


Thinking About Your Shipping Box

Ranpak's unique PadPak® cushioning and FillPak® void fill materials have the proven versatility to handle every packaging application from cushioning to wrapping to void fill to blocking and bracing. Our team of Package Engineers are experts at utilizing a variety of packing techniques to devise a customized solution to your packaging challenge. All of Ranpak's Package Engineering services are offered at no cost to you.

Designing a Packaging Solution That's Right for You



June 16, 2008
Mr. Joe Smith
ABC Company
7990 Auburn Rd.
Concord Township, OH 44077



Subject: PadPak® Package Designs for Aircraft Cylinder Heads

Dear Mr. Smith:

We designed PadPak® packages for three aircraft cylinder heads (2 small and 1 large) provided by your company. In addition, we also conducted an ISTA vibration test on these PadPak® designs. Following are descriptions of the PadPak® designs, test procedure and results.

PadPak® Package Design for Small Cylinder Heads:

1. We used an RSC - 200 lb. test, double wall corrugated container with inside dimensions of 10-1/2" x 9" x 14".
2. Produced two (2) - 78 inch pads. Folded each pad in half to create a double thickness. Placed the two double thick pads across the top of the box to form a "cross" configuration as shown.
3. Placed the cylinder head in the center of the crossed pads and lowered it down into the bottom of the box.

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Mailing Address: P.O. Box 8004 • Patnesville, Ohio 44077-8004



TESTING - In our ISTA (International Safe Transit Association) certified lab, we conduct testing to ensure our package design conforms to industry standards, giving you the peace of mind that comes with knowing your product will arrive safely. One of approximately 300 in North America, our lab features drop and vibration testing and other sophisticated equipment to insure that the pack design being tested meets your needs and carrier requirements.

Customer: ABC Company
Ranpak Material: PadPak L.C. - 155L, single ply
Ranpak Part #: 24
Ranpak Part #: 75
Ranpak Part #: 12
Ranpak Part #: 41.67
Ranpak Part #: 100
Ranpak Part #: 100

PadPak®	vs.	Cellular Air Wrap
24 Rolls per roll		1 Shipped by the bundle
818.70 Linear feet per roll / bundle		1,000 Square feet per bundle
75.00 Cubic feet per roll / bundle		41.67 Cubic feet per bundle
55.50 Rolls required per week		100 Current number of bundles used weekly
55.50 Polybundles of Ranpak®	←→	100 Bundles of Cellular Air Wrap
\$98.00 Cost per roll / bundle		\$10.00 Cost per bundle
\$0.083 Cost per linear foot		\$0.059 Cost per square foot
\$0.987 Cost per cubic foot		\$1.416 Cost per cubic foot
\$5.87 Linear feet used per pack		81.33 Square feet used per pack
5.37 Cubic feet used per pack		3.39 Cubic feet used per pack
\$4.933 Material cost per package	←→	\$4.788 Material cost per package
\$0.00 Seconds to pack into box		\$0.00 Seconds to pack into box
\$0.00 Labor rate (\$)		\$0.00 Labor rate (\$)
\$0.00 Picking cost per package	←→	\$0.33 Picking cost per package
55.50 Rolls per week		100 Bundles per week
1.89 Minutes needed to unroll one roll		1.89 Minutes needed to unroll one bundle
2.32 Minutes needed to unroll weekly usage		100.00 Minutes needed to unroll weekly usage
\$20.00 Labor rate (\$)		\$20.00 Labor rate (\$)
\$0.00	←→	\$33.33
2.08 Floor space (ft ²) occupied per roll or bundle		7.88 Floor space (ft ²) occupied per standard size bundle of Cellular Air Wrap
55.50 Rolls used per week		100 Bundles used per week
110.00 Total ft ² of warehouse space occupied		788.00 Total ft ² of warehouse space occupied
\$0.20 Average cost per ft ² of warehouse space		\$0.20 Average cost per ft ² of warehouse space
\$33.33	←→	\$208.00
55.50 Rolls used per week		100 Bundles used per week
3.00 Minutes needed to retrieve and load one roll		3.00 Minutes needed to retrieve one bundle
166.68 Minutes needed to retrieve and load one weekly usage		300.00 Minutes needed to retrieve one weekly usage
\$20.00 Labor rate (\$)		\$20.00 Labor rate (\$)
\$50.00	←→	\$100.00
\$4.875 Material cost per package	←→	\$4.788 Material cost per package
\$0.88 Picking cost per package	←→	\$0.33 Picking cost per package
\$0.77 Incurring handling (per week)	←→	\$33.33 Incurring handling (per week)
\$33.33 Warehousing cost (per week)	←→	\$208.00 Warehousing cost (per week)
\$95.82 Internal handling (per week)	←→	\$100.00 Internal handling (per week)
2.000 Number of boxes packed per week		2.000 Number of boxes packed per week
\$0.987 COST PER PACKAGE (RANPAK®)	←→	\$7.316 COST PER PACKAGE (CELLULAR AIR WRAP)

ANALYSIS - We analyze your current packaging and benchmark this against our own package design recommendations. We include the estimated cost of the current interior packaging materials and provide new box specifications, if necessary.

RANPAK PACKAGING LAB EQUIPMENT

DROP TESTER

- 150 lb. capacity
- 12" to 72" drop height
- 3 channels of instrumentation



VIBRATION TABLE

- 48" x 48" table
- 2,500 lb. capacity
- 1 hz to 250 hz range
- Sine and random capability



Thinking About Your Operation

Ranpak converters, the most adaptable packaging systems on the market, can be customized to fit any workplace situation, including high or low volume, automated or manual environments, integrated workstations or standalone units. Our System Engineers can develop a plan to integrate our system into your unique working environment. All of Ranpak's System Engineering services are offered at no cost to you.

Making Our Systems Flow Smoothly with Your Operation

PadPak® Engineering Solutions

Beltway Conveyor System



Pad Slide



Above Conveyor AutoPad



Ready Pad System



FillPak® Engineering Solutions

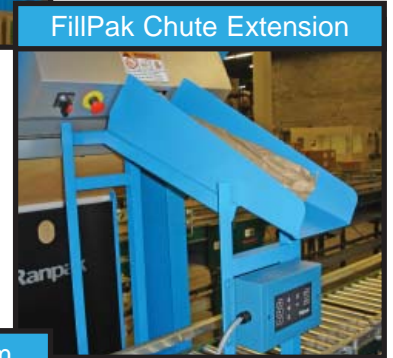
FillPak Turner Bar



Extra Wide FillPak Turner Bar



FillPak Chute Extension



FillPak/AccuFill System

