

Portable Pile Foundations

By C. C. Brown, B & D Lumber Co., Redding, Calif.

Package or unit handling of lumber is finding increasing acceptance because it reduces labor costs. Fewer man-hours are necessary to handle a given amount of lumber. Fork-lift and carrier handling of unit packages of lumber has revived great interest in air drying. Wider use of anti-stain chemicals has also greatly reduced the once common air drying defect, blue-stain.

Air dried packages of lumber can also be moved from the yard and piled for kiln drying, either directly into the kiln or onto kiln trucks. More companies are air drying common grades and air drying or partially air drying upper grades for topping off and setting the pitch in the kiln. Kiln capacity is thus substantially increased.

Any foundation or Pile Bottom must be built to promote air circulation, both in and out of the yard, and through the packages of lumber themselves.

Natural air circulation in a lumber yard is contrary to what many good lumbermen believe. The weight of air is increased due to the cooling of evaporation. The weight of air is decreased due to the addition of the water vapor, but this change is less, and the net effect is heavier air. Therefore, the natural circulation is down through the piles of lumber and it is very important to have foundations high and free from obstructions that tend to stop the circulation. You have undoubtedly noticed that in yards with poor foundations the greater amount of stain and heavy lumber is in the bottom courses. The need for good pile foundations to promote air circulation cannot be overstressed.

Climatic conditions affect the rate of drying on the yard. It is sometimes profitable to alter the pile spacing in various seasons. In Redding the rainfall is heavy in the winter, yet the winds are very hot and dry in the summer. We find it necessary to use different spacing methods in the two extreme seasons. Because of our varied sales program and an ever-changing market, we are also faced with the constant change of yard and storage requirements. I use our custom plant, for an example because it presents most of the problems faced in the industry. It is often necessary to handle mill run lumber for several different customers at one time. After the lumber has been dipped, trimmed, graded, tallied and placed on stickers for drying, it must be placed in the yard according to grade, thickness, species and customer. Most customers require their lumber placed in one section of the yard for insurance and inventory reasons. This, of course, requires a great many segregations in the yard and these requirements may change considerably from month to month and year to year, which certainly makes portable foundations most important. It is therefore necessary to change the shape and size of our yard. It must be done rapidly and economically.

This same problem has taxed the ingenuity of many yard men, and several types of portable pile foundations have been developed and are working nicely. The labor cost for construction is low and most of them utilize relatively low grades of lumber that are generally unmarketable. The pile foundations we have developed in our own yard are made of low grade dimension in ten and twelve-inch widths and two-inch thickness, preferably pitchy stock for mud sills and stringers. Short sections of veneer cores are used for risers. Short sections of timbers could be used equally as well as the veneer cores.

We move these pile foundations with a fork-lift. A fork-lift can pick up five of these foundations, sixteen feet long, in one move, which makes the removal and replacement very efficient. We recently moved all the pile bottoms from a section of yard with a million foot capacity. We bladed the

ground and replaced the foundations with a fork-lift and only two men. The entire operation was completed in one eight-hour day. We have used most of the foundations for two and a half years with no apparent deterioration or breakage.

HERALD. MOUNT SHASTA