



HOW TO CALCULATE

Dimensional (DIM) Weight

for Ground Shipping

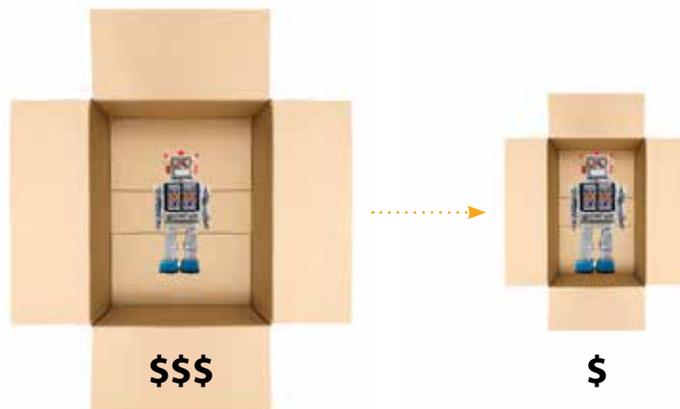
UPS® and FedEx® use dimensional weight for all Ground Delivery packages.

In **January 2015**, UPS and FedEx began calculating rates based on the **size** of a package, instead of actual weight, for **ALL packages** shipped using their Ground delivery services. This pricing program is known as Dimensional Weight Pricing, also referred to as “DIM Weight.”

In **January 2017 and December 2017** respectively, FedEx and UPS increased DIM weight pricing for many packages when they decreased their dimensional weight divisor for all Ground shipments from 166 to 139 for domestic packages less than 1 cubic foot in size.

To calculate the shipping costs in this guide, we used the following: UPS 2018 published Daily Rate (with a 20% discount); FedEx Home Delivery Retail Rate (with a 20% discount); USPS Commercial Base Rates.

Lower shipping costs by keeping package size as small as possible:



STARTDATES

new DIM weight divisors take effect:

UPS Ground

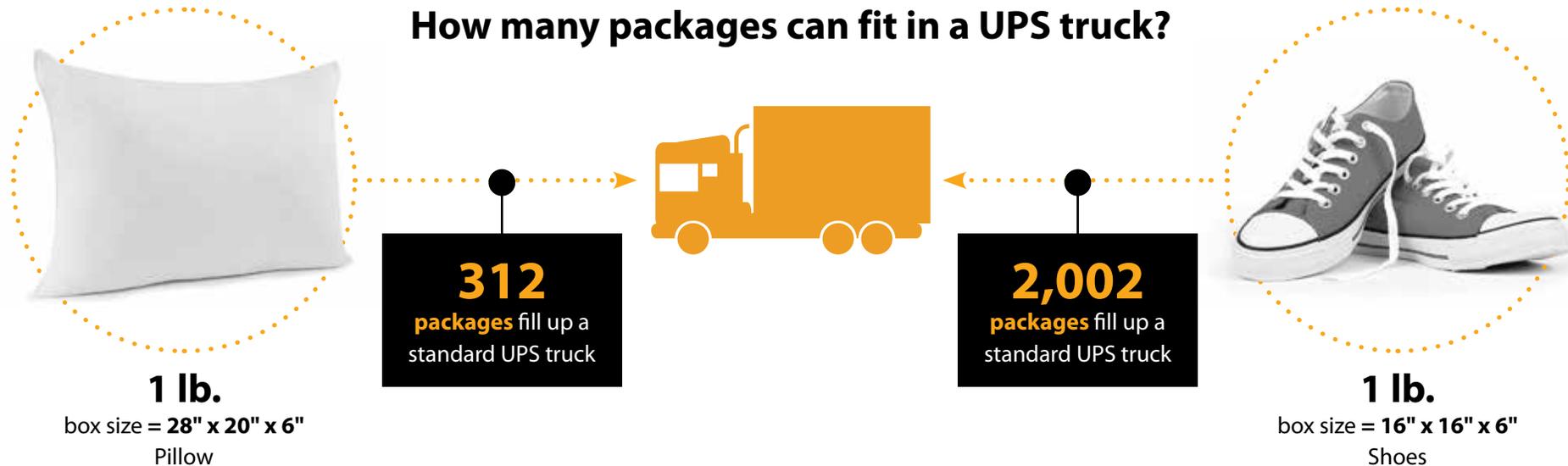


FedEx Ground



What is Dimensional Weight?

DIM WEIGHT = Shipping rate based on package size, not weight



Dimensional weight pricing uses a package's volume, which is the amount of space it occupies on a delivery truck, instead of its actual weight to calculate the shipping cost. They do this because they want to be able to charge more for large, lightweight packages in comparison to smaller packages.

For example: a 1 lb. box containing a pillow weighs the same as a 1 lb. box of shoes, but the box with the pillow takes up much more space on the truck. A standard delivery truck may have room for 312 boxes

of pillows, but that same truck can carry 2,002 boxes of shoes. And when the carriers charge by actual weight, the cost to ship the large pillow box was the same as the cost to ship the box of shoes, even though the pillows take up a lot more room.

DIM weight pricing is the carrier's way of making up for the lost revenue of carrying large, lightweight packages that take up excessive space in their delivery trucks.

How to Calculate DIM Weight

Example: Shipping a 1 lb. package using UPS Ground

STEP 1

DETERMINE PACKAGE SIZE IN CUBIC INCHES

Box size: length x width x height = total cubic inches of package

Example: 12" x 12" x 8" = 1,152 cubic inches

STEP 2

DIVIDE CUBIC INCHES BY DIM DIVISOR

Divide total cubic inches by **DIM Divisor**.

The divisor is a set number determined by each carrier.

Example: 1,152 / 139 = 8.28, round up to 9 lbs.

(as of Dec. 24, 2017 the UPS Ground divisor is 139 for all packages. See table at right.)

STEP 3

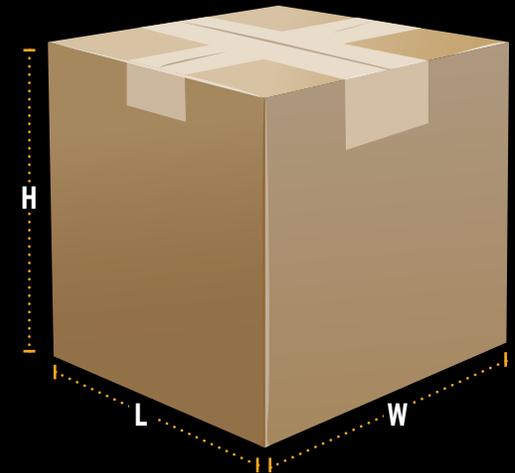
DETERMINE THE SHIPPING RATE

If DIM weight is **greater than the actual weight of the package**, you will be required to pay based on the DIM weight, not the actual weight.

Package Example: Shipping a 1 lb. package from Los Angeles to Atlanta (Zone 8)

- 12" x 12" x 8" = 1,152 cubic inches / 139 = **8.28 or 9 lbs.**
- 1 lb. actual weight cost = **\$7.64* UPS Ground**
- 9 lbs. DIM weight cost = **\$12.58* UPS Ground** ←..... **YOU PAY THIS AMOUNT**
- Extra cost for DIM = **\$4.94**

* no surcharges or extra fees added



$$\frac{\text{length} \times \text{width} \times \text{height}}{\text{DIM Divisor}} = \text{DIM Weight}$$

DIM DIVISOR

CARRIER	DOMESTIC	INTERNATIONAL
UPS	139	139
FedEx	139	139
USPS	194	166

DIM Weight for Common Box Sizes

UPS Ground Domestic Rates

25 Top Selling Box Sizes											
Box length	Box width		Box height		(LxWxH) = total cubic inches (TCI)	UPS divisor	DIM weight	(TCI/DIM divisor) = DIM adjusted billable weight			
4	x	4	x	4	= 64	/ 139	= 0.46	1 lb.			
5	x	5	x	5	= 125	/ 139	= 0.90	1 lb.			
6	x	6	x	4	= 144	/ 139	= 1.04	2 lbs.			
6	x	6	x	6	= 216	/ 139	= 1.55	2 lbs.			
8	x	6	x	4	= 192	/ 139	= 1.38	2 lbs.			
8	x	8	x	8	= 512	/ 139	= 3.68	4 lbs.			
10	x	8	x	6	= 480	/ 139	= 3.45	4 lbs.			
10	x	10	x	10	= 1000	/ 139	= 7.19	8 lbs.			
12	x	12	x	4	= 576	/ 139	= 4.14	5 lbs.			
12	x	9	x	6	= 648	/ 139	= 4.66	5 lbs.			
12	x	8	x	8	= 768	/ 139	= 5.53	6 lbs.			
12	x	12	x	6	= 864	/ 139	= 6.22	7 lbs.			
12	x	12	x	8	= 1152	/ 139	= 8.29	9 lbs.			
12	x	12	x	12	= 1728	/ 139	= 12.43	13 lbs.			
14	x	14	x	14	= 2744	/ 139	= 19.74	20 lbs.			
16	x	12	x	12	= 2304	/ 139	= 16.58	17 lbs.			
16	x	16	x	16	= 4096	/ 139	= 29.47	30 lbs.			
18	x	12	x	12	= 2592	/ 139	= 18.65	19 lbs.			
18	x	14	x	12	= 3024	/ 139	= 21.76	22 lbs.			
18	x	18	x	18	= 5832	/ 139	= 41.96	42 lbs.			
20	x	14	x	6	= 1680	/ 139	= 12.09	13 lbs.			
20	x	20	x	20	= 8000	/ 139	= 57.55	58 lbs.			
24	x	12	x	12	= 3456	/ 139	= 24.86	25 lbs.			
24	x	18	x	18	= 7776	/ 139	= 55.94	56 lbs.			
24	x	24	x	24	= 13824	/ 139	= 99.45	100 lbs.			

Example: 1 lb. Package to Zone 8			
UPS Ground 2018 rates 1 lb.*	UPS Ground 2018 rates at DIM Weight	Increase in shipping cost**	DIM impact on shipping cost %
\$7.57	\$7.57	\$0.00	0%
\$7.57	\$7.57	\$0.00	0%
\$7.57	\$8.78	\$1.21	16%
\$7.57	\$8.78	\$1.21	16%
\$7.57	\$8.78	\$1.21	16%
\$7.57	\$10.41	\$2.84	38%
\$7.57	\$10.41	\$2.84	38%
\$7.57	\$11.95	\$4.38	58%
\$7.57	\$10.94	\$3.37	45%
\$7.57	\$10.94	\$3.37	45%
\$7.57	\$11.03	\$3.46	46%
\$7.57	\$11.57	\$4.00	53%
\$7.57	\$12.58	\$5.01	66%
\$7.57	\$16.10	\$8.53	113%
\$7.57	\$22.08	\$14.51	192%
\$7.57	\$19.31	\$11.74	155%
\$7.57	\$31.53	\$23.96	317%
\$7.57	\$21.10	\$13.53	179%
\$7.57	\$23.98	\$16.41	217%
\$7.57	\$40.39	\$32.82	434%
\$7.57	\$16.10	\$8.53	113%
\$7.57	\$48.18	\$40.61	536%
\$7.57	\$26.87	\$19.30	255%
\$7.57	\$48.84	\$41.27	545%
\$7.57	\$64.54	\$56.97	753%

* UPS published Daily Rates (minus 20% discount) used. No surcharges or other fees added.

** If the DIM weight is less than or equal to the actual weight then actual weight is used to calculate the rate.

DIM and the USPS

Huge cost savings with Priority Mail®

USPS only charges DIM rates **when a package is larger than a cubic foot** (12" x 12" x 12"), and the package is going to zones 5-9.

USPS zones 5-9 DIM Divisor is much higher at 194 (UPS is 139 and FedEx is 139). **This results in lower costs!**

USPS does not apply **DIM pricing for zones 1-4** when using Priority Mail.



DIM pricing: **Box size matters in 2018!**

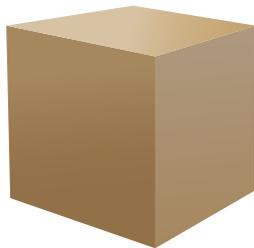


2 VITAMIN BOTTLES

Atlanta to Phoenix (Zone 8)

Actual weight = 1 lb.

6" x 6" x 6"

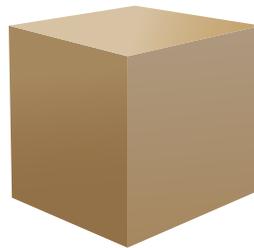


UPS GROUND

Actual weight = 1 lb: \$7.64

DIM weight = 2 lbs: **\$8.78**

8" x 8" x 8"

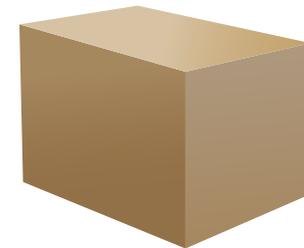


UPS GROUND

Actual weight = 1 lb: \$7.64

DIM weight = 4 lbs: **\$10.41**

12" x 8" x 8"



UPS GROUND

Actual weight = 1 lb: \$7.64

DIM weight = 6 lbs: **\$11.03**

Save on shipping costs by using the smallest box possible.

4 TIPS to reduce DIM costs

Love the way you ship

Add the #1 USPS Shipping Software to your workflow.

Endicia provides online shipping services for e-commerce businesses of all sizes. Our postage and shipping solutions save you time and, because we offer easy and seamless integration of USPS services and low rates into any shipping workflow, we help you save money. Our goal is to simplify your business operations so you can focus on doing what you do best.

Learn more at:

www.endicia.com/warehouse



1 USE THE APPROPRIATE BOX SIZE

Use the appropriate box size for your product. Is the box designed specifically for shipping? Avoid unnecessary empty space if your product doesn't require it for safe delivery.



2 USE ENVELOPES

Look at other packaging options. Tyvek®/poly envelopes can be great for durable items, like t-shirts and sporting goods. These envelopes are weatherproof and resilient, which makes them a good option for lowering shipping costs.



3 RENEGOTIATE YOUR CARRIER AGREEMENT

With new products and pricing changing every year, make sure you know all the specifics of your carrier agreement. Try renegotiating terms such as DIM Divisor, Net Minimum Value or when DIM starts.



4 USE MULTIPLE CARRIERS

Shipping rates vary by carrier. USPS is often the lowest cost for smaller, lighter weight packages going to a residence. UPS and FedEx are great for larger packages delivered to a business. Each carrier provides low shipping cost options for its own niche package weight groups – make sure to use the right carrier for each of your packages to optimize your shipping program.