Desiccant Loading on Page 2

Desiccant

Tyvek Plastic or Kraft Paper Pouch

This efficient desiccant begins it's 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:	montmorillonte clay
Form:	Free flowing even when fully saturated.
Packaging:	Air tight pails or drums

Tyvek Pouch (Plastic)

Pouch Size	Part Number	Pouches per Container	Container Weight (pounds)	Pouch Size Width (in)	Pouch Size Length (in)	Pouch Size Width (mm)	Pouch Size 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

Kraft Pouch (Paper)

Pouch Size	Part Number	Pouches per Container	Container Weight (pounds)	Pouch Size Width (in)	Pouch Size Length (in)	Pouch Size Width (mm)	Pouch Size 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

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	ITEM NUMBER	DATASHEET
DESICCANT, TYVEK OR KRAFT POUCH	SEE ABOVE	1110-F

STATIC CONTROL COMPONENTS, INC.
ESD PRODUCTS DIVISION

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

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:
$$\text{Units} = \frac{0.304 \times 160 \text{ sqin} \times 0.002 \text{ MVTR} \times 12 \text{ months}}{6.6667 \text{ g/unit}}$$

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

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

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	ITEM NUMBER	DATASHEET
DESICCANT, TYVEK OR KRAFT POUCH	SEE PAGE 1	1110-E

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