

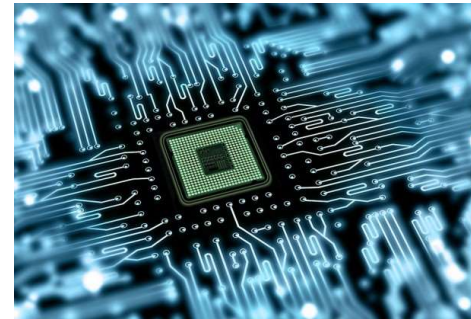


# Formex in Industrial Power & Power Distribution

# Formex Protects Designs and People

## Functional Solutions

- Dielectric insulation
- Flame retardance – UL 94 V-0
- Temperature tolerance – RTI up to 130°C
- Water proofing – H<sub>2</sub>O absorption as low as 0.06%
- Chemical resistance
- UV proofing – UL f1 listing
- Static dissipative ESD protection
- Surface contamination resistance - CTI 0 (600V)



## Structural Solutions

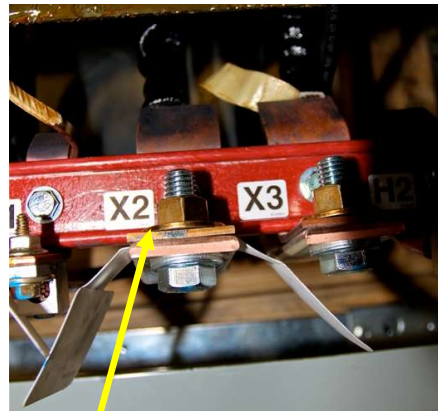
- Structural design – 3D score & fold, thermal forming, heat bending
- Light weight – 1.035 gm/cc



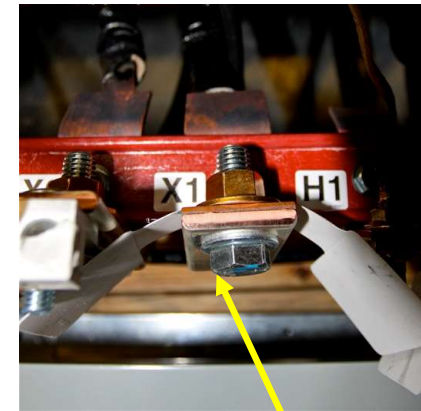
# Application Example – Industrial Power/Power Distribution



Position of Formex in busbar application



Position of Formex between lug & lug pad as barrier on IFS Transformer-based sections



Position of Formex behind lug pad as barrier on IFS Transformer-based sections

# Formex – Superior Performance Rating

Component - Plastics

E121855

Guide Information

View IEC and ISO Test Methods

## FORMEX, DIV OF ILLINOIS TOOL WORKS INC

425 N Gary Ave, Carol Stream IL 60188

### FORMEX GK-(a)(b)(f1)

Polypropylene (PP), furnished as sheets

<u>Color</u>	<u>Min. Thk</u> <u>(mm)</u>	<u>Flame</u> <u>Class</u>	<u>HWI</u>	<u>HAI</u>	<u>RTI</u> <u>Elec</u>	<u>RTI</u> <u>Imp</u>	<u>RTI</u> <u>Str</u>
BK	0.20	VTM-0	0	0	115	-	115
	0.37	V-0	0	0	115	-	115
	0.71	V-0	0	0	115	-	115
	3.0	V-0	0	0	115	-	115

Comparative Tracking Index (CTI): 0

Inclined Plane Tracking (IPT) kV: 1.5

Dielectric Strength (kV/mm): 42

Volume Resistivity (10<sup>x</sup> ohm-cm): 15

High-Voltage Arc Tracking Rate (HVTR): 0

High Volt, Low Current Arc Resis (D495): 6

Dimensional Stability (%): 0

(a) - One to three digit suffix indicating nominal thickness in mils.

(b) - May have additional suffix letter(s) indicating color.

(f1) - Suitable for outdoor use with respect to exposure to Ultraviolet Light, Water Exposure and Immersion in accordance with UL 746C.

NOTE - HVTR, CTI and D495 are not dependent on thickness

ANSI/UL 94 small-scale test data does not pertain to building materials, furnishings and related contents. ANSI/UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in the components and parts of end-product devices and appliances, where the acceptability of the combination is determined by UL.

Report Date: 1991-08-19

Last Revised: 2018-07-10

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**ITW Formex®**

# Formex Portfolio

	GK-5BK	GK-10	GK-17	GK-30	GK-40	GK-62	N3-8	N3-10	GL 10	GL 17
Thickness	0.127	0.25	0.43	0.76	1.02	1.57	0.2	0.25	0.25	0.43
Color	Black	Black/white	Black/white	Black/white	Black/white	Black/white	Black/white	Black/white	Black/white	Black/white
Material	PP	PP	PP	PP	PP	PP	Multi player PC	Multi player PC	PP	PP
<b>Physical properties</b>										
water absorption	0.06	0.06	0.06	0.06	0.06	0.06	0.24	0.24	0.06	0.06
RTI (Relative Thermal Index)	115°C	115°C	115°C	115°C	115°C	115°C	130°C	130°C	125°C	125°C
<b>Electrical properties</b>										
UL file	E121855	E121855	E121855	E121855	E121855	E121855	E121855	E121855	E121855	E121855
Flammability	VTM-0	VTM-0	V-0	V-0	V-0	V-0	VTM-0	VTM-0	VTM-0	V-0
Halogen	RoHS	RoHS	RoHS	RoHS	RoHS	RoHS	RoHS/Hal-free	RoHS/Hal-free	RoHS	RoHS

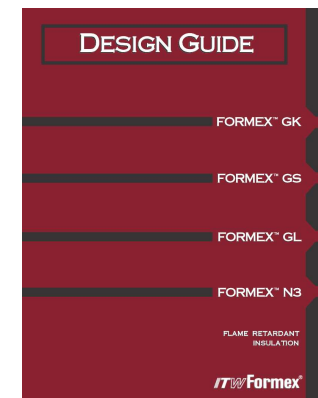
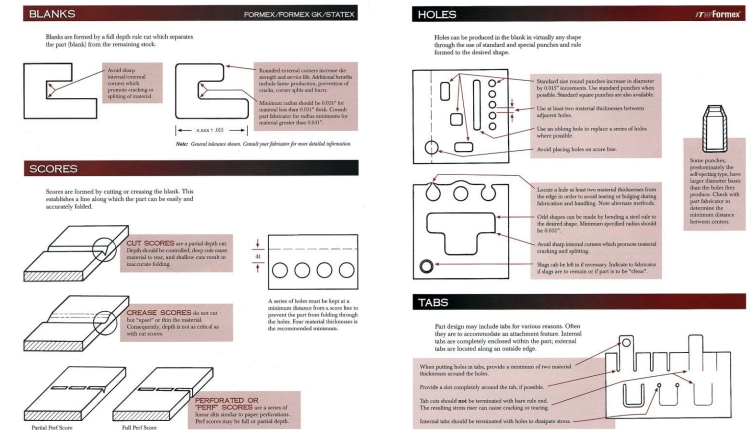
# Formex Fabrication Methods

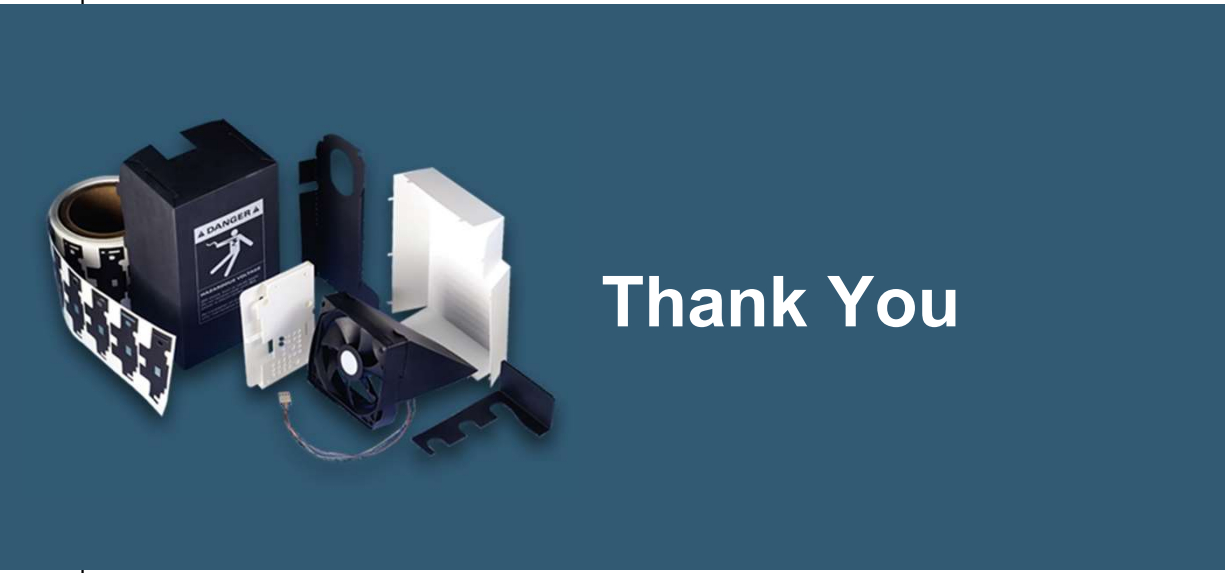
## METHODS FOR PROCESSING FORMEX ELECTRICAL INSULATION

- **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 shielding and RFI shielding.
- **Adhesives** – Formex™ readily accepts adhesives for various applications.
- **Welding** – Formex™ can be bonded to itself using conventional welding techniques.
- **Joinery Methods** – Parts can be easily designed to incorporate a number of joining and fastening methods, often eliminating external fasteners.





Thank You