The Problem: What are Some of the Advantages and Disadvantages of Package-Loaded Kiln Trucks?

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A previous article discussed the advantages, and problems associated with a package-loaded trackless dry kiln. The advantages and disadvantages of piling packages of lumber on dry-kiln trucks for conventional kiln designs are considered here.

Where lumber is handled with straddle trucks and lift trucks at a producing plant or factory, handling costs of yarding the lumber for air drying and subsequent kiln drying can be greatly reduced. The increasing popularity of these machines to handle lumber indicates the economies that are to be gained.

Many new plants are installing conventional dry-kiln equipment to be used in connection with unit packages of lumber loaded on kiln trucks; and numerous existing plants are converting their air-drying yards to take advantage of the reduction in costs that are obtained by simplifying the piling for kiln drying.

Other than the possible savings in handling costs, there are advantages that the handling of lumber packages with kiln trucks may develop. These may be summarized as follows:

1. Increased flexibility is gained over the trackless loaded kiln, particularly where tracked yard space is available for loaded kiln trucks. Kiln charges can be built up some time prior to charging. Like drying items can be collected to make up the kiln charge.

2. Because the lumber is placed on kiln trucks, the kiln can be loaded and unloaded quickly, thus achieving very important savings in kiln time and increasing kiln output.

3. Special dry-kiln designs and kiln equipment are not needed. Conventional kiln equipment is usually used, and where modifications are necessary they only need be of a minor nature. Problems of baffling to control air movement are not so serious as with the side-loaded trackless kilns. Air travels are not so long as in some of the side-loaded trackless kilns, and the possibility of getting nonuniformly dried stock is not so great.

The disadvantages of package-loaded kiln truck are primarily associated with the building up of the unit lumber package and its handling prior to its placement on the kiln trucks. These are:

1. Excessive breakage or distortion of lumber is likely because of improper placement of the bunkers between packages. If these package separators are not placed under the supporting stickers, the bending stresses may be very great.

2. Lift-truck handling of packages of lumber may result in damage where the truck operators are not careful. Forks may chew up the edges of the boards near the bunkers if not properly guided into the spaces provided by the bunkers.

3. Lumber may warp if the end stickers are displaced because of rough handling. Good roadways are essential where stickered packages are transported with straddle trucks or moved with lift trucks. Concrete, macadam, or wood trams aid in keeping stickered packages in good order. Figure 1 shows a wood tram in the area where the lift truck is building up the kiln trucks.

Although the use of the straddle trucks for transportation and that of the lift trucks for loading the kiln trucks eliminate the need for restacking for kiln drying, the problems associated with building up good unit packages must be settled. In this respect the problems are the same as for the side-loaded trackless kilns.

Sorting lumber for length and use of sticker guides to get good sticker alignment are essential.

The question of whether the bunker space between packages should be baffled to prevent air circulation losses has not been completely and satisfactorily answered. It would seem desirable to block this space, but the cost of doing so as against the likelihood of getting nonuniformly dry lumber seems to be in favor of not blocking these spaces. At the present time, at least, most plants are not trying to baffle these openings between packages on kiln trucks.

In some cases the unit packages of lumber are small, such as 4 by 4 ft., and a popular kiln-truck load is two package units wide and three units high. In other instances the unit package is 6 or even 8 feet wide, and the lift truck is provided with extra-long forks to handle so wide a unit. Sometimes these wide units are placed on bunkers both at end of the unit as the load is built up on the kiln truck, and when the fork is withdrawn these bunkers are knocked out with a sledge. Thus the load appears to be quite similar to a conventionally piled kiln-truck load. Where take-down does not require lift-truck handling, the elimination of the bunkers in some such manner as this becomes desirable.

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