



Packaging Recommendations for Full Cases of Wine for Distribution via the Single Package Environment

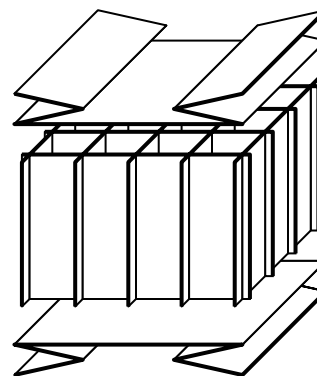
Executive Summary

The dynamics of the single package environment require packaging suitable for numerous low intensity shocks, as well as compression and vibration in any orientation. Wine shipped via the single package distribution system is very susceptible to damages from shocks from the outside environment. This report addresses two potential solutions that have passed lab testing and have proven successful in the field.

Corrugated Partitions:

When shipping a large amount of product (9 items or more), an extended-cell partition, along with top and bottom scored corrugated pads works well (see Figure 1). The partition and top and bottom pads should be made of a double-wall corrugated material to ensure adequate strength and protection. Keep in mind the following:

- Make sure the product is held secure in each cell and that the ends of the partition are positioned flush against the side-walls of the shipping container.
- Keep the extensions of the partitions and trays to at least $\frac{3}{4}$ " and no more than $1\frac{1}{2}$ ". If the extensions are too long, they could buckle and cause the partition to shift or fail.
- The partition flutes need to be oriented horizontally to help prevent the extensions from buckling.



Molded Expanded Polystyrene (EPS) Foam:

Another option when shipping quantities of 12 wine bottles is a molded EPS foam encasement. (see Figures 2 & 3). The molded foam is comprised of two pieces, one bottom and one top. The top piece locks with the bottom piece when assembled to form a complete fit. The mold is designed with individual compartments for the bottles to maintain separation, as is with the partitions above.





External Protection:

Due to the weight and density of the wine bottles, it is appropriate to use a double-wall corrugated shipping container with a minimum bursting strength of 275 pounds per square inch.

To ensure an adequate closure, seal the container with two-inch wide pressure sensitive poly tape using the six-strip tape method or three-inch wide pressure sensitive poly tape using the two-strip tape method. It is recommended to use a polypropylene film-backed pressure sensitive tape with a nominal mil thickness of 2.5 mils. The material should have a longitudinal tensile strength of at least 30-lbs per inch-width and transverse tensile strength of at least 60-lbs per inch width. The holding power to fiberboard should be at least 8,000 minutes.

Summary

To ensure the packaging provides adequate protection to your wine bottles, it is strongly encouraged to have samples of the packaging made and tested in accordance with industry recognized test standards. This will also help prevent you from implementing new packaging and methods that may not be successful.

Contact us toll free at 877-877-7229 for more information on package evaluation and testing.