

How SEEkeyMD® Reduces Raw Materials and Improves Logistics

Now that people are receiving SEEkey samples and confirming our analytics, we are being asked to explain how the system improves pack-out, which is reducing cost. Simply put, the capture area of SEEkey is so large that the system allows the sidewall draft to be increased by a minimum of 133%. The more sidewall-draft used, the closer the parts stack together, reducing: 1) polybags 2) cartons 3) pallets 4) shipping 5) warehouse space.

To explain this concept, visualize a stack of plastic beverage cups. They stack closely together because the walls are typically designed with a 7° side-wall draft. When a button-snap (see left side images) is used to capture a device, the designer is typically limited to 3° wall draft because of limitations to the undercut depth. When they are designed with SEEkey, (see right side of images) an additional 4-degree draft can be obtained. If a button-snap is used on a 1.0" tall device, it will lose engagement because the additional 4° will move the wall away from the device by .070". While it may appear that there is still .023" engagement, this engagement is lost with the space needed under the button-snap. Conversely, the SEEkey system will still maintain over 3X more engagement than the snap-button ever had.

Button-Snap v. SEEkeyMD®

Cross-Section Comparison (Green device heights are equal)

Button-Snap

.093" Undercut

Lost space

3° Wall draft
Typical

SEEkeyMD®

.30" Containment

7° Wall draft

Engagement is lost

7° Wall draft
Impracticable

7° Wall draft

.30" Containment maintained

When nesting parts together, the difference between a 3° and 7° wall draft changes the spacing by .125". While this distance may seem insignificant, it amounts to a substantial savings. Below is an illustration and the calculations for a single stack of 50 parts in a 19.63" box. It shows space savings when switching from a 3° to 7° wall draft.

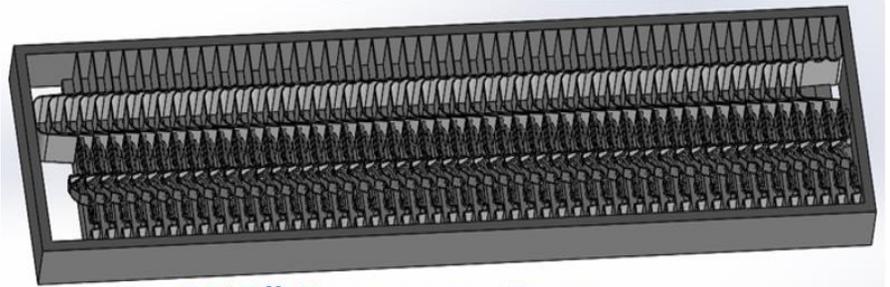
Associated Box Count Savings

Box length of 19.63" (both layouts)

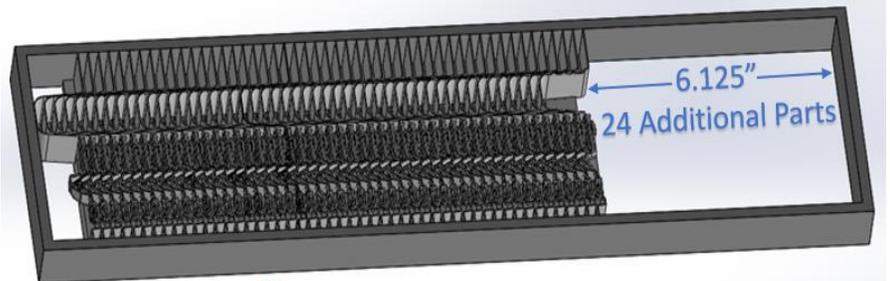
Results:

50 unitsstarting box count
50 units - 1 = 49nested spaces between parts
 $.375 - .250 = .125$ " ...space saved between each part
 $49 \times .125 = 6.125$ " ...additional space obtained
 $6.125 / .25 = 24$ additional parts will fit in same box
 $50 + 24 = 74$ new box count using same box

**Parts per box increases by 48% when
reducing the part separation by .125"**



.375" Between Parts w/ Button Snap



.250" Between Parts w/ SEEkeyMD®

With this value, the boxes, polybags, pallets, shipping and warehousing savings can also be calculated.