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Comparison of Seasoning Defects due to Different Kilns and Kiln Schedules for Teak

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Abstract

Timber is one of the major construction material in Sri Lanka and timber seasoning is a common practice for achieving dimensional stability. The industry uses timber for interior and exterior joinery work such as doors, windows, door and window frames and panelling. However, forming seasoning defects is a common issue which prevalent in this industry. Therefore this study is conducted to identify defects caused by seasoning for teak timber and to find out solutions. For this reason, there different kilns located in Biyagama, Horana and Kottawa, operated under different schedules were selected. The impacts of three schedules were tested using teak planks. Kiln temperature and moisture content were measured for the entire seasoning period. Cupping, twisting and end cracking were measured as defects. Moreover, prong test was also conducted to determine the stress condition of the dried wood samples. Among the selected kilns, only one was maintained under the operating parameters recommended by the kiln manufacturer. The results revealed that the kiln which was programmed to regulate temperature produced the least amount of defects. However, moisture content was not programmed for any of the kilns. Therefore it can be concluded that temperature has more impacted on causing defects on timber drying in the seasoning period. Therefore it is essential to regulate the temperature as per with kiln schedule.

Keywords: Construction industry, Timber identification, Seasoning issues, Kiln drying