



Various Resins Glass Composites

Norplex-Micarta Various Resins - Glass Composites includes a range of products that are optimized for different tasks. In some cases, special additives enhance key performance properties:

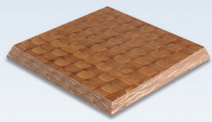
- Shot Blocker® is a bullet-resistant reinforcing substrate for architectural and building projects, and secondary ballistic armament;
- MC507U is ideal for high-temperature oven, welding, and plasma-cutting insulators;
- NP504 offers excellent flexural, compressive, and impact strength at elevated temperatures;
- NP509 meets U.L. flammability requirement 94 V-1.

The NP500 series of thermoset composites is manufactured using multiple plies of woven fiberglass, which are saturated with various resins and compressed under heat and pressure. These fiberglass-based substrates provide exceptional tensile, flexural, shear, modulus, and impact strength properties comparable to steel. Impregnated with melamine, phenolic, or silicone resins, these composites exhibit superior electrical properties, plus smoke and flame resistance, for use across a wide range of markets and applications.

Electrical-grade melamine resins offer superior arc resistance in high, medium, or low voltage applications. The most unique consideration of a melamine resin is that when an electrical arc travels across the surface or through the body of the laminate, its trail is non-conductive. Applications include switchboard panels, arc barriers, circuit breaker parts, and structural/electrical parts functioning in low-temperature environments of 140°C or less.

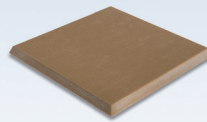
High strength phenolic resins, which are specifically formulated to penetrate glass bundles, perform well in high-temperature environments. Easy to machine and very cost-effective, phenolic-fiberglass thermoset composites exhibit excellent flame resistance, as well as low smoke and low toxicity properties. These characteristics make phenolic resins the preferred material in architectural and aerospace applications for structural components, airline cargo liners, honeycomb wall construction, and high-temperature gaskets.

Silicone resins offer superior electrical resistance, in addition to excellent thermal and mechanical properties. The high-temperature performance and insulative properties of silicone-fiberglass thermoset composites make them equal or superior to many high-priced thermoplastics. They can handle temperatures as high as 600°C in short-term applications and 220°C in continuous use for several years. Major functions include high-temperature electrical insulation in ovens, welding, and plasma-cutting equipment.



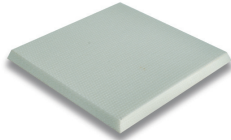
MC504BR - ShotBlocker®

Consisting of a woven glass fabric impregnated with a high-temperature phenolic resin system, the “Ballistic-Resistant Armor Security System” is the only commercially available Class 1-A fire-rated projectile-resistant building material. Lighter than steel and readily machined with ordinary hand-tools, ShotBlocker is the ideal reinforcing substrate for bullet-resistant building projects.



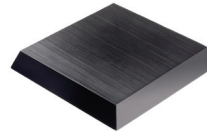
NP509

Consisting of woven glass fabric combined with a melamine resin system, NP509 is a tough, flame-resistant machining grade composite with excellent electrical properties in low-humidity conditions. Applications include switchboard panels, arc barriers, circuit breaker parts, and structural/electrical components.



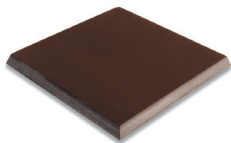
MC507U

This silicone resin and woven glass composite offers excellent mechanical and electrical characteristics, as well as high-temperature insulative properties. MC507U can withstand short-term exposure to temperatures as high as 600°C and continuous exposure to temperatures up to 220°C.



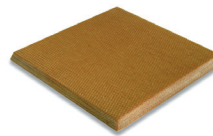
MC514MG

A high performance thermoset composite which is manufactured using an electrical grade of woven fiber glass, combined with a high temperature phenolic resin system. The resin system has a specially milled graphitic carbon additive which eliminates stray electrical potentials which can damage insulation in generators. The graphitic carbon additive in the resin system enables lubrication for easy installation in the slots.



P95

Combining a woven glass fabric with polyimide resin, P95 is engineered to maintain excellent physical properties at 240°C. P95 can be used for structural components, thermal insulators, PCB manufacture and assembly, and high-temperature gaskets in petrochemical plants.



NP504

Combining woven glass fabric with phenolic resin, NP504 offers high-temperature resistance, as well as good flexural, compressive, and impact strength at elevated temperatures. NP504 can be used for seals, acid-resistant gaskets, oven internals, and various structural applications.

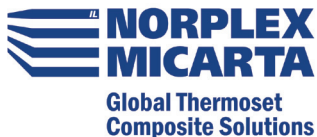
Industry Standards

| Norplex-Micarta Grade | ANSI/ASTM NEMA LI-1-1998 | Military MIL-I-24768/...[Type] | IEC 60893** Part - 3 - “Sheet” - “Type” |
|-----------------------|-----------------------------|-----------------------------------|--|
| ShotBlocker | --- | --- | --- |
| MC507U* | G-7* | /17 - GSG* | - 6 - SI GC 201 |
| NP504 | G-3 | /18 - GPG | - 4 - PF GC 301 |
| NP509 | G-5/G-9 | /8 - GMG : /1 - GME | - 3 - MF GC 201 |
| P95 | --- | --- | - 7 - PI GC 301 |
| MC514MG | --- | --- | --- |

*MC507U does not meet all of the electrical properties of either NEMA G-7 or MIL-I-24768/17 - GSG.

**Norplex-Micarta materials have not been tested to the IEC Standard listed. This standard is for reference only.

Refer to our web site www.norplex-micarta.com for a complete list of our products.



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