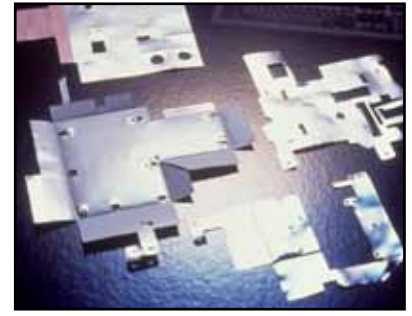


Parker Chomerics Engineered Laminates

Laminated Products Capabilities

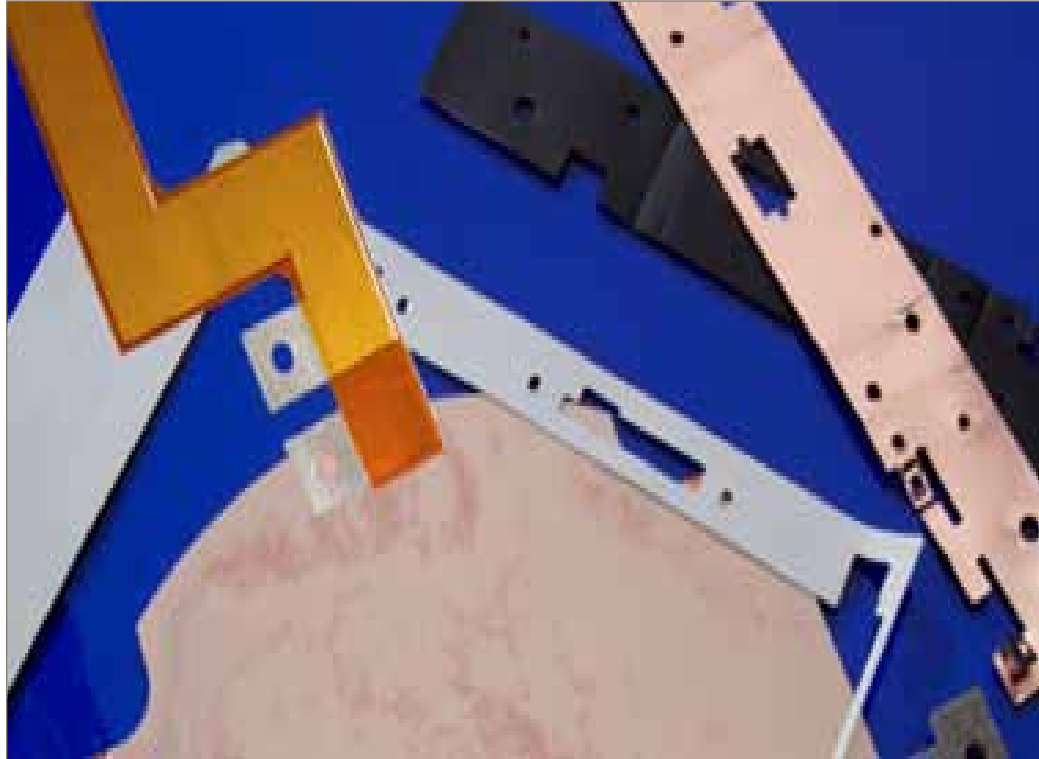


Customer Value Proposition:

Parker Chomerics custom laminates are a compilation of electrically conductive materials integrated with dielectric insulators to provide EMI/ESD shielding, ground paths and electrical isolation. These products are used in numerous applications in a variety of market places (medical, automotive, commercial electronics, etc). Expert engineering and innovative solutions support our ability to manufacture custom laminates that are cost effective and user friendly.

Parker Chomerics offers numerous conductive layer options which include Aluminum, plated fabrics and tinned copper. Dielectric layers range from high temperature Kapton and Mylar to Formex-GK. Laminates may be installed using mechanical fastening or pressure sensitive adhesives. Integrated conductors with insulators may be attached using pressure sensitive adhesives (PSA) to achieve application needs.

Take the engineered laminate solution one step further and add a thermal pad for thermal management or use conductive foam to take up a tolerance gap. Additional materials available upon request. Contact applications engineering for additional information



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Product Features:

- Economical
- Lightweight and thin
- Fully customizable
- Vibration dampening
- Bleach resistant
- UL 94V-0 available
- RoHS compliant
- Green versions available
- Easy and quick to implement for production
- Silk screening
- High temperature resistance

Typical Applications:

- EMI shielding
- Electrical isolation in thin areas
- Grounding
- Electrically insulating for power supplies
- Isolation/insulation
- Shadow Shielding
- Vibration reduction
- Thermal Isolation

Product Information

Table 1 - Conductors - Typical Properties

Material	Thickness Inches	Thickness mm	Cost Driver*	Continuous Use Temp °F (°C)	Flame Resistance (UL 94V-0)	Electrical Resistance	Notes
Conductive layer							
Nickel-Plated-Copper Polyester Tafetta	.005	0.127	\$	275 (135)	No	< 0.080 ohm/sq	Very good grounding and shielding, fabric-like characteristics
Aluminum	.002-.003 .005-.010	.051, .076, .127, .254	\$	500 (260)	Yes	< .010 ohms/sq	Very Good grounding and shielding High temperature
Copper	0.0014, .0028, .007, .0196	.036, .071, .178, .498	\$\$	500 (260)	Yes	< .005 ohms/sq	Excellent grounding and shielding.
Nickel-Plated-Silver Nylon Tafetta	.005	0.127	\$\$	275 (135)	No	< 0.100 ohm/sq	Very good grounding and shielding, fabric-like characteristics More durable than polyester
Nickel-Plated-Silver Nylon Rip-Stop	.004	0.157	\$\$	275 (135)	No	< 0.100 ohm/sq	Very good grounding and shielding, fabric-like characteristics, more durable than polyester
Tin-Plated Copper	.0016, .003, .0072	.041, .076, .183	\$\$\$	500 (260)	Yes	< .005 ohms/sq	Excellent grounding and shielding, enhanced corrosion resistance

* \$ being less, \$\$\$\$ being more

Table 2 - Insulators - Typical Properties

Material	Thickness Inches	Thickness mm	Cost Driver*	Continuous Use Temp °F (°C)	Dielectric Strength	Flame Resistance (UL 94V-0)	Notes
Non-Conductive / Dielectric Layer							
Mylar	.002, .005	.051, .127	\$	300 (149)	7.7, 13.5 kV	TBD	Typically used as release-liner
PVC	.003, .006	.076, .152	\$\$	194 (90)	Med	TBD	Good dielectric properties
Polypropylene (Formex)	.005, .010, .017"	.127, .254, .432	\$\$\$	239 (115)	13.1,22,24.8 kV	TBD	Good dielectric properties, good temperature resistance
Kapton	.001, .003	.0254, .076	\$\$\$\$	400 (204)	High	TBD	Excellent dielectric properties, excellent temperature resistance

* \$ being less, \$\$\$\$ being more

Product Information

Table 3 - Adhesives - Typical Properties

Material	Thickness Inches	Thickness mm	Cost Driver*	Continuous Use Temp °F (°C)	Flame Resistance (UL 94V-0)	Electrical Resistance	Adhesive Strength	Notes
Adhesives								
Acrylic	.001-.005	.0254-.127	\$	300 (149)	TBD	-	High	Economical Excellent adhesion to plastics, durable
Silicone	.005	0.127	\$\$	500 (260)	TBD	-	Low	
Conductive Acrylic	.0015	0.038	\$\$	250 (121)	TBD	< .010 ohms/sq	Med	
FR Conductive Acrylic	.002	0.051	\$\$\$\$	250 (121)	TBD	< .020 ohms/sq	Low	

* \$ being less, \$\$\$\$ being more

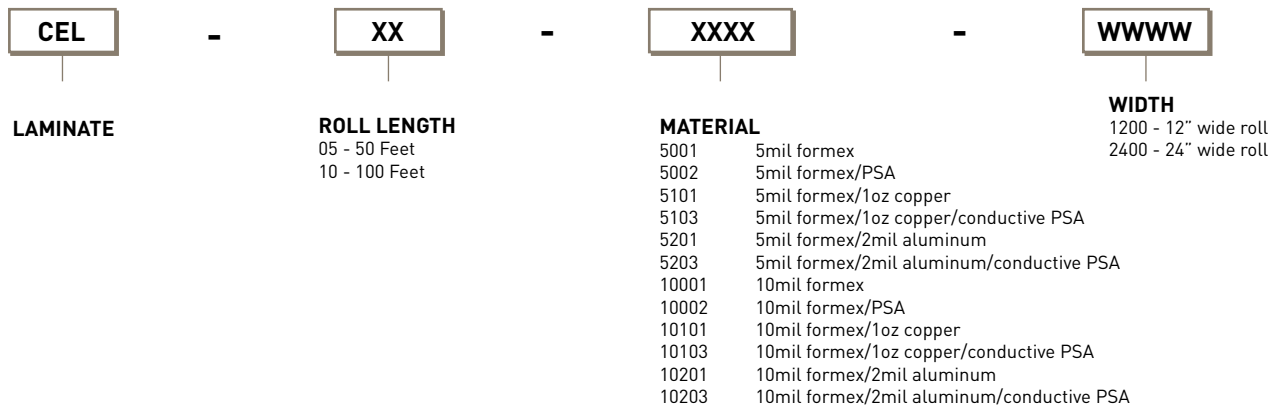
Table 4 - Value Added - - Typical Properties

Material	Thickness Inches	Thickness mm	Cost Driver*	Continuous Use Temp °F (°C)	Flame Resistance (UL 94V-0)	Electrical Resistnace	Notes
Added Value Components							
SOFT-SHIELD® 4850	.039,.059,.078, .118,.157,.197	1, 1.5, 2, 3, 4, 5mm	\$	158 (70)	Yes	< .010 ohms/sq	Z-axis electrically conductive, EMI shielding foam
SOFT-SHIELD® 3500, 5000 & 4000	See** Data Sheets		\$	158 (70)	Yes	< .010 ohms/sq	EMI shielding fabric-over foam gaskets
Neoprene Sponge	.062 - .125	1.575 - 3.175	\$	158 (70)	No	-	Non-conductive foam
Poron Foam	.020 - .276	0.5mm - 7.0mm	\$	158 (70)	No	-	Non-conductive foam
Silicone Sponge	.062 - .125	1.575 - 3.175	\$\$	400 (204)	Yes	-	Non-conductive foam, high temperature performance
CHO-SEAL® Elastomers	See ** Data Sheet	--	\$\$\$	Material Specific	Material Specific	Material Specific	Electrically conductive, EMI shielding elastomers
Thermal Interface Materials	See Thermal ** Selector Guide	--	\$\$\$	Material Specific	Material Specific	Material Specific	Various products to choose from

* \$ being less, \$\$\$\$ being more

** Visit www.chomerics.com

Part Numbering System:



www.chomerics.com

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ENGINEERING YOUR SUCCESS.