



# Anatomy of a Cardboard Box

## BOX BITS

In the 1870s, Scottish-born Brooklyn paper-bag maker Robert Gair was printing an order of seed bags when a metal rule normally used to crease bags shifted in position and cut the bag, creating what is now referred to as "semi-flexible packaging."



Corrugated material – which is made up of three layers of cardboard – was not used as a shipping material until 1871. It was patented in England in 1856 as a liner for tall hats.



You can thank breakfast cereal for the ubiquity of the cardboard box. When the Kellogg brothers invented their Toasted Corn Flakes in the early 1900s, the popularity of cardboard boxes skyrocketed.

**The shipping box:** You might not think of it as much more than a collapsible container, but it's the product of more than 100 years of engineering. Today's corrugated box features three layers of cardboard to withstand the hazards of shipping. However, its performance still relies on how it interacts with the contents you put in it.

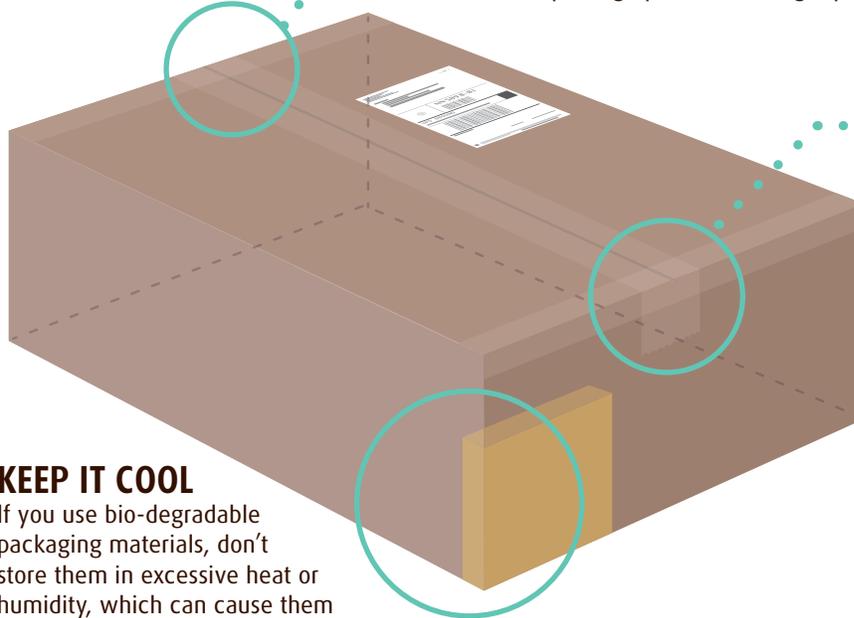
## SHIP SMART

### JUMP IN

Don't criss-cross the short and long box flaps — this just breaks down the cardboard faster.

### MUSCLE MATTERS

To ensure your package provides the right protection, follow the UPS Box Strength Guidelines (on [ups.com/packagingguide](http://ups.com/packagingguide)), which will help ensure your package provides the right protection.



### SEAL THE BOX PROPERLY

UPS recommends a "six-strip method" applying pressure-sensitive, water-activated or heavy-duty nylon tape on the cross seam and both side seams (top and bottom of the box).

### KEEP IT COOL

If you use bio-degradable packaging materials, don't store them in excessive heat or humidity, which can cause them to break down more quickly.

### PACK RIGHT

The right size box reduces the cost and waste associated with packing materials. It's generally best to cushion a product with at least two inches of protection on all six sides, and be sure there are no empty spaces unfilled. The UPS Package Lab can determine the best fill material. To get specific packing guidelines, use the UPS Packaging Advisor at [ups.com/packagingadvisor](http://ups.com/packagingadvisor).

### REUSE WISELY

The more times a box is used, the less rigid it becomes— and up to 50 percent less protective. If you must reuse a box, make sure it is rigid and in good condition (no punctures, tears, rips, or corner damage, will all flaps intact).