

# EMI/RFI-SHIELDING LAMINATES



ORION specializes in designing unique laminated shields and applying selective die cutting techniques for cost effective solutions to a variety of shielding problems. With our extensive product development and manufacturing expertise we have developed a complete range of foil laminates.

## Advantages of Laminates

- Lower cost than spray shielding
- Effective
- Recyclability
- Lower tooling cost
- Insulating capabilities
- Scratch resistant

## ORION's EM series of laminates are UL listed.

Reference:

- EM-X300 Series
- EM-X700 Series

ORION holds two patents for EMI shielding designs.

## Common materials include:



### ADHESIVES & FOILS

Adhesive	Thk.	Material	Standard Width
Acrylic	0.001"	Copper	0.0014 - 0.008"
	0.002"	Tin Plated Copper	0.0014 - 0.008"
	0.005"	Aluminum	0.002 - 0.015"
Rubber	0.0034"	Stainless Steel	0.002 - 0.015"

### INSULATING SUBSTRATES

Material	Trade Name	Thickness	UL-Flame Rating	Max. Width
Polyester	Mylar®	0.001 - 0.014"	94VTM-2	72"
Polycarbonate	Lexan®	0.005 - 0.062"	94V-2 to 94V-0	48"
Polypropylene	Formex®/Statex®	0.010 - 0.062"	94VTM-0 to 94V-0	24"
Polyvinylchloride		0.010 - 0.040"	94HB to 94V-0	54"
Polyamide	Nomex®	0.005 - 0.030"	94V-0	36"
PBTP	Valox®	0.003 - 0.030"	94VTM-0 to 94V-0	48"
Polyimide	Kapton®	0.001 - 0.005"	94V - 0	36"

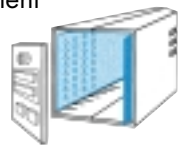
## PCB-Shields



A copper foil/polyester laminate was selectively die cut removing the copper foil from all edges of the piece. The laminate was then successfully inserted as a shield between two printed circuit boards. This prevented any interference between the boards.

## Instrument Housing Shields

ORION developed a fold-up and drop in place shield to be used for instrument housings. Innovative die cutting techniques are used to expose multiple grounding points.



## Laminated Shield

This laminated shield folds up to form an enclosed box for video monitor applications.



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