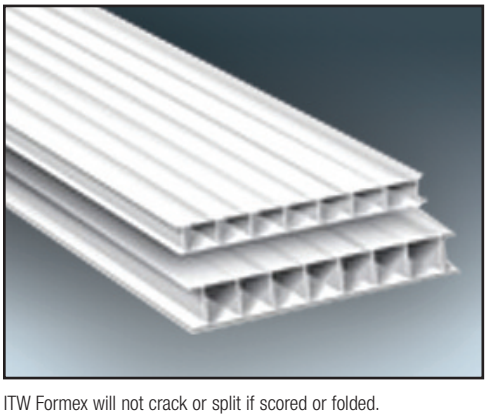
FABRICO™
A DIVISION OF EIS

ITW Formex® for Electrical Insulation & Heat Barriers

ITW Formex can be used as both an insulation and a barrier material.



ITW Formex will not crack or split if scored or folded.

For Fabrico, ITW Formex offers a range of materials characteristics suitable for electrical applications. ITW Formex can be used as a cost-effective replacement for a variety of electrical papers, thermoplastic materials, and injection molded parts. ITW Formex has a UL 94 V-0 Flame Class Rating for superior flame retardant electrical insulation properties.

Using ITW Formex to replace a glass/polyester material

Cabinets for electrical control equipment are typically very dense – filled with control and communication circuits in close proximity. You can often find a composite glass/polyester product, such as GPO-3, used as an insulator/barrier material to ensure that conductive materials can't arc and short.

ITW Formex offers an ideal solution for applications like this. It is less rigid than the glass/polyester material, can be easily heat formed and bent, and holds its shape without reinforcement. You can also use a thinner piece of ITW Formex – a critical advantage in a crowded control cabinet. Its strong dielectric properties and flame retardant characteristics are also important.

Finally, ITW Formex is less expensive than glass/polyester material. In any application that requires a barrier between circuit boards or between circuit boards and a housing, ITW Formex provides a cost-effective solution.

Beyond fish paper for lighting insulation

Fish paper has been used by the electronics industry for more than 100 years. It is frequently employed as an electrical insulation material in lighting systems. Fish paper is an electrical grade vulcanized fiber. It is light weight and can be easily formed or punched for different shapes.

It is often used in place of plastics because it has better resistance to heat and cold. However, it is very susceptible to absorbing moisture. If it gets wet it starts to flake upon drying out, and it cracks.

ITW Formex is also highly resistant to heat and cold and almost impervious to moisture. In addition, its flame retardant properties allow it to be used close to the light source. It delivers better insulating capabilities even in harsh outdoor environments.

High Temperature Insulation

There are several expensive, well-known materials used as insulators in transformers, generators, and other high voltage applications. They offer strong dielectric properties and are chemically resistant. ITW Formex can provide a substitute solution at a very reasonable cost.

In applications where PC boards are mounted in tight places, ITW Formex can be used as a barrier to prevent solder contacts on the underside of the board from coming into contact (and shorting out) with a metal surface.

Insulation and heat dissipation for LEDs

Heat can definitely be a problem with LEDs. As the temperature rises within an LED, the forward voltage drops and the current passing through the diode increases exponentially, leading to even higher junction temperatures. While catastrophic failures seem rare, the light output of the LED diminishes over time and the color of the light can shift.

ITW Formex can be die-cut or heat formed to provide excellent barrier and insulation capabilities for use with LEDs. In addition, ITW Formex can be used not only as an insulation pad but also as a thermal barrier around a heat source. In many instances where there is very little clearance between clusters of LEDs and other components on a board, ITW Formex is an ideal solution.

ITW Formex Characteristics

ITW Formex provides superior flame retardant electrical insulation materials with a UL 94 V-0 Flame Class rating.

Outstanding dielectric strength coupled with physical strength makes ITW Formex a good choice as both an electrical insulation and a barrier material. It is also used in many applications for internal mechanical parts including air ducts, wire guides, and splash shields. ITW Formex offers the following capabilities:

- Non-hygroscopic – <0.06% moisture absorption;
- UL 94 V-0 Flame Class rating;
- Chemical resistance – maintains mechanical and electrical properties;
- Dielectric breakdown strength – 24,820 V@0.017 in. (0.43 mm);
- Will not crack or split if scored or folded.

Converting ITW Formex

ITW Formex is available in rolls, sheets, and panels. There are numerous ways for Fabrico to work with ITW Formex on any application.

Fabrico meets custom size and shape requirements, cuts intricate patterns to tight tolerances, and laminates the material. ITW Formex can be cut to very tight tolerances of +/- 0.005 inches. ITW Formex is available in extruded sheets, up to 0.125 in. thick (3.18 mm).

Fabrico can provide heat forming capabilities for ITW Formex to bend and shape parts for specific applications.

Fabrico Headquarters

4175 Royal Drive, Suite 800, Kennesaw, GA 30144
Phone: 678-202-2700 | **Fax**: 678-202-2702
Toll Free: 800-351-8273 | **E-mail**: info@fabrico.com

FABRICO™
A DIVISION OF EIS

www.fabrico.com