STORM POWER COMPONENTS

Applications Note

Busbar Edge Conditioning
Epoxy Filled Approach

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

Open Edge	Pinch Sealing	FR4	**Epoxy Edge Filled**

Epoxy Edge Fill provides a good combination of smallest footprint and excellent protection against environmental factors but also is a labor intensive process with slow throughput and high cost. It involves applying epoxy resin around the edges and sometimes encapsulating portions of the busbar assembly.

Advantages:

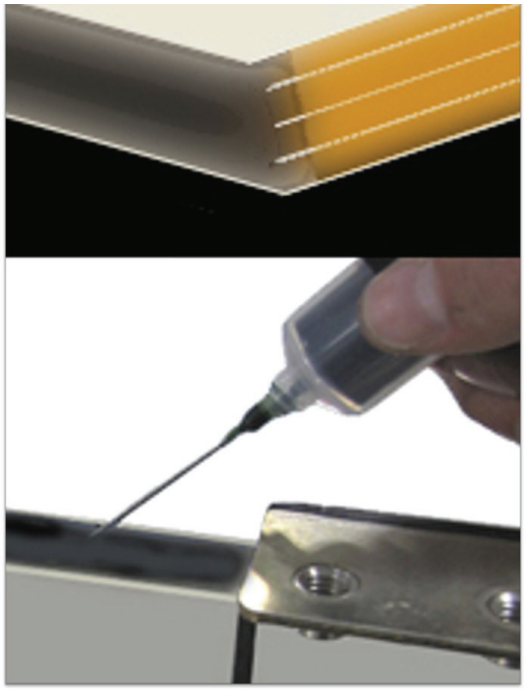
- Provides excellent protection against moisture, chemicals, and mechanical stress, while also enhancing electrical insulation.
- Smallest footprint because it only requires minimal extension of insulation layers beyond conductor edges.

Cost and Tradeoffs:

- Cost: High labor and material cost. Minimal NRE required.
- Not as structurally robust as FR4 Edge Fill but provides a smaller footprint and lower design cost.

Applications:

- Applications where space is critical and a small footprint is required.
- Harsh environmental conditions that require a high level of protection



Key Considerations:

Epoxy Fill provides excellent protection against moisture, humidity, chemicals, and mechanical stresses but at a higher cost than Open Edge or Pinch Sealing.

The labor intensive nature of Edge Fill means slower production throughput so high volumes may be difficult to achieve.

Summary:

The biggest driver for choosing Edge Fill is space. You really don't want to choose Edge Fill unless achieving a small footprint is critical for application success.

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