

# SHIPPING GREEN WEST COAST HEMLOCK AND DOUGLAS FIR ON STICKERS

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## INTRODUCTION

Currently almost all of our coast sawmill production destined for offshore export is shipped green. Through the judicious use of anti-stain chemicals, water repellents, end sprays, and various coverings the industry has succeeded in presenting an acceptable "wet" product to the marketplace. However, it is evident that the ability to offer a drier product may come under increasing pressure. Given the current furor over the use of PCPs and the increasing reluctance of buyers to accept stain, mould, checking, and warp in the products they buy, one may have to present a better quality product just to stay in the marketplace.

People in the kiln drying business know that storing lumber on sticks prior to kiln drying greatly enhances the drying process. Lumber of uniform moisture content going into the kiln results in less fall down and greater drying efficiency. This study has analyzed the value of this practice in shipping to overseas markets.

Packages of 7/4" lumber were shipped both with stickers and without. The condition of the product prior to shipment and upon arrival in the marketplace was analyzed. Three separate shipments were made - two using green Douglas Fir clear and one using green Western Hemlock Clear. What follows is a description of the tests and composite of the results.

## METHOD

In order to measure the effect of hot vs. cold climate, the three tests undertaken were spread out over the year. Test one took place during the summer, test 2 during the fall and test 3 in mid winter. The original idea was to study the effect of not stickering versus stickering every 2nd row and every row. In test one, parcels were assembled with this in mind but the results of stickering every second row were so poor that this method was abandoned in the subsequent two tests.

The method of carrying out each test was very straight forward. Parcels of freshly sawn green anti-stain treated lumber were assembled at the mill under the supervision of COFI and Seaboard personnel. Each parcel was coded. Control packages were prepared in the normal block piled fashion with one layer of stickers for stability. Test packages were stickered with 5/16" lath, 4 to 5 inches from the ends and approximately every 36" to 40" along the length of the package. All packages were banded with corner protectors, attached dunnage, a layer of burlap, and were red end sealed to inhibit checking.

Packages were weighed at the mill site using a spring loaded chantillon scale. Loads were suspended using the scale and two

nylon slings and weights were recorded to the nearest 50 lbs. Each package was weighed at least twice to verify each recorded weight.

The three test lots were shipped through Seaboard's terminal via charter vessel routes through the Panama Canal. All stock was in transit a minimum of three months.

Upon arrival in Europe COFI and Seaboard personnel evaluated the stock. All packages were re-weighed and subsequent weight loss noted. In addition to weight loss all of the packages were evaluated for overall appearance, percent M.C., warp, surface and end checking, and mould and stain. All moisture content readings were taken with a resistance type protimeter "humitest" moisture meter.

## RESULTS

A summary of results is given in the Table 1 below. Generally stock that was stickered every layer when compared to block piled stock was in exceptionally good condition. The lumber lost much more weight, had a lower percent M.C., and exhibited far less checking, warp, mould, and stain.

## CONCLUSIONS

Shipping rough green lumber on stickers has some distinct advantages. The lumber arrives in the marketplace in a drier condition looking cleaner and brighter with less stain, less warp, and less surface checking than conventionally block piled lumber. There is no doubt that such a practice will increase customer satisfaction.

## AFTERTHOUGHTS

There are a number of concerns yet to be addressed when deciding to ship rough green clear on sticks. The cost of such a practice ranges from \$25 (Cdn.) to \$40 (Cdn.) per 1,000 fbm. Is there enough incentive in the marketplace to justify this? Another problem is the stock normally has to be restickered at destination as 5/16" stickers are simply too thin to provide efficient drying. Horton & Resch (Kiln Club Proceedings, 1976) did an investigation of sticker thickness on drying efficiency and indicate an ideal thickness to be 9/16" + 1/16". Would there be enough gains by moving up to a 3/8" or 7/16" sticker to convince buyers to dry stock as shipped, thereby eliminating the need to resticker? Finally, the shrinkage caused by increased moisture loss in transit can create loose bands, sticker loss, and package instability. Are there suitable stretch type synthetic bands available, that could replace metal bands and help alleviate this problem?

SUMMARY TABLE STICKER TESTS (COMPOSITE)

<u>TEST I</u>	<u>TYPE OF STOCK</u>	<u>% WEIGHT LOSS</u>	<u>% M.C. DISTRIBUTION</u>	<u>STAIN &amp; MOULD</u>
Stickered April 4/84 Analyzed July 25/85	7/4" x random Rgh. green clear W. Hemlock			
<ul style="list-style-type: none"> <li>● Control Packages (4)</li> <li>● Stickered every 2 rows (4)</li> <li>● Stickered every row (4)</li> </ul>		14.5% 10.0% 22.3%	over 27% M.C.: 78.4% over 27% M.C.: 36.9% over 27% M.C.: 6.0% * *(average 21.0%)	25.0% of pcs. 10.0% of pcs. 1.7% of pcs.
<u>TEST II</u>				
Stickered July 18/84 Analyzed Nov. 13/84	7/4" x 4", 7/4" x 8" Rgh. green clear W. Hemlock			
<ul style="list-style-type: none"> <li>● Control Packages (2)</li> <li>● Stickered every row (28)</li> </ul>		6.4% 23.7%	over 30% M.C.: 62.0% 26-30% M.C.: 27.0% 20-25% M.C.: 11.0% over 30% M.C.: 25.0% 26-30% M.C.: 25.0% 20-25% M.C.: 45.0% under 20% M.C.: 5.0%	7.0% of pcs. 4.0% of pcs.
<u>TEST III</u>				
Stickered Dec. 14/84 Analyzed Mar. 13/85	7/4" x random Rgh. green clear Douglas Fir			
<ul style="list-style-type: none"> <li>● Control Packages (2)</li> <li>● Stickered every row (14)</li> </ul>		<4.1%> (gain) 8.7%	over 28% M.C.: 99.3% 28% M.C.: 55.2% 20-27% M.C.: 44.8% * *(average 25.0%)	1.4% of pcs. NIL