ARTPOL ESD Packaging Solutions	**Shielding Bag ESD Metal In**	Edition 2
	Technical Data sheet	Date of description 28.02.2022

Application: *Shielding bags ESD are designed to protect and transport sensitive to static electricity discharge electronic devices and components . Shielding bags ESD are produced according with norms IEC61340-5-1; IEC 61340-5-3 and directive RoHS. Also with norm IEC 61340-4-8 / Tests Method.*

General properties

Properties	Parameters
Material	Amine Free Shielding laminate ESD , Silica Free
Foil Color	Silver
Overprint	Information sign ESD + Lot Number (Mfg Date) + Individual Customer LOGO – **if required** / Color print: Black
Test methods	61340-2-3 for resistance values ; 61340-4-8 for shielding properties / energy
Bag Size	As the Customer Requirements / Custom sizes are possible
Additional possible applications	LAP, Zip Lock, adhesive tape, security tape
Item Number	As the Customer Requirements
Quantity of welds	2 side seals bag or 3 seals for bags longer than 610mm
According with norms	IEC 61340-5-1; IEC 61340-5-3
According with directive RoHS	SGS raport nr. TR568607
The period of validity* **	2 years***

Physico chemical properties*

Properties	Test Methods	Unit	Typical value
Thickness	MB/MW/03 PN-ISO 4593	µm	76 ±8%
Size tolerance	PN-ISO 4593	mm	±5
Surface resistance inside	IEC 61340-2-3	Ω	$< 1 \times 10^{11}$
Surface resistance outside	IEC 61340-2-3	Ω	$< 1 \times 10^{11}$
Shielding properties	IEC 61340-4-8	nJ	< 10nJ
Adhesion strength PET/PP	MB/MW/15 ASTM D 882	N/mm^2	2,0
Sealing strength	MB/MW/07	N/15mm	18
Coefficient of friction	MB/MW/08 ASTM D 1894	-----	0,30
Oxygen transmission**	ASTM D-3985	Cm^3/m^2 24h bar	96,6
Water vapour transmission**	ASTM F-1249	g/m^2 24h	7,8

Properties were studies on sample shielding material ESD; ** Theoretical calculations;* validity is typical for the type material and depend about place, environment conditions, using methods.*

Static Shielding properties of the shielding-bag

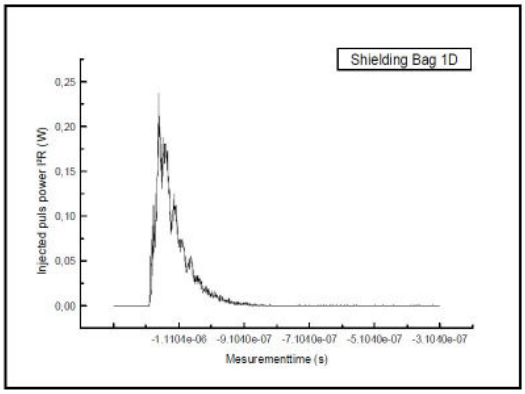

Image 3: Begin of the roll with an injection energy of **3.8 nJ**

Limits

Electrostatic shielding HBM puls outside 1 kV, E = 50 µJ, inside of the bag
E</= 10 nJ.

***	Name	Position	Signature	Date
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