Proper Inflation of Air-Filled Cushions

Air filled cushions are a dunnage option that provide cushioning and efficient void fill. They can also reduce the amount of packaging material needed to ship a product. Also referred to as "pillow packs," air filled cushions start out as either a low density or high density polyethylene (PE) film tube on a roll. The film is then inflated, heat sealed, and finally perforated creating a string of pillow packs that can be torn off and used as needed. Varying levels of automation allow pillow packs to be used in low to high volume packaging operations. Standard roll widths are 8" and the lengths of each pillow pack can be set depending on the application.

Typical Automated Pillow Pack

Most of the higher volume equipment can be adjusted, allowing for the fill volume of the pillow packs to be varied. When it comes to reducing packaging waste this becomes important. If pillow packs are used just for void fill and not cushioning, making sure that the pillow packs are fully inflated can reduce packaging cost and waste.

What's the difference between "void fill" and "cushioning"? **Void filling** is simply filling the void space created when the product you are shipping does not completely fill its shipping carton. This keeps the product from shifting and bouncing during transport, but does not necessarily cushion the product on all sides. In contrast, **cushioning** surrounds a product and holds it in place while absorbing shocks and vibrations during shipment. Cushioning provides a higher level of protection than void filling, but cushioning isn't always necessary.

Typical Pillow Pack Void

If your goal when using pillow packs is to void fill and also cushion the product, then you will want a pillow pack that is not completely filled. This will allow the pillow packs to be molded to the shape of the product while still being flexible enough to absorb some shock and vibration during shipment.

On the other hand, if void fill is the only requirement and cushioning isn't needed, then you can fully inflate the pillow packs. Filling the entire volume will reduce the total number of pillow packs required to void fill your package, saving in both packaging time and the amount of material being used.

Take for example two 8"x 4" pillow packs filled at the two extremes of use. The first pack is filled to where it becomes approximately ¾" thick for the application where void fill and some cushioning are required. The total volume in the first case is 19.88 cubic inches per pack. In contrast, consider the second pack which is completely filled, to the point where it still has some give but will not pop when pressed. This would be for the application where only void fill is required (no cushioning). It has a total volume of 29.82 cubic inches per pack. When filled all the way the pillow packs have 33% more volume compared to the lesser filled packs. This translates into potentially a one-third reduction in the amount of dunnage used when pillow packs are inflated to match your void fill application.

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Updated: 06/06/05
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09-LQ-017