

# Busbar Edge Conditioning Open Edge Approach

**Applications** Note

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 Open Edge approach.

Open Edge	Pinch Sealing	FR4	Epoxy Edge Filled

In some applications, laminated busbars can have open edges without any sealing, relying on the physical layout and external enclosures to prevent direct exposure to the environment. Often, open edges are intentionally used to facilitate cooling or to reduce manufacturing costs.

## **Advantages:**

- Simplicity in design, leading to lower manufacturing costs.
- Easier to produce when the busbar ventilation not be subjected to environmental exposure risks.
- Fixture can be more flexible for prototypes, where adjustments to edge geometry may need to be made

## Cost and Tradeoffs:

- Cost: The absence of sealing reduces production costs and simpler fixtures require less NRE cost.
- Open Edge laminations need to be handled with care, as edges are fragile
- Open edges may not be suitable for environments where moisture or dust is a concern.

## **Applications:**

 Open edges are acceptable in less demanding or controlled environments, such as low-power, dry, or indoor applications.

## **Key Considerations:**

Open edge is a cost-effective solution for clean environments without tight space constraints. It is ideal for busbars with complicated geometries where the fixtures to pinch seal or labor to epoxy fill edges can be expensive.

## Summary:

Open Edge offers low cost production, lower tooling cost, faster assembly processes, but should be considered only for relatively clean environments with low risk of contamination.

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

