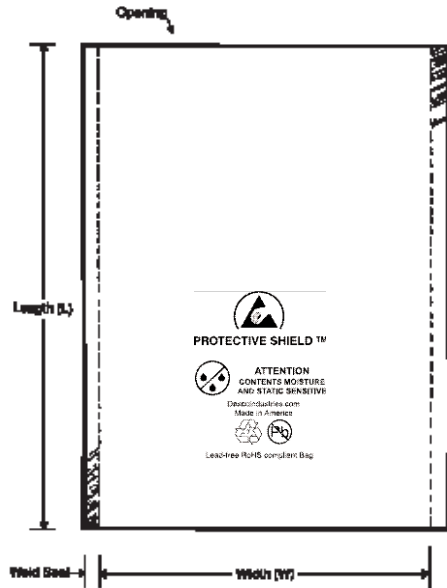




Protektive Shield™ ESD Shielding Moisture Barrier Bag



Description:

The Protektive Shield™ Moisture Barrier ESD Shielding Bag offers the best choice for packaging SMD tape and reel, quad flat pack/JEDEC trays, and component shipping tubes. They are an excellent choice for vacuum and/or nitrogen packaging applications. A solid aluminum foil middle layer and an inner high performance low charging polyethylene are used to provide both moisture protection and guard contents against triboelectric charging.

Specifications:

Electrical Properties

Electrical Properties	Typical Values
Surface Resistance (both surfaces @ 12%RH, Ω/sq)	>1 x 10E5 and <1 x 10E11
Energy Penetration	<5 nanojoules

Test Procedures/Method

ANSI/ESD STM11.11
ANSI/ESD STM11.31

Physical Properties

Physical Properties	Typical Values
Thickness, nominal (mils)	4.0-4.2
Tensile Break (MD, psi)	11,100
Tensile Break (TD, psi)	9,000
Elongation (MD, %)	130
Elongation (TD, %)	50
Elmendorf Tear (MD, grams/mil)	90
Elmendorf Tear (TD, grams/mil)	107
Puncture Resistance (lbf)	27.8
Impact Strength (ft-lbs)	>1.99
Seal Strength (lbs/1" strip)	>13.2
MVTR (gm/100 sq"/day)	<0.0003

Test Procedures/Method

ASTM D374
ASTM D882-91
ASTM D882-91
ASTM D882-91
ASTM D882-91
ASTM D1922
ASTM D1922
FTMS 101-C, Method 2065.1
ASTM D3420
ASTM F88-85
ASTM 1249

NOTE: The complete dry package concept of packaging for electronics requires three elements:

- Moisture Barrier Bag - To Protect
- DESICCANT - To Absorb Moisture
- INDICATOR - To Monitor Performance

For detailed instructions ask for Technical Bulletin TB-2031 "Application Instructions for Moisture Barrier Bags."

DESICCANT PACK INFORMATION

Desiccant packs meet MIL-D-3464. Packs meet Type I and Type II criteria for dust-free packaging. RULE-OF-THUMB - use 1/2 unit for every 45 square inches of bag area.

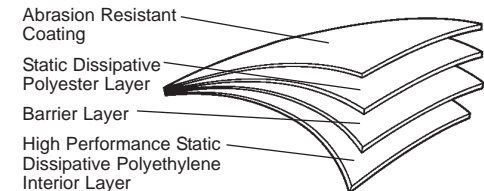
48880	1/2 unit	Pail of 550
48881	1 unit	Pail of 300

HUMIDITY MONITOR INFORMATION

48882 Humidity Monitor. Can of 100 2" x 3" blotting paper cards that indicate 10, 20, 30 and 40% relative humidity with a color comparison bar. Meets MIL-I-8835.

Heat Sealing Conditions: Temperature 375-475°F; Time-Dwell 0.56-3.5 sec; Pressure 40-80 psi

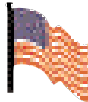
Item No.	Size (in.) W x L
48949	10 x 12
48950	10 x 20
48951	10 x 30
48952	12 x 20
48953	14 x 16
48954	16 x 18
48955	18 x 20
Packaged 100 per package	



Film complies with the electrical and physical requirements of ANSI/ESD S20.20, EIA-541, EIA-583, JEDEC JESD625-A, JEDEC J-STD-003B, and Mil-PRF-81705D Type I.

This material is used in commercial applications only.

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Made in America

PROTEKTIVE SHIELD™ ESD SHIELDING MOISTURE BARRIER BAG, 4 mil

PROTEKTIVE PAK

PROTEKTIVE PAK
13520 MONTE VISTA AVENUE, CHINO, CA 91710
PHONE (909) 627-2578, FAX (909) 363-7331
ProtektivePak.com

DRAWING NUMBER
48950

DATE:
June
2007

Per ESD S541 section 6.2 Outside an EPA "Transportation of sensitive products outside of an EPA shall require packaging that provides:

1. Low charge generation.
2. Dissipative or conductive materials for intimate contact.
3. A structure that provides electrostatic discharge shielding."

Per ESD S541 section 8.2.1 Material Identification, "ESD protective packaging shall be marked with the ESD Protective Symbol." And section 8.2.3 Traceability "Packaging should be marked with information that allows traceability to the packaging manufacturer and to the manufacturer's date/lot code information. The date/lot code should allow traceability to quality control information pertaining to the manufacture of the specific lot of packaging."

"...it is important to take possible temperature exposure into account when shipping electronic parts. It is particularly important to consider what happens to the interior of a package if the environment has high humidity. If the temperature varies across the dew point of the established interior environment of the package, condensation may occur. The interior of a package should either contain desiccant or the air should be evacuated from the package during the sealing process. The package itself should have a low WVTR." (ESD Handbook TR20.20 section 5.4.3.2.2)

"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 section 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 section 6.2.3.1.

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.

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 ProtektivePak.com.

Protektive Pak ESD Bags Are Generally Reusable

For best results, bag inventory should be continually replenished. It is recommended that standard packs of bags should be stored in its original packaging in a climate controlled environment where the temperature ranges from 45 degrees F to 70 degrees F and relative humidity is 50%. Bags should not be stored in ultraviolet sunlight, moisture, or heat because the aluminum shielding layer could oxidize if exposed to these conditions.

We have no reports of degradation of ESD control properties of bags sealed in original standard pack packaging. Protektive Pak's Limited Warranty expressly warrants that for a period of one (1) year from the date of purchase, Protektive Pak products will be free of defects in material (parts) and workmanship (labor).

Before using and after one year from purchase date, users shall determine the suitability of the Statshield ESD Bags for their intended use. Users assume all risk and liability whatsoever in connection therewith. Mishandling or improper storage may render an ESD Bag unusable to perform its function. ESD Bags that are ripped, torn, or scratched should be discarded.

From ANSI/ESD S20.20 section 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/ESD-S11.11 Surface Resistivity Standard, ANSI/ESD-S11.12 Volume Resistance Measurements of Static Dissipative Planar Materials, and Shielding Materials ANIS/ESD S11.31.

Protektive Pak's only obligation shall be to replace such quantity of the product proved to be defective. See full Limited Warranty information at www.protektivepak.com/Warranty.aspx.