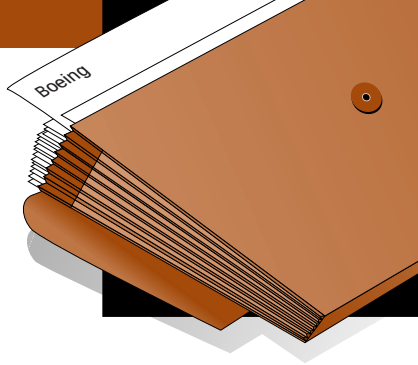

No Turbulence

Boeing's engineered wood containers travel the world

Application Summary

COMPANY
Boeing Defense & Space Group

LOCATION
Seattle, Washington

MATERIALS HANDLING SYSTEM
Plywood containers

PRODUCTS PACKAGED
Aircraft components

CONTAINER MANUFACTURER
Boeing Shipping Support Department

While Boeing's planes may be "up in the air," their decision about container fabrication materials is not. The Boeing Defense & Space Group Shipping Support Department manufactures thousands of boxes per year and relies on plywood as an integral part of its materials handling program.

Finished airplanes aren't delivered in a box, but many components of Boeing aircraft are crated and shipped throughout the world during the manufacturing and assembly process.

"Our goal is zero-percent damage and we're pretty close," said Gary White, supervisor of shipping support at the Boeing Defense and Space Group. "The cost of our containers is sometimes considered to be high, but in relationship to the value of the parts, it's really no contest – quality is our top priority and plywood is one of the components of our system."

The Boeing Shipping Support group employs a number of engineers who design some 120 container configurations each year for in-plant storage and external shipping. Currently, the Container Fabrication Department builds an average of 400 boxes per month, ranging in size from several cubic feet to 4000 cubic feet. Depending on the container's end use, engineers specify several different materials for box manufacture including rated plywood, steel, corrugated fiberboard, and lumber.

"We use plywood because the price is right, it's a good product, it's strong, and it also does protect from the weather," noted White.

One of more than 100 plywood container designs at Boeing.

The plywood box used to ship the AWACS Radome is 4000 cubic feet.

Plywood boxes leaving the warehouse at Boeing.

"We've been using plywood for as long as I've been here and I just celebrated my 39th anniversary with the company," said Ron Monroe, packaging engineer.

One of Monroe's more critical box configurations is one he designed in 1978 for the Airborne Warning & Communication System (AWACS) Radome radar dish. The box, which is still made to the same specifications today, weighs 6800 pounds, measures 4000 cubic feet, and is used to ship the 2000 pound, multi-million dollar Radome.

White says the AWACS container is "used for up to ten years and after that, we refurbish it and use it some more. So, it's a long-term storage and shipping container."

Boeing designs boxes for a number of other large, expensive parts for products like B-2 bombers, Sea Launch commercial satellites, and airplane wing skins. Some containers are reusable, while others are intended for one-way shipping. Many of the container designs must meet Federal regulations and shipping requirements for hazardous waste.

Plywood is an ideal choice for reusable containers, which must be durable and strong enough to endure multiple trips and repeated handling.

"Our containers are designed to go many times all over the world, using various modes of traffic such as trucking, trains, airplanes, and ships," White said.

Another reason Boeing uses plywood containers is easy recyclability. Materials like steel and plastic, for example, often present disposal challenges. Monroe said panels from old containers are often sold at one of the Boeing surplus stores.

White notes that he isn't just guessing that plywood has been a good choice for their materials handling system – records prove it. His department compiles a detailed monthly report that tracks the type and number of containers fabricated, cost of materials and labor, container repair costs, and average container cost per cubic foot.

Based on the data contained in the monthly reports, White concludes, "We do feel the price is right."

Engineered wood can help contain materials handling costs for virtually any industry. To find out how your company can benefit, contact one of the APA offices listed below.

We have field representatives in most major U.S. cities and in Canada who can help answer questions involving APA trademarked products. For additional assistance in specifying APA panel products, get in touch with your nearest APA regional office. Call or write:

WESTERN REGION
7011 So. 19th St. ▪ P.O. Box 11700
Tacoma, Washington 98411-0700
(253) 565-6600 ▪ Fax: (253) 565-7265

EASTERN REGION
2130 Barrett Park Drive, Suite 102
Kennesaw, Georgia 30144-3681
(770) 427-9371 ▪ Fax: (770) 423-1703

U.S. HEADQUARTERS AND INTERNATIONAL MARKETING DIVISION
7011 So. 19th St. ▪ P.O. Box 11700
Tacoma, Washington 98411-0700
(253) 565-6600 ▪ Fax: (253) 565-7265
Internet Address: http://www.apawood.org

(Offices: Antwerp, Belgium; London, United Kingdom; Madrid, Spain; Hamburg, Germany; Mexico City, Mexico; Tokyo, Japan.) For Caribbean/Latin America, contact headquarters in Tacoma.

Form No. X130/Issued July 1997/0050

A P A

The Engineered Wood Association