

Tests of Wood Ash as a Potential Source for Construction Materials

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ABSTRACT

PCA's wood ashes have considerable potential for many applications. However, the performance of these ashes needs to be established for individual applications. The following are some of the high-volume applications that would require further evaluation. These applications would consume all of the wood ashes produced at Tomahawk, WI. Flowable Materials have up to 1200 psi compressive strength, have flowing mud-type of consistency and fluidity, contain very little portland cement and a lot of water, and consist mostly of ash or similar materials. It is believed that concrete Bricks, Blocks, and Paving Stones could also be made with the wood ashes tested. Additionally the fly ash and precipitator ash should be useful for replacement of clay in clay bricks manufacturing. The test data collected also indicate that these wood ashes can be used as a partial replacement of aggregates and/or cement in Medium-Strength Concrete. It is also concluded that there is a potential for high-value use of the fly ash and precipitator ash in manufacturing Blended Cements. Soil stabilization or site remediation is another significant potential use of the ashes. For example, for log-yard paving (Roller Compacted Concrete Pavement) these wood ashes can function as a soil stabilizing or strengthening medium as well as significantly improving the performance of log-yards and reducing cost of handling logs and minimizing waste of logs.