

Side Weld Seals 3/8 in.

Proprietary film - available only from  
Desco Industries Inc.

See reverse side for available sizes.

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.

**A fundamental ESD control principle (see  
ANSI/ESD S20.20 Foreword):**

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



Made in America

**STATSHIELD® METAL-IN SERIES  
LEAD-FREE AREA ESD SHIELDING BAG**



**Specifications:**

**Electrical Properties**

Surface Resistance:

Outer Surface

Aluminum Layer

Inner Surface

Static Shielding

Charge Generation

Capacitance Probe (to dissipate 1 KV)

**Typical Values**

<10E11 ohms

<10E2 ohms

<10E11 ohms

<25 nJ

Teflon: 0.09 nC/sq. in.

Quartz: 0.01 nC/sq. in.

<30V

**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

Aluminum Layer

Polyethylene Layer

Total Thickness

Light Transmission (%)

Heat Seal (lbs/in)

Seam Strength

Tear Strength (lbs)

Puncture Resistance (lbs)

MVTR (gms / 100 in<sup>2</sup> / 24 hrs, 100°F)

OTR (cc / 100 in<sup>2</sup> / 24 hrs)

Abrasion Resistance

Outgassing

Non-corrosive

0.5 Mils Static Dissipative PET film

10-25 Angstroms

2.5 Mils Static Dissipative PE film

2.8 to 3.0 Mils

>40% (Tobias)

>10

Pass

>25

>10

<0.40

<6.1

>100 cycles

Pass

Pass

ASTM D-2103

ASTM D-2103

ASTM D-2103

ASTM D-1003

375°F, 1/2 sec 60 psi

MIL-PRF-81705D

ASTM D-1004

ASTM D-2065

FTMS 101C/2065

ASTM D-1434

Sutherland Abr. (.0000 Steel Wool)

ASTM E595

MIL-STD-3010, M3005

**Chemical Properties**

Corrosion

No effect on aluminum, copper, silver, Sn-Pb coated foil,  
stainless steel, low carbon steel

Polycarbonate Capability,

Yes

No Amines or N-Octanoic Acid

Not present

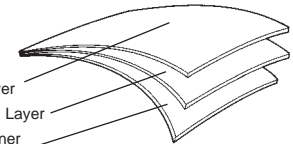


**Mixed Unsortable Plastic Scrap**

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**

Static Dissipative  
Outer Polyester Layer  
Aluminum Shielding Layer  
Static Dissipative Inner  
Polyethylene Layer



**Statshield® Bag, Shielding, Metal In Construction, Green**

CHARLESWATER LTD.  
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CROWBOROUGH, EAST SUSSEX TN6 3JZ UNITED KINGDOM  
PHONE: 00 44 (0) 1892-665313, FAX: 00 44 (0) 1892-668838  
INTERNET: Charleswater.co.uk

Drawing Number  
**90450.E**

DATE:  
**08/06**

**Metal In Bag Sizes W x L (mm)**

Item #	Size	Item #	Size	Item #	Size
90450	100 x 150	90454	200 x 305	90458	305 x 455
90451	125 x 200	90455	255 x 305	90459	380 x 455
90452	150 x 225	90456	255 x 355	90460	455 x 455
90453	200 x 255	90457	255 x 610	90461	455 x 610
Packaged 100 per package					

Special sizes and printing available upon request

**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.

**The Organization shall define ESD protective packaging for all ESD susceptible item material movement within Protected Areas, between job sites and field service operations. See ANSI/ESD S20.20 paragraph 6.2.4.1. Packaging Requirements.**

**ESD susceptible items shall be packaged in ESD protective packaging while not in a Protected Area. See ANSI/ESD S20.20 paragraph 6.2.3.1.**

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](http://www.charleswater.co.uk/warranty.htm).

**RoHS Compliance Statement**

None of the following materials are intentionally added in manufacturing this product: lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE) as outlined in the Directive 2002/95/EC Article 4.1. See Desco Industries Inc. letter on-line at [Charleswater.co.uk](http://Charleswater.co.uk)