

**TW Formex®**

**SCORE IT  
FOLD IT  
BEND IT**



**DEPEND ON IT!**



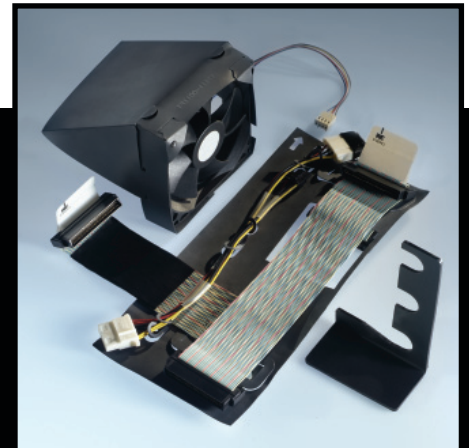
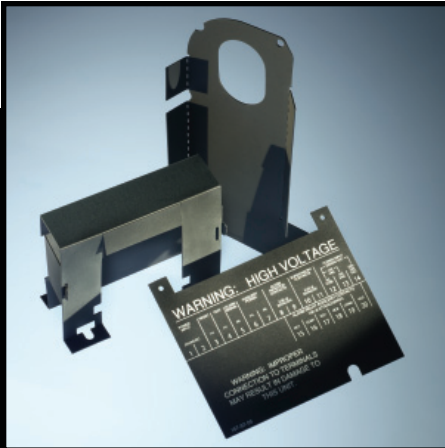
Flame Retardant Electrical Insulation and Barrier Materials

# Formex™ Flame Retardant Electrical Insulation Materials

- Score and Fold to Fabricate Economical 3-Dimensional Parts
- Fold Repeatedly Without Cracking or Splitting
- High Dielectric Breakdown Strength
- UL 94 V-0 Flame Class; RoHS Compliant
- Non-hygroscopic; Superior Chemical Resistance

ITW Formex® flame retardant materials provide superior electrical insulation in industrial and consumer electronic equipment. The material is available in rolls, sheets and panels and can be easily fabricated into a wide range of shapes.

No other flame retardant, electrical insulating material can match the flexibility and performance of Formex™ for cost-effective fabricated parts. Formex™ has successfully replaced a variety of electrical papers, thermoplastic materials, and injected molded parts.



## INSULATION

Outstanding dielectric strength properties.

Patented materials are easily fabricated to provide low-cost solutions.

Statex™ grade available for static sensitive applications.

May be used as a substrate with metal lamination for EMI/RFI shielding.

## BARRIER

Formex™ materials offer superior protection due to high dielectric strength, physical strength and flexibility.

Supplied in rolls or sheets that can be printed and will accept adhesives.

Formex's unique material properties meet global standards for flame retardancy and provide superior chemical resistance.

## FUNCTIONAL PARTS

Formex™ materials provide new and unique options for the design and construction of low-cost internal mechanical components.

Fabricated internal parts, such as air flow baffles and wire harness organizers, are commonly used as cost-effective replacements for plastic injection molded or sheet metal components.

## Formex™ GK

Extruded Sheets – 0.005 to 0.062 in. thick (0.127 to 1.57mm).  
Superior dielectric strength.  
Continuous use temperature to 115°C.

## Formex™

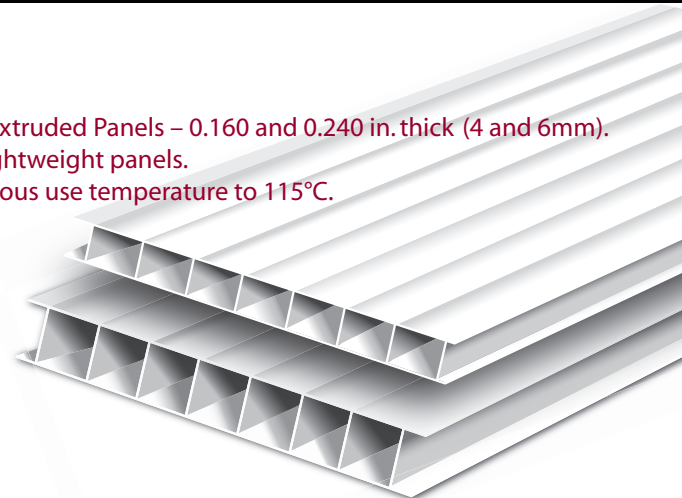
Extruded Sheets – up to 0.125 in. thick (3.18mm).  
Continuous use temperature to 110°C.

## Statex™

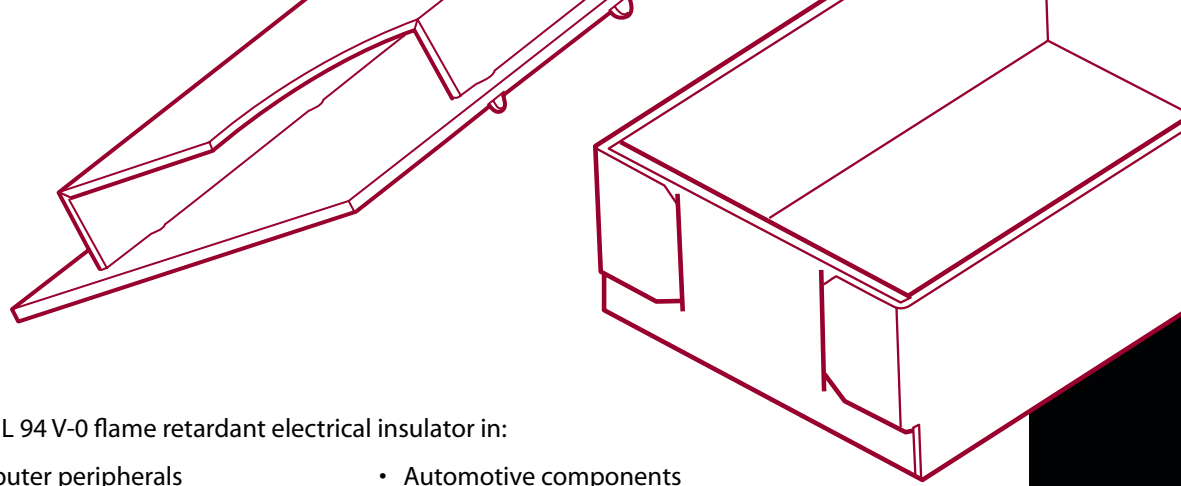
Extruded Sheets – 0.010 to 0.031 in. thick (0.25 to 0.79mm).  
Static dissipative ESD protection.  
Continuous use temperature to 110°C.

## PEP

Profile Extruded Panels – 0.160 and 0.240 in. thick (4 and 6mm).  
Rigid, lightweight panels.  
Continuous use temperature to 115°C.



Note: Above sizes are standard; custom sizes also available.



## Markets

ITW Formex® is a cost-effective UL 94 V-0 flame retardant electrical insulator in:

- Computers and computer peripherals
- Conventional and uninterruptible power supplies
- Electrical and power distribution systems
- Telecommunications equipment
- Medical equipment
- Automotive components
- Consumer products
- Lighting
- TVs and appliances

## Processing Methods

**Die Cutting** Including steel rule, engraved, rotary and male/female dies.

**Laser or Water Jet Cutting** Advancements in technology provide rapid prototyping as well as high-speed production.

**Heat Forming** Low-cost tooling and a simple process combine to produce parts with permanently formed angles.

**Thermoforming** Produces complex, rigid, three-dimensional shapes.

**Machining** Materials are easily fabricated with conventional machining techniques.



## Additional Processing

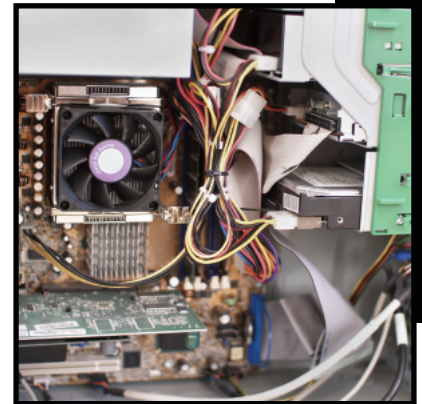
**Marking** Materials may be embossed or printed to display product identification, part numbers, safety messages or technical information.

**Lamination** Laminating with aluminum or copper foil provides EMI/RFI shielding.

**Adhesives** Formex® readily accepts adhesives for various applications.

**Welding** Formex® can be bonded to itself using conventional plastic welding techniques.

**Joinery Methods** Parts can be easily designed to incorporate a number of joining and fastening methods, often eliminating external fasteners.



## Features and Benefits



**UL 94 V-0 Flame Class Rating**  
Meets global safety standards



**Non-Hygroscopic**  
< 0.06% moisture absorption



**Chemical Resistance**  
Maintains mechanical/electrical properties



**Superior Dielectric Breakdown Strength**  
24,820V @ 0.017 in. (0.43mm)



**Excellent Score and Fold**  
Parts will not crack or split and ship flat to save freight costs



**Cost Effective**  
Lower overall part cost with thinner materials



**Static Dissipative**  
10<sup>9</sup> to 10<sup>11</sup> Ohms per sq. surface resistivity  
Static decay < 2 sec.

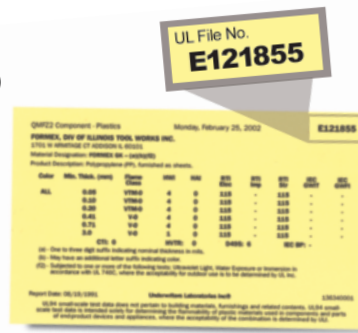
# Global Standards

## Environmental

- RoHS - Restriction of Hazardous Substances Directive (EU)

## Compliance

North America	Asia	Europe
<ul style="list-style-type: none"> <li>• UL</li> <li>• CSA</li> </ul>	<ul style="list-style-type: none"> <li>• METI</li> </ul>	<ul style="list-style-type: none"> <li>• IEC</li> <li>• VDE</li> <li>• TUV</li> <li>• BSR</li> </ul>

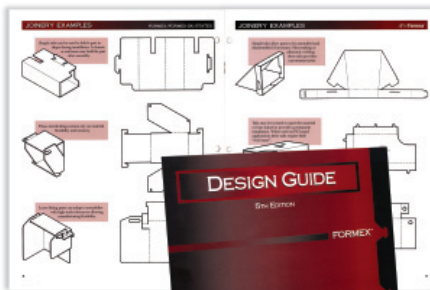


## About ITW ( Illinois Tool Works )

ITW Corporation is a Fortune 200 Company with headquarters in Glenview, Illinois and more than 750 independent operating divisions in over 50 countries. ITW is an innovative company with many patented inventions including the common self-locking plastic buckle, six-pack securement rings, zipper bag technology and many others. Formex™ Insulation Material was developed by the ITW Technology Center in 1985. Headquartered near Chicago, ITW Formex® provides technical and sales assistance, distribution, and production globally from multiple locations in the United States and Asia.



## Technical Literature



16-page Design Guide



6-page Product Data Brochure

CONTACT US FOR FREE PRODUCT SAMPLES

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