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Statshield® Transparent Metal Out ESD Shielding Bags



Charleswater ESD Bags meet EN 61340 5-1 requirements: 1. "Low charging packaging exhibiting properties which minimise any charge generation" [paragraph 3.18.1]. 2. "Electrostatic discharge shielding barrier or enclosure that limits the passage of current and attenuates the energy resulting from an electrostatic discharge such that the maximum energy from 1 000 V human body model discharge is less than or equal to 50 nJ" [paragraph 3.18.2.]. 3. Identified with ESD packaging symbol, manufacturer, and batch identification number [paragraph 4.1.2].

Features:

- **Aluminum metal outer layer of laminated film.**
Metal out required by many end users. Meets requirements of MIL-PRF-81705D, Type III
- **40% light transmission.**
Allows for easy identification of bag contents.
- **Integral antistatic, low tribocharging properties.**
Bag contents will not electrostatically charge during movement.
- **Integral static dissipative properties.**
Not topically treated, not humidity dependent, won
- **Manufactured on specially designed soft fold converting machines.**
Prevents scratches and creases maintaining the integrity of Faraday Cage shielding protection.
- **Large 9.5mm wide seals - high performance interior sealing layer.**
Greater sealing surface provides greater seal strength compared to comparable products with 3.2mm wide seals; higher quality, more durable.
- **Marked in accordance with IEC 61340-5-1, paragraph 4.1.2.**
ESD packaging symbol communicates that contents are susceptible to damage from an ESD event if not properly handled.
- **Batch coded.**
Quality control traceability.
- **Polycarbonate compatible containing no amines or N- octanoic acid.**
Non-corrosive, will not contaminate parts.
- **Testable to industry standards.**
Meets or exceeds one or more of the following standards: electrical and physical requirements of IEC 61340-5-1, ANSI/ESD S20.20, Mil-PRF-81705D, EIA 541, EIA-625, MIL-HDBK-263, MIL-STD-1686, and EIA-583.
- **Optional antistatic zipper.**
Convenient recloseable seal; reusable.

- **Designed to meet the requirements of IEC 61340-5-1**
- **Sold 100 bags per package in an ESD barrier bag.**

P/N	Description
90300	75mm x 125mm, Open Bag
90302	100mm x 150mm, Open Bag
90304	100mm x 760mm, Open Bag
90306	125mm x 200mm, Open Bag
90308	150mm x 255mm, Open Bag
90310	150mm x 760mm, Open Bag
90312	200mm x 255mm, Open Bag
90314	200mm x 305mm, Open Bag
90316	255mm x 305mm, Open Bag
90318	255mm x 355mm, Open Bag
90320	255mm x 610mm, Open Bag
90322	280mm x 380mm, Open Bag
90324	305mm x 405mm, Open Bag
90326	305mm x 455mm, Open Bag
90328	380mm x 455mm, Open Bag
90330	455mm x 455mm, Open Bag
90332	455mm x 610mm, Open Bag
90400	75mm x 125mm, Resealable Bag
90402	100mm x 150mm, Resealable Bag
90404	100mm x 760mm, Resealable Bag
90406	125mm x 200mm, Resealable Bag
90408	150mm x 255mm, Resealable Bag
90410	150mm x 760mm, Resealable Bag
90412	200mm x 255mm, Resealable Bag
90414	200mm x 305mm, Resealable Bag
90416	255mm x 305mm, Resealable Bag
90418	255mm x 355mm, Resealable Bag
90420	255mm x 610mm, Resealable Bag
90422	280mm x 380mm, Resealable Bag
90424	305mm x 405mm, Resealable Bag
90426	305mm x 455mm, Resealable Bag

90428	380mm x 455mm, Resealable Bag
90430	455mm x 455mm, Resealable Bag
90432	455mm x 610mm, Resealable Bag

Drawings/Technical Bulletins: [90300.E](#) [90400.E](#)

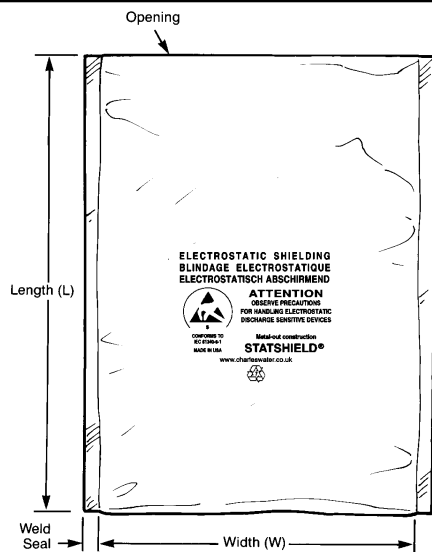
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tel: 01892 665313 fax: 01892 668838 email: service@charleswater.co.uk

STATSHIELD® M/O SERIES



Side Weld Seals 3/8 in.

See reverse side for available sizes.

A fundamental ESD control principle (see IEC 61340-5):

ESD susceptible items should be transported and stored outside an Electrostatic protected Area enclosed in low charging, static shielding protective packaging.

The bag's material meets the performance specification requirements of Mil-PRF-81705D Type III. Bag is free of amines, N-octanoic acid, and heavy metals. Statshield®, Statfree®, and Faraday® are Registered Trademarks of Desco Industries Inc.

Specifications:

Electrical Properties

Electrical Properties	Typical Values
Surface Resistance:	
Outer Surface	<10 ⁸ ohms
Aluminum Layer	<10 ² ohms
Inner Surface	<10 ¹² ohms
Static Shielding	<20 nJ
Charge Generation (nC/in ²)	Teflon: -0.03 Quartz: +0.10
Capacitance Probe (to dissipate 1 KV)	<30V

Physical Properties:

Physical Properties:	Typical Values	Test Procedures/Method
Bag Thickness:		
Polyester Layer	0.5 Mils Static Dissipative PET film	ASTM D-2103
Aluminum Layer	10-25 Angstroms	ASTM D-2103
Polyethylene Layer	2.5 Mils Static Dissipative PE film	ASTM D-2103
Total Thickness	3.0 to 3.1 Mils	ASTM D-1003
Light Transmission (%)	40% (Tobias)	MIL-PRF-81705D
Seam Strength	Pass	ASTM D-1004
Tear Strength (lbs)	>25	ASTM D-2065
Puncture Resistance (lbs)	>10	ASTM F-1249
MVTR (gms / 100 in ² / 24 hrs, 100°F)	0.40	FTMS 101C, 2065.1
Burst Strength (psi)	>50 psi	375°F, 1/2 sec 60 psi
Heat Seal	>10 lbs/in.	Sutherland Abr. (.0000 Steel Wool)
Abrasion Resistance	>30 cycles	ASTM E595
Outgassing	Pass	

Chemical Properties

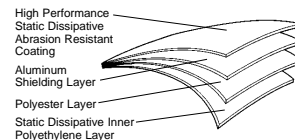
Corrosion	No effect on aluminum, copper, silver, Sn-Pb coated foil, stainless steel, low carbon steel
Polycarbonate Capability, No Amines N-Octanoic Acid	Yes Not present



Mixed Unsortable Plastic Scrap

Mixed unsortable plastic scrap shall contain assorted plastics of multiple grades that are co-extruded, bonded or laminated together which are unsortable into individual grades.

Charleswater Europe's bags are recyclable



CHARLESWATER

Statshield™ Bag, Shielding, Metal Out Construction

CHARLESWATER LTD.
UNIT 17. MILLBROOK BUSINESS PARK, SYBRON WAY
CROWBOROUGH, EAST SUSSEX TN6 3JZ UNITED KINGDOM
PHONE: 00 44 (0) 1892-665313, FAX: 00 44 (0) 1892-668838
INTERNET: www.charleswater.co.uk

Drawing Number
90300.E

DATE:
1/03

Metal Out Bag Sizes W x L (mm)

Item #	Size	Item #	Size	Item #	Size	Item #	Size
90300	75 x 125	90310	150 x 760	90320	255 x 610	90330	455 x 455
90302	100 x 150	90312	200 x 255	90322	280 x 380	90332	455 x 610
90304	100 x 760	90314	200 x 305	90324	305 x 405		
90306	125 x 200	90316	255 x 305	90326	305 x 455		
90308	150 x 255	90318	255 x 355	90328	380 x 455		

Use Charleswater Europe ESD Bags to meet IEC 61340 5-1 paragraph 6 Protective Packaging states, "The primary functions of protective packaging outside the ESD Protected Area are to:

- limit tribo-electric charging;
- provide shielding against electrostatic fields and discharges.
- The packaging shall be capable of providing charge drainage to EPA ground when brought into an EPA."

Statshield® bags are packaged 100 per package in an oversized shielding bag rather than a cardboard box. Therefore, our bags are not exposed to water vapors that will degrade the metallized shielding layer. Our bags have an additional layer of barrier protection because of our packaging.

Ideally, ESD bags should be stored in a dry, well ventilated room with a reasonably consistent temperature of 68°F (20°C) and be protected from exposure to direct sunlight. Ideally, ESD bags should not be stored in ultraviolet sunlight, moisture, or heat.

The user shall determine the suitability of the product for their intended use. Charleswater Europe's only obligation shall be to replace such quantity of the product proved to be defective. See full Limited Warranty information at www.charleswater.co.uk/warranty.htm.

Charleswater Europe ESD Bags Are Generally Reusable

The user must determine the suitability of ESD bags for particular applications and after one year from purchase date.

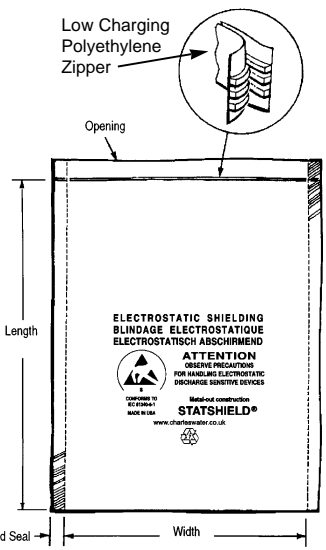
All ESD Shielding Bags that are ripped, torn, or scratched should be discarded. The Bag's protection is lost if there is an electrical path from the charge on the outside of the Bag to the inside layer and ESDS parts within. Scratching may compromise the Faraday Cage shielding protection of shielding bags so they will not perform their function of protecting stored or transported ESD susceptible devices from electrostatic charges and discharges.

From ANSI/ESD S20.20 paragraph 6.2.4.2. Packaging Guidance: "The objective of ESD protective packaging is to prevent a direct electrostatic discharge to the ESDS item

contained within and allow for dissipation of charge from the exterior surface. In addition, the packaging should minimize charging of the ESDS item in response to an external electrostatic field and triboelectrification. They may also lose static shielding properties by crumpling, puncturing and folding."

Some end users reuse a Statshield® Transparent Metal In ESD Shielding Bag up to six times and then discard.

Ideally, the user should test, auditing some percentage of the re-used ESD Bags using test procedures outlined in ANSI EOS/ESD-DS11.11 - 1993 Surface Resistivity Standard, ESD-DS11.12 - 1996 Volume Resistance Measurements of Static Dissipative Planar Materials, and Shielding Materials EOS/ESD DS11.31 -1994.



Side Weld Seals 3/8 in.
See reverse side for available sizes.

A fundamental ESD control principle (see IEC 61340-5):
ESD susceptible items should be transported and stored outside an Electrostatic protected Area enclosed in low charging, static shielding protective packaging.

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Specifications:

Electrical Properties

Surface Resistance:
Outer Surface <math><10^8</math> ohms
Aluminum Layer <math><10^2</math> ohms
Inner Surface <math><10^{12}</math> ohms
Static Shielding <math><20</math> nJ
Charge Generation (nC/in²)
Teflon: -0.03
Quartz: +0.10
Capacitance Probe (to dissipate 1 KV) <math><30V</math>

Typical Values

Test Procedures/Method

EOS/ESD S11.11
EOS/ESD S11.11
EOS/ESD S11.11
EOS/ESD S11.31
Modified Incline Plane
Modified Incline Plane
MIL-PRF-81705D, EIA 541

Physical Properties:

Bag Thickness:
Polyester Layer 0.5 Mils Static Dissipative PET film
Aluminum Layer 10-25 Angstroms
Polyethylene Layer 2.5 Mils Static Dissipative PE film
Total Thickness 3.0 to 3.1 Mils
Light Transmission (%) 40% (Tobias)
Seam Strength Pass
Tear Strength (lbs) >25
Puncture Resistance (lbs) >10
MVTR (gms / 100 in² / 24 hrs, 100°F) 0.40
Burst Strength (psi) >50 psi
Heat Seal >10 lbs/in.
Abrasion Resistance >30 cycles
Outgassing Pass

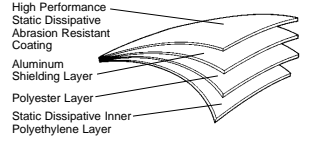
ASTM D-2103
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ASTM D-2065
ASTM F-1249
FTMS 101C, 2065.1
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Sutherland Abr. (.0000 Steel Wool)
ASTM E595

Chemical Properties

Corrosion
Polycarbonate Capability, No Amines N-Octanoic Acid

No effect on aluminum, copper, silver, Sn-Pb coated foil, stainless steel, low carbon steel
Yes
Not present

Mixed Unsortable Plastic Scrap
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90406	125 x 200	90416	255 x 305	90426	305 x 455		
90408	150 x 255	90418	255 x 355	90428	380 x 455		

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