

# QUALITY REQUIREMENTS FOR EXPORT TO JAPAN

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Vanport as a company, has been selling to the Japanese market for over 25 years. I have been with the company since 1988 and we have produced DF KD beams for the export market since 1989. At startup we used primarily 6 dehumidification kilns, but eventually transitioned into steam kilns.

Currently, since we closed our two mills in Boring, Oregon, we are processing and selling approximately 900 mbm of DF KD products to Japan from our other mills in the USA and custom processing mills in Canada.

## Current Market Facts About Beam Usage in the Japanese Classical Housing Market

1. Housing starts for 1999 were 1.2 million units
2. Post and Beam construction was 458,000 units
3. Average usage about 2300 b.f. per unit
4. Monthly usage about 85 million b.f.
5. Current market breakdown
  - a. 75% Green DF Hirakaku (about 64 million b.f.)
  - b. 15% KD Solid DF Hirakaku (about 13 million b.f.)
  - c. 10% Laminated DF (and Japan) and Whitewood (Europe)

## Future Market for KD Beams

In the next 1-3 years, the market is projected to be 50% KD solid or engineered products. If current housing starts maintain this could be 43 million b.f. a month. Worldwide competition is growing and competition is keen on the Japanese market with the following 3 issues as keys to future business: Price competitiveness, quality, and delivery times. Currently, the product is being produced for the Japanese in Europe, China, Russia, New Zealand, Chile, and North America.

## Reasons for strict quality standards on KD beams

1. Cultural viewpoints of the Japanese home purchaser, where everything is visual and anything that doesn't look right is a problem. This has become more extreme as homebuilder's publish documentation on why their homes are better than their competitors.
2. A 10-year guarantee is now required of the homebuilders by the Japanese government (hinkakuho). Some builders are taking out product liability insurance on the homes they build.
3. Less middlemen/wholesalers: End users are less willing to deal with fall down items, increasing the restrictions on splitting, twisting, mold growth, and size variations.
4. Competition from other products in quality, pricing, and availability from other suppliers and countries. The two major competitors of KD beams today are (1) Green solid beams

due to pricing and ability to produce and ship promptly; and (2) Whitewood/Red Pine laminated beams out of Northern Europe because of quality and price.

**Current standard practices within the successful KD beam producers.**

1. Presorting of raw material/logs
2. Presorting of the rough lumber before entering the kiln.
3. Providing enough fiber/size on the piece to clean up at the planer after drying.
4. Kiln schedules of between 9-14 days. The largest beam dryer in Japan averages 14 days drying and 7 days of equalization in a shed on every run.

When all conditions are controlled effectively, the fall down rate at the planer can be 10% or less. That being said, the biggest producer of dry beams in Japan averages 20% fall down after the kilns.

**Current problem issues that plague the North American beam products to Japan.**

1. Inconsistent drying causes heavy checking and twisting when product is dried too fast or at extreme temperatures.
2. Mold problems occurring from reducing the surface moisture content, but not the internal or sap wood moisture content. To reduce the risk of mold, the moisture content should be 20% or less, and average 18%. Chugoku Lumber (see Table 1) in Japan advertises its product as 18% or less, and thus an average of 15%.
3. Competition: #1-KD producers in Japan. They guarantee the product and take returns. Some plants actually strength-test each piece so it can compete against Laminated Beams. #2-Green Hirakaku - this is an established market and is price-driven (this market will greatly decrease in the future). #3-European/Far East Laminated Beams - quality is nice and price is reasonable.

**Current supply of KD DF beams**

- |                      |                            |
|----------------------|----------------------------|
| 1. Washington State: | 1.5-2.0 million b.f. month |
| 2. Oregon:           | 3.0-3.5 million b.f. month |
| 3. British Columbia: | 0.8-1.2 million b.f. month |
| 4. Japan:            | 8.5-9.0 million b.f. month |

Total Supply: About 13.8 to 15.7 million b.f. month

Current Demand: About 13 million b.f. month

**Summary**

The Japanese KD beam market can be steady and profitable, but it requires consistent drying and quality on a regular basis. We cannot transfer how we process U.S. products directly to the Japanese market. The requirements for drying Japanese products is nothing extraordinary, it just requires patience.

TABLE 1. Summary kiln dry lumber operations at Chugoku Mokuzai.

Gohara Plant: 30,000 Tsubo in area

**Douglas-Fir KD Hirakaku Plant:** 120 mm - 40%/105mm-60%

**Kiln Capacity:** Current 218 kilns=10,900 cubic or 4.6 mmbm  
June forecast 290 kilns=14,500 cubic or 6.1 mmbm  
Maximum future 450 kilns=22,500 cubic or 9.5 mmbm

**Planer Facility:** 1 planer for KD, and 1 planer for rerun

**Boilers:** 3 hog fuel burners with 1 for the future

**Generator:** 400 KW Diesel generating plant  
Kiln facility control is managed by 24 people

**Drying Schedule:** 14 days in the kiln, max temp is 80°C/176°F  
7 days of equalization in a shed after KD  
The temperature is held low to reduce brittleness  
Equalization automated storage capacity of 4.2 mmbm

**Strength Testing of the Beams:** Young's Modulus  
Red=120+  
Blue=100-119  
Yellow=70-99  
\*\*\*Less than 70 only occurs 0.1% in Douglas-fir  
\*\*\*30:1 pieces are actually tested +/-variance of 1%

**Laminated Beam Plant:**

1<sup>st</sup> floor: Grecon finger jointer, planer for surfacing of lam stock  
2<sup>nd</sup> floor: Lam press, 2<sup>nd</sup> planer for surfacing and testing  
New facility is built which will handle up to 12 meters

**Pre-Cut Plant:** 2 lines x 3 shifts=7500 Tsubo of production  
200 houses a month  
Currently installing a 3rd line  
Three sales people

**Kure -Main Mill KD Capacity:**

Current: 76 kilns=6000 meters or 2.5 mmbm  
Future: Expandable to 15,000 meters or 6.3 mmbm

**Chugoku's Company Goals:**

500 kilns, 70% KD and 30% green in their sales.  
Currently 18,000 meters of KD Hirakaku (4/00).