An AmeriGlobe LLC White Paper

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# How to Derive Baffle Bag Stability from a Non-baffle Bag

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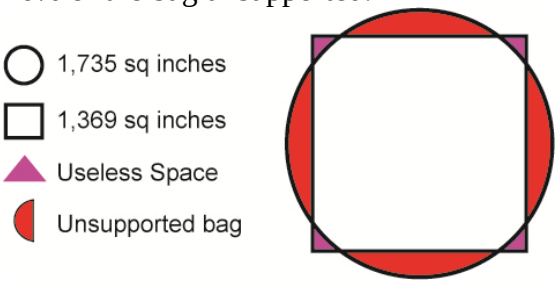
## Introduction

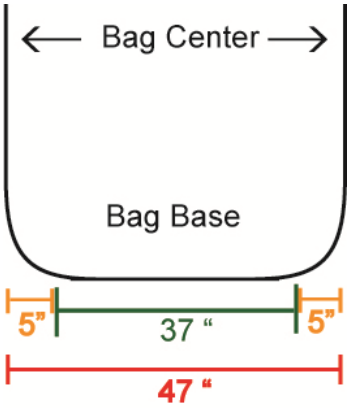
Baffle bags are traditionally used to package product that is difficult to stabilize. Though expensive, until recently they were the best option. It is widely believed that the baffles holding tension on the side walls is the reason for their stability. While this is true to some degree, the real reason for their success is a very large footprint that mirrors the size of the belly of the bag. When this relationship is duplicated, so are the results.

## Footprint-Belly Size Ratio Matters

In a standard bag, the base or footprint is dramatically different than the footprint at the center of the bag. This is true because, despite the optical illusion of u-panel bags, all non-baffle bags round out. The bottom of a standard 37 x 37 bag has a footprint of 1,369 square inches. When you compare this to the center of the bag which covers 1,735 square inches, it leaves more than 26% of the bag unsupported.




This unsupported area is seen as you move up from the bottom of the bag.

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The unsupported portions of bag will eventually be forced to the ground. More than likely it will not reach the ground evenly which will make the bag lean.

The comparatively large footprint of the baffle bag greatly limits the amount of bag that hangs over the bottom. This is true because baffle bags have basically square centers and bases. A typical baffle bag has a 41x41 base and a center that expands to 45x45, leaving a 2 inch overhang per side rather than the 5 inches of a standard bag. The footprints of the two sections are 1,681 and 2,025 square inches respectively, or a 17% difference.


The smaller overhang reduces the opportunity for the bag to lean. The chances of leaning are also reduced because the unsupported areas are evenly spread around the whole bag, as opposed to the irregularly shaped overhang of standard bags.

## Why Not Use A Larger Base?

Simply changing the base size of a standard bag does not change the relationship of the base size to the center size so there will still be a 26% overhang. If there is overhang, the bag will lean. Moreover, since truck widths range from 96 to 102 inches, there is a limit to how wide the bag can be. A standard bag with a 41 x 41 footprint rounds out to 52 inches which is too wide for a truck and an overseas container.

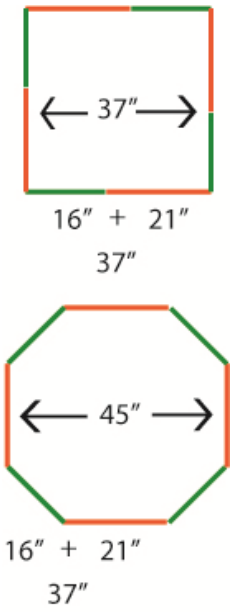
## Why Use a Square Base?

The main reason that bulk bags typically have a square base is because it makes them easier to sew. It also allows the bags to mirror the pallet. However, since the bags will round out, mirroring the pallet is irrelevant.

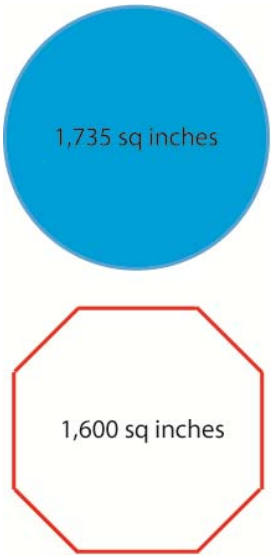
If square bottoms are standard for expedience sake, what is the optimum bottom shape?

## MegaBase Uses Octagon Shape

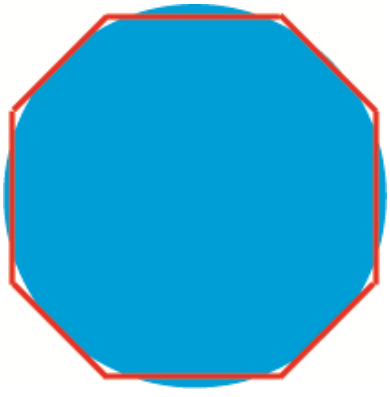
The Mega**Base** changes the shape of the bottom so that the traditional overhang is better managed. Instead of using a square bottom that inefficiently utilizes the perimeter of the fabric, the Mega**Base** uses an octagon. Instead of using a 37 inch side, we make two sides equal 37 inches.



By doing this we accomplish two things. First, we are leaving the bag a size that fits well in trucks and overseas containers. We are also limiting the amount of the bag that can hang over the bottom by creating a large base. This is achieved by more efficiently using the perimeter of the bottom.

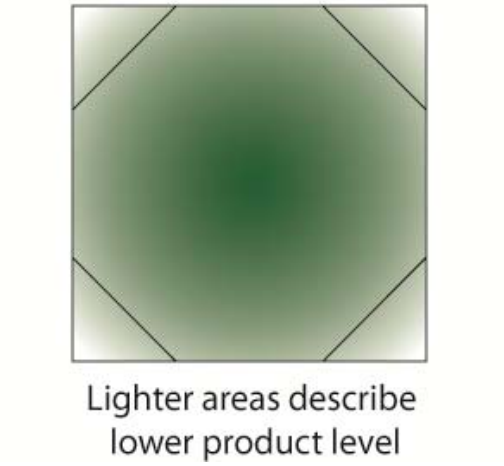



The base footprint of a MegaBase is 92% of the footprint at the center of the bag. On each side of the bag, only 1% of the bag above the base is unsupported. This is vast improvement when compared to the 6.5% per side in a standard bag.

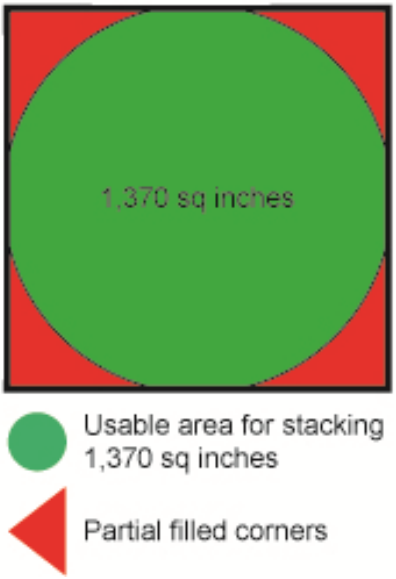


## Stacks Better Than Baffle Bags?

It is virtually impossible to completely fill the corners of a baffle bag. When product enters a bulk bag it forms a cone with a round base. The base of the cone reaches from side wall to side wall so it has to be lower in the corners.




Since the product level is lower in the corners, the only section of the baffle bag that is stable for stacking on is the center chamber. The center chamber of a 41x41 baffle bag has a surface area of 1,370 square inches, just like the base of a 37x37 standard bag.



A 37x37 Mega**Base** has a surface area for stacking of 1,735 square inches, or a 26% larger stacking surface than a baffle bag.

## Conclusion

The Mega**Base** safely replaces baffle bags and at the same time lowers the overall bag cost. With a large footprint, very little unsupported product, and no loose columns of product, the MegaBase is stable and safe.

The Mega**Base** = baffle bag stability without the high cost. For more information or to try the Mega**Base** call (866) 264-5623.

www.ameriglobe-fibc.com/megabase.html