meet IPC 2223C Selective Coverlay construction requirements.

Flex Coverlay sections less than 3mm wide are fragile and difficult to process.

-PRO TIP

Minimum Flex Area Required = 3mm to Allow for Coverlay Manufacturability and Lamination.

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Bend Requirements Not Defined





Application: "Bend Once to Fit" or "Dynamic Bend"

A "Bent Only Once" design doesn't mean it won't break if the materials limits are exceeded.

Installation of a "Bend Once to Fit" application may require multiple bends.

Additional Take-Aways

A minimum bend radius is required in your design.

Flex area materials and construction are dependent upon the bend requirements of the design.

We recommend following IPC

2223C requirements.

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Assembly Array and Depanelization Method



-PRO TIP

We recommend allowing your supplier to propose an assembly array based on material utilization, production quantities, and technology level of the design. The recommended depanelization method to use are Breakaway tabs.



Assembly Array

Dimensional stability of a rigid-flex design is less than that of rigid PCBs. As such, assembly arrays tend to being smaller.

A rigid-flex design may also impose manufacturing limitations as to how parts can be nested in the array.

Fiducials and tooling holes are similar to that of rigid board arrays.

Depanelization Method

Breakaway tabs can be recessed into a part outline eliminating protruding tips beyond outline.

Scoring is not practical as the

- centrally located flex layers are not
- cut by the scoring system. If scoring
- is used, a Post Assembly cutting
- system is required to depanelize the
- parts.

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