



Tyvek Plastic



Kraft Paper

Desiccant

DESICCANT, TYVEK OR KRAFT 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, Ground Zero desiccant helps keep your devices dry, even through unexpected shipping delays or longer than anticipated storage time.

SPECIFICATIONS:

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

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 fullysaturated.

Packaging: Air tight pails or drums

BAG SIZE	BAGS/ CONTAINER	TYVEK® BAGS ITEM NUMBER	KRAFT BAGS ITEM NUMBER
1/6 UNIT	1200	1/6TYDES1200	1/6KDES1200
1/3 UNIT	700	1/3TYDES700	1/3KDES700
.5 UNIT	550	1/2TYDES550	1/2KDES550
1 UNIT	300	1TYDES300	1KDES300
1 UNIT	1300	1TYDES1300	1KDES1300
2 UNITS	150	2TYDES150	2KDES150
2 UNITS	800	2TYDES800	2KDES800
4 UNITS	500	4TYDES500	4KDES500
8 UNITS	300	8TYDES300	8KDES300
16 UNITS	150	16TYDES150	16KDES150



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 this formula.

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

Example:

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

Find Bag Area:

$8" \times 10" \times 2 \text{ sides} = 160 \text{ sqin.}$

Apply Formula:

Units = $0.304 \times 160 \text{ sqin} \times 0.002 \text{ MVTR} \times 12 \text{ months}$
6.6667 g/unit
Units = .02 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 = $0.231 \times \text{Bag Area} \times \text{Bag MVTR} \times \text{Months}$
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:

$8" \times 10" \times 2 \text{ sides} = 160 \text{ sqin.}$

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 = $0.231 \times 160 \text{ sqin} \times 0.02 \text{ MVTR} \times 12 \text{ months}$
4.8 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 = $0.011 \times \text{Bag Area}$ in square inches.

Example:

8" x 10" inch Barrier Bag

Find Bag Area:

$8" \times 10" \times 2 \text{ sides} = 160 \text{ sqin.}$

Apply Formula:

Units = $0.011 \times 160 \text{ sqin} = 1.8$
Use 2 Units of desiccant.