

## Desiccant

### Tyvek Plastic or Kraft Paper Pouch

This efficient desiccant begins its work by absorbing air borne moisture left inside the bag when you've finished vacuum packaging. Then it captures moisture that manages to pass through the bag material. Secured in a strong envelope of either clean room compatible, sulphur-free Tyvek or economical Kraft Paper, SCC desiccant helps keep your devices dry, even through unexpected shipping delays or longer than anticipated storage time.

### Standards

MIL-D-3464, EIA 583, IPC/JEDEC J-STD-033

### Specifications

Pouch: Kraft paper or Tyvek plastic  
 Print: Blue ink  
 Unit sizes: 1/6, 1/3, 1/2, 1, 2, 4, 8, 16  
 Media: montmorillonite clay  
 Form: Free flowing even when fully saturated.  
 Packaging: Air tight pails or drums

| <b>Tyvek Pouch</b><br>(Plastic)                                                    | Pouch Size | Part Number  | Pouches per Container | Container Weight (pounds) | Width (in) | Length (in) | Width (mm) | Length (mm) |
|------------------------------------------------------------------------------------|------------|--------------|-----------------------|---------------------------|------------|-------------|------------|-------------|
|  | 1/6 Unit   | 1/6TYDES1200 | 1200                  | 24                        | 1          | 2.5         | 27         | 64          |
|                                                                                    | 1/3 Unit   | 1/3TYDES700  | 700                   | 25                        | 1          | 3.5         | 27         | 89          |
|                                                                                    | 1/2 Unit   | 1/2TYDES550  | 550                   | 27                        | 1.3        | 3.125       | 33         | 80          |
|                                                                                    | 1 Unit     | 1TYDES300    | 300                   | 29                        | 3          | 4           | 76         | 102         |
|                                                                                    | 1 Unit     | 1TYDES1300   | 1300                  | 114                       | 3          | 4           | 76         | 102         |
|                                                                                    | 2 Unit     | 2TYDES150    | 150                   | 29                        | 3          | 6           | 76         | 152         |
|                                                                                    | 2 Unit     | 2TYDES800    | 800                   | 136                       | 3          | 6           | 76         | 152         |
|                                                                                    | 4 Unit     | 4TYDES500    | 500                   | 163                       | 5          | 5.5         | 127        | 140         |
|                                                                                    | 8 Unit     | 8TYDES300    | 300                   | 192                       | 5          | 8           | 127        | 203         |
|                                                                                    | 16 Unit    | 16TYDES150   | 150                   | 189                       | 5.75       | 10          | 146        | 254         |

| <b>Kraft Pouch</b><br>(Paper)                                                       | Pouch Size | Part Number | Pouches per Container | Container Weight (pounds) | Width (in) | Length (in) | Width (mm) | Length (mm) |
|-------------------------------------------------------------------------------------|------------|-------------|-----------------------|---------------------------|------------|-------------|------------|-------------|
|  | 1/6 Unit   | 1/6KDES1200 | 1200                  | 24                        | 1          | 2.5         | 27         | 62          |
|                                                                                     | 1/3 Unit   | 1/3KDES700  | 700                   | 25                        | 1          | 3.5         | 27         | 89          |
|                                                                                     | 1/2 Unit   | 1/2KDES550  | 550                   | 27                        | 3          | 3           | 76         | 76          |
|                                                                                     | 1 Unit     | 1KDES300    | 300                   | 29                        | 3          | 4.125       | 76         | 105         |
|                                                                                     | 1 Unit     | 1KDES1300   | 1300                  | 114                       | 3          | 4.125       | 76         | 105         |
|                                                                                     | 2 Unit     | 2KDES150    | 150                   | 29                        | 5          | 4.75        | 127        | 121         |
|                                                                                     | 2 Unit     | 2KDES800    | 800                   | 136                       | 3          | 6           | 152        | 165         |
|                                                                                     | 4 Unit     | 4KDES500    | 500                   | 163                       | 5          | 5.5         | 127        | 127         |
|                                                                                     | 8 Unit     | 8KDES300    | 300                   | 192                       | 3.75       | 8.5         | 95         | 216         |
|                                                                                     | 16 Unit    | 16KDES150   | 150                   | 189                       | 4.75       | 9.5         | 121        | 241         |

See SCC Data Sheets for these related items:

|                          |
|--------------------------|
| Humidity Indicator Cards |
| Moisture Barrier Bags    |
| Vacuum Sealers           |

## PRODUCT DATA SHEET

### Desiccant in Tyvek Plastic or Kraft Paper Pouch

**PRODUCT**  
DESICCANT, TYVEK OR KRAFT POUCH

**ITEM NUMBER**  
SEE ABOVE

**DATASHEET**  
1110-F

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# Desiccant

## Calculating Desiccant Loading

### What is Desiccant?

Desiccant is a drying agent that is used to absorb moisture from the air inside moisture barrier bags. Desiccant absorbs moisture vapor (humidity) from the air left inside the barrier bag after it has been sealed. Any moisture that penetrates the bag will also be absorbed. Desiccant remains dry to the touch even when it is fully saturated with moisture vapor.

### How much Desiccant do I need?

Desiccant is sold by the "Unit" or fractional Unit, or in grams. One unit of desiccant will absorb a specific amount of moisture. A unit weighs about 33 grams. There are several standards for calculating the desiccant loading for bags. Each standard is for a specific application, and requires different amounts of desiccant for the same bag size. Once you determine which standard is correct for your dry packing application, apply these formula, or go to [www.StaticControl.com](http://www.StaticControl.com) and select the Desiccant Calculator.

### Why are electronic devices moisture sensitive?

Certain kinds of electronic devices called "Surface Mount Devices" or SMD's are mounted on a circuit card by high temperature soldering. The body of the SMD is made from plastic that absorbs moisture from the air. When the case is heated during soldering, the moisture inside turns to steam, and may break the device as the steam escapes. Keeping SMD's dry before soldering means that the devices will not be damaged.

#### IPC/JEDEC J-STD-033

##### **Application:**

Dry packaging for SMD's.

##### **What You Need Know:**

Bag Size, Bag MVTR, Storage Time in Months.

##### **Formula:**

Units =  $\frac{0.304 \times \text{Months} \times \text{Bag MVTR} \times \text{Bag Area}}{\text{Moisture Capacity}}$

##### **Example:**

8" x 10" inch Barrier Bag, with a 0.002 MVTR and a 12 month storage time.

##### **Find Bag Area:**

8" x 10" x 2 sides = 160 sqin.

##### **Apply Formula:**

Units =  $\frac{0.304 \times 120 \text{ months} \times 0.002 \text{ MVTR} \times 160 \text{ sqin}}{6.6667 \text{ g/unit}}$

Units = .2 Use 1/6 unit of Desiccant.

#### EIA 583

##### **Application:**

Dry packaging for SMD's. Allows adjustment of environmental conditions.

##### **What You Need Know:**

Bag Area, Bag MVTR, Months of Storage, Maximum Interior Humidity (MIH).

##### **Formula:**

Units =  $\frac{0.231 \times \text{Bag Area} \times \text{Bag MVTR} \times \text{Months}}{\text{Moisture Capacity}}$

##### **Example:**

8" x 10" inch Barrier Bag, with a 0.02 MVTR, a 12 month storage time, and a MIH of 20%.

##### **Find Bag Area:**

8" x 10" x 2 sides = 160 sqin.

##### **Select Moisture Capacity based on MIH:**

10% MIH: 3.0 g/unit 20% MIH 4.8 g/unit 30% MIH 5.8 g/unit 40% MIH 6.2 g/unit

##### **Apply Formula:**

Units =  $\frac{0.231 \times 160 \text{ sqin} \times 0.02 \text{ MVTR} \times 12 \text{ months}}{4.8 \text{ g/unit}}$

Units = 1.8 units Use 2 units of desiccant.

#### MIL-P-116

##### **Application:**

General dry packaging.

##### **What You Need Know:**

Bag Size

##### **Formula:**

Units = 0.011 x Bag Area in square inches.

##### **Example:**

8" x 10" inch Barrier Bag

##### **Find Bag Area:**

8" x 10" x 2 sides = 160 sqin.

##### **Apply Formula:**

Units = 0.011 x 160 sqin = 1.8

Use 2 Units of desiccant.

## P R O D U C T D A T A S H E E T

### Desiccant in Tyvek Plastic or Kraft Paper Pouch

#### PRODUCT

DESICCANT, TYVEK OR KRAFT POUCH

#### ITEM NUMBER

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#### DATASHEET

1110-F

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