PRE-TREATMENT EFFECTS ON HYDRATION BEHAVIOUR OF CEMENT BONDED BOARDS MADE FROM *EREMOSPATHA MACROCARPA* AND *LACCOSPERMA SECUNDIFLORUM* CANES

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Abstract

The effects of pre-treatments on the setting time (t_{max}), maximum hydration temperature (T_{max}) and time ratio (t_R) of two rattan species (*Eremospatha macrocarpa* and *Laccosperma secundiflorum*) particles mixed with Portland cement were investigated. The untreated *E. macrocarpa* and *L. secundiflorum* had t_{max}, T_{max} and t_R of 12.4 and 11.9 h, 59.1 and 58.3°C, 1.1 and 1.1, respectively while cold water treated *E. macrocarpa* and *L. secundiflorum* had t_{max}, T_{max} and t_R of 10.7 and 10.0 h, 63.3 and 65.1°C, 1.0 and 0.9, respectively. $CaCl_2$ pre-treated *E. macrocarpa* and *L. secundiflorum* had t_{max}, T_{max} and t_R were 5.2 and 5.6 h, 83.7 and 78.6°C, 0.5 and 0.5, respectively. Therefore, $CaCl_2$ pre-treatment significantly served as an accelerator to improve cement hydration parameters better than cold water. Findings showed that *L. secundiflorum* inhibited cement setting more than *E. macrocarpa* due to its higher sugar content.

Keywords: rattan canes, pre-treatment, cement bonded boards, compatibility indices