

Furniture Case Study :: Replacing EPS with ARCEL Advanced Foam Resin

The end table, manufactured in China, was shipped via three-day UPS Select in a doublewall corrugated box with expandable polystyrene (EPS) corner cushions ranging in thickness from 1.5" (sides and top) to 2.0" (bottom). To reduce fracture, the EPS cushions were reinforced with cut-and-folded doublewall corrugated corners on the inside and outside.

Design note: Corrugated corners require assembly, add weight to the packaging and increase cube size without adding multiple impact cushioning properties.



The packaging assessment after delivery revealed that one of eight EPS corners broke in transit and the interior corrugated corners were crushed, providing no cushion protection. The EPS cushions and corrugated corners were not designed to manage the protruding 1" corner edge of the end table. In addition, the polyethylene wrap required to hold the product and packaging in place is an unnecessary element when using ARCEL advanced foam resin.



The difference is in the packaging

By specifying ARCEL resin the manufacturer benefits from significantly lower packaging and logistics costs. Packaging the end-table with ARCEL resin:

- » Reduces cube size by 23% (volume) & packaging weight by 5%
- » Delivers \$1 per unit savings in packaging material cost and \$20 per unit savings in delivery cost
- » Improves the quality of the packaging and presentation of the product to the consumer

The ARCEL resin solution reduces the total packaging cost by more than 20%

Cost Comparison: ARCEL resin vs. EPS

	EPS and Corrugated	ARCEL resin Solution	Improvement
Box Dimensions			
Length (inches)	29.0	27.3	1.7
Width (inches)	21.0	19.3	1.7
Height (inches)	20.5	18.3	2.2
Gross Weight (lbs)	45.6	43.2	2.4
Units/40 ft. Container	276	360	84
Estimated Costs			
Net UPS 3-Day Cost	\$64.99	\$48.92	\$16.07
Freight from China	\$19.93	\$15.28	\$4.65
U.S. Land Freight	\$1.11	\$0.87	\$0.24
Total Savings (per unit)			\$20.96

For more information e-mail arcel@novachem.com or visit www.ARCELresins.com