

TRUSTED ARC-RESISTANT COMPOSITE SOLUTIONS FROM ITEN INDUSTRIES

G9 Glass Melamine Laminates – Frequently Asked Questions

G9 Glass Melamine Laminates are high-pressure, glass-reinforced composite materials engineered for demanding electrical and industrial applications. Known for their superior arc resistance, excellent heat and flame tolerance, and strong mechanical stability, G9 laminates are commonly specified where electrical insulation performance and safety are critical.

As a trusted industry leader with more than 100 years of experience, **Iten Industries** manufactures G9 laminates in the United States using a fully vertically integrated process. From raw material control to finished sheets and fabricated components, our approach ensures consistent quality, fast lead times, and solutions tailored to your application.

What Are G9 Glass Melamine Laminates?

G9 laminates are produced by stacking layers of woven glass fabric saturated with melamine resin, then curing them under high heat and pressure. The result is a rigid, durable laminate with excellent electrical insulation properties and resistance to arcing, heat, and flame exposure.

Key Characteristics

- ✓ High arc resistance
- ✓ Strong thermal and flame tolerance
- ✓ Good mechanical strength and rigidity
- ✓ Reliable dimensional stability in harsh environments

What Makes G9 Different from G10 and G10FR4?

While G10 and G10FR4 are epoxy-based fiberglass laminates known for mechanical strength and electrical insulation, **G9 laminates are melamine-based**, which gives them superior arc resistance and improved performance in high-voltage and arc-exposed environments.

General Guidance

- ✓ **Use G9** when arc resistance, flame tolerance, and electrical insulation safety are primary concerns
- ✓ **Use G10 or G10FR4** when mechanical strength or flame-retardant epoxy systems are better suited to the application

Selecting the right grade depends on operating conditions, voltage exposure, and regulatory requirements. Iten engineers can help determine the best material for your needs.

What Are the Key Performance Benefits of G9 Laminates?

G9 laminates offer a balanced combination of electrical, thermal, and mechanical performance:

- ✓ **Arc Resistance:** Designed to withstand electrical arcing in high-voltage environments
- ✓ **Heat and Flame Tolerance:** Performs reliably under elevated temperatures
- ✓ **Mechanical Strength:** Woven glass reinforcement provides rigidity and structural integrity
- ✓ **Dimensional Stability:** Maintains shape and performance over time
- ✓ **Chemical Resistance:** Excellent resistance in alkaline environments

What Specifications and Standards Does G9 Meet?

Iten Industries' G9 laminates comply with widely recognized industry and military standards:

- ✔ NEMA G9
- ✔ MIL-I-24768/1

These certifications make G9 suitable for military, industrial, and critical electrical insulation applications.

What Are Common Applications for G9 Laminates?

G9 laminates are commonly used in applications requiring arc resistance and electrical insulation, including:

- ✔ Terminal boards
- ✔ Electrical insulation components
- ✔ Arc barriers
- ✔ High-voltage electrical equipment
- ✔ Industrial electrical enclosures

Can G9 Laminates Be Machined or Fabricated?

Yes. G9 laminates machine well when proper tooling and processes are used. Iten Industries offers a full range of **value-added fabrication** services:

- ✔ CNC machining
- ✔ Drilling and milling
- ✔ Precision punching
- ✔ Custom fabricated components

Our in-house toolroom and fabrication capabilities ensure tight tolerances, repeatability, and efficient production from prototype to full-scale runs.

Why Choose Iten Industries for G9 Laminates?

With more than a century of engineering and manufacturing expertise, Iten Industries delivers:

- ✔ Fully domestic production in Ashtabula, Ohio
- ✔ Complete vertical integration from resin to sheet to finished part
- ✔ Custom engineering and fabrication support
- ✔ Consistent quality and responsive customer service

What Sizes, Thicknesses, and Formats Are Available?

Iten Industries supplies G9 laminates in a variety of standard and custom formats:

- ✔ Sheet stock in common sizes
- ✔ Custom thicknesses to meet application requirements
- ✔ Machined or punched parts delivered ready for installation

If your application requires non-standard dimensions or fabricated components, our team can engineer a solution.

What Are Typical Lead Times and Order Quantities?

Thanks to our vertically integrated, U.S.-based manufacturing, Iten Industries offers:

- ✔ In-stock inventory for common G9 sheet sizes
- ✔ Flexible order quantities
- ✔ Fast production turnaround
- ✔ Short lead times even for custom runs

Our domestic supply chain provides reliable, tariff-free availability without offshore delays.

How Does G9 Perform in Harsh or High-Heat Environments?

G9 laminates are designed to maintain performance in demanding conditions. They resist degradation from:

- ✔ Elevated operating temperatures
- ✔ Electrical arcing
- ✔ Long-term electrical stress

This makes G9 a dependable choice for applications where safety, durability, and electrical reliability are essential.

How to Get Started

Looking for G9 Glass Melamine Laminates you can count on? The Iten Industries team is ready to help you select the right solution, provide technical guidance, and deliver high-quality materials built to perform.

Request a quote or speak with an Iten engineer today.

Built to perform. Made in the USA.