

Busbar Edge Conditioning Pinch Sealing Approach

A previous App Note on <u>Best Practices for Edge Conditioning and Sealing of Laminated Busbars</u> identified four key approaches as shown below. This App Note provides a drilldown on the Pinch Sealing approach.

Open Edge	Pinch Sealing	FR4	Epoxy Edge Filled

Pinch Sealing is often the next choice designers consider, when Open Edge is not sufficient to protect the part during deployment in an environmentally risky environment, or also if there is a concern with busbars being damaged during handling, shipping or other logistics processes. Pinch sealing involves compressing the edges of the laminated busbar layers to create a seal. This is usually done with a mechanical process where the edges of the busbar are squeezed together to form a barrier.

Advantages:

- Provides a solid edge seal.
- Lamination fixtures are designed to seal the edges at the same time the conductors are laminated together, saving on subsequent operations to seal conductors

Cost and Tradeoffs:

- Cost: Custom fixturing can reduce production costs but NRE cost can vary depending on the complexity.
- Pinch seal typically requires more space than epoxy or FR4 methods and may not be ideal for complex geometries.

Applications:

• Pinch Sealing may be appropriate for busbars that will be deployed in a variety of environments and where the application requires a balance of low cost and high volumes.

Key Considerations:

Pinch seal is suitable for a variety of environments with relatively simple geometry where space isn't a major concern.

Summary:

Pinch Sealing offers low cost production and automation for faster volume assembly processes, but it can incur higher tooling costs, depending on the design complexity.

Our Design Team can help you select the right approach or combination of approaches for your application.



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