3M™ Dri-Shield Moisture Barrier Bag 3000

Moisture Barrier Bag ~ Foil

3M’s Dri-Shield 3000 Moisture Barrier Bag is designed to meet the requirements of IPC/JEDEC J-STD-033 for the dry packaging of electronic devices. Dri-Shield 3000 bags are made from dissipative nylon, foil, and dissipative polyethylene. These bags protect SMD’s from moisture and static damage. Flexible structure is easy to vacuum seal. Coded for QC traceability.

Standards

Meets electrical and physical requirements of IPC/JEDEC J-STD-033, MIL-PRF-81705 Type 1, EIA 583, EIA 541, EIA 625, and EOS/ESD Standards.

Specifications

Physical Properties:
- Typical Values
  - MVTR (g/100 sq.in./24 hrs): <.0003
  - Puncture Resistance: 17 lbs
  - Thickness: 6.1 mils
  - Tensile Strength: >4500 psi
  - Seam Strength: Pass
  - Heat Sealing Conditions:
    - Temperature: 300°F - 400°F
    - Time: 0.6 - 4.5 seconds
    - Pressure: 30 - 70 PSI

Electrical Properties:
- ASTM D257 or ANSI/ESD STM11.11
  - Surface Resistivity / Resistance: <10^12 ohms/square
  - Interior: <10^11 ohms
  - Exterior: <10^11 ohms
  - Metal: 100 ohms
  - Static Shielding: <15 volts
  - Static Shielding: <10 nJ
  - EMI Attenuation: 45 dBA
  - Static Decay: <0.03 seconds
  - Non-Corrosive: Pass
  - Outgassing: Pass

Material Structure

- Static dissipative nylon, foil, and dissipative polyethylene provide a very low MVTR. This foil barrier material meets or exceeds the MVTR and EMI/RFI/Static Shielding requirements of IPC/JEDEC J-STD-033.
- MIL-PRF-81705 Type I, and EIA 583, for static safe, moisture barrier packaging.

See 3M Data Sheets for these related items:
- Humidity Indicator Cards (HIC’s)
- Desiccant
- 113 Label
- Vacuum Sealers
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W" x L" P/N
10 x 20 D301020
10 x 30 D301030
16 x 18 D301618

All standard sizes in-stock/same day shipment.
• Width is measured from inside seam to inside seam.
• Length is measured from the top edge to the bottom fold.
• Opening is in the "width" dimension.
• Custom bag sizes, custom printing, and custom hot stamping are available.
• Most sizes are packed 100 per case.
• Small sizes are packed 1000 or 500 per case.

How Moisture Barrier Bags Work
Moisture barrier bags work by enclosing a device with a metal or plastic shield(s) that have a high resistance to moisture vapor permeation. Dry devices are placed inside this shield, and the moisture-laden air is evacuated. Desiccant filled pouches scavenge the remaining moisture from the bag’s interior. Moisture that penetrates the bag is also entrapped by the desiccant. Humidity indicating cards report the effectiveness of the package upon device use. A label on the bag indicates the amount of exposure time devices are allowed prior to use, and the drying (re-baking) time and temperature if the exposure time is exceeded.

As the barrier property improves, the Moisture Vapor Transmission Rate (MVTR) decreases. Bags with lower MVTR provide better barrier. Aluminum foil provides the best MVTR of about 0.0003. Multiple layers of Foil Polyester can provide 0.02 to about 0.005.

Puncture Resistance is an important feature for barrier bags. Sharp tray edges may tear through bags with low puncture resistance.