ELECTROMAGNETIC SHIELDING

KGS metallised fabrics for EMI/RFI shielding

In order to protect the environment and/or electronic devices from electromagnetic or radio-frequency interference, KGS has developed a specialized range of metallised textile products.
The nickel plated products are based on a wide variety of fabrics.

Here is a non-exhaustive list:

- Monofilament polyester
- Multifilament polyester
- Non-woven fabrics
- Jersey
- and - as an exception to the synthetic fibre range
  - copper wire mesh
- Other fabrics like tulle, glass fibre mat, steel mesh, etc, can be metallized to order

KGS metallised fabrics for EMI/RFI shielding offer the following features:

- Excellent shielding performance
- Low specific weight
- Mechanical flexibility
- Permeability to air
- Transparency to visible light (depending upon the type)
- Conformability and ease to assembly: Metallised fabrics can be cut like plain textiles, applied on walls like wallpaper, assembled with a small glued or stitched overlap, be painted or covered with usual floor or wall coverings.
- Moderate installed cost due to this easy handling
- Durability and resistance to corrosion

Typical Applications of KGS Metallised Fabrics in the EMI/RFI Field

Shielding
- Shielded rooms and shelters
- Mine sweepers
- Shielded windows
- Shielded electronic devices
- Cable wrappings
- Protective clothing

Reflectors
- Antennes
- Target systems and decoys
- Life boats
- Life jackets
- Passive reflectors



KGS Metallised Fabrics for Electromagnetic Shielding - The Range

General Data											
Type	PMO	PMO	PMO	PMO	PMO	PMU	PMX	PNW	MCU	PJ	KMU
	100	200	300	400	500	100	225	145	101	100	100
Substrate											
Polyester Monofilament	■	■	■	■	■		■				
Copper Wire									■		
Polyester Multifilament						■		■		■	
Aramide Multifilament											■
Weaving Style											
Taffeta	■	■	■	■		■	■		■		■
Twill Weave					■						
Non Woven								■			
Jersey										■	
Total Weight											
g/m² min.	90	85	80	55	85	125	60	75	295	175	145
g/m² max.	105	100	90	65	100	135	70	100	315	210	155
Thickness											
µm	200	160	102	54	70	190	140	250	150	560	190
Open Area											
%	45	45	31	29	12	0	55	0	59	0	0

Technical Data											
Type	PMO	PMO	PMO	PMO	PMO	PMU	PMX	PNW	MCU	PJ	KMU
	100	200	300	400	500	100	225	145	101	100	100
Short Term Temperature Resistance											
°C	210	210	210	210	210	210	210	210	>700	210	>350
Flammability											
Flammable	■	■	■	■	■	■	■	■		■	
Burns with Difficulty											■
Not Combustible									■		
Surface Resistivity											
Ohm/square min.	0.12	0.11	0.08	0.06	0.04	0.09	0.08	0.10	0.09	1	0.05
Ohm/square max.	0.16	.015	0.12	0.10	0.08	0.13	0.11	0.30	0.13	3.5	0.10
Tolerated Power Density, 12GHz, 10 min											
W/cm²	6	12	30	30	30	3	3		50	3	60
Shielding Level, E-Field, dB											
100kHz	60	67	65	65	65				90	45	63
10MHz	60	67		65		62			90	45	
100MHz	60	67	68	65	72	62		62	80	45	63
400MHz							66	78			
600MHz							62	80			
1GHz	57	65	70	70	80	65	59		60	42	70
10GHz	45	55	60	70	90	75	42			30	65
26GHz	35	50	55	65	90	56				25	60
Shielding Level, H-Field, dB											
10kHz									20		
100kHz									40		
1MHz									90		

These data are for reference and guidance only, are subject to change and do not constitute a warranty of fitness for a particular purpose. All indications are made to the best of our knowledge, yet without guarantee.