
BEETLECRETE – AN ATTRACTIVE SOLUTION TO MOUNTAIN PINE BEETLE EPIDEMIC

Sorin Pasca, PhD Candidate, Ian Hartley, PhD

University of Northern British Columbia, 3333 University Way, Prince George, BC V2N 4Z9, Canada – pasca@unbc.ca

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Abstract.

Moldability is key property for making wood cement mixtures for decorative applications such as counter tops, planters, benches, floor tiles, stepping stones, statues, etc. Beetlecrete was created as a hybrid wood and cement composite meant to be poured in forms as regular concrete but also to be machinable like other wood based materials. The wood from mountain pine beetle killed trees showed a decrease in extractives with time since death and consequently, an increase in the chemical compatibility with Portland cement. However, the beetle-killed wood's higher permeability affects the fluidity of the wood cement mixture by reducing its molding capability. Torrefaction is proposed as a method to reduce the water absorption capacity of the wood chips and therefore to enhance the quality of the particles used for Beetlecrete applications. Other effects of the heat treatment such as increased brittleness, dimensional stability, durability and aesthetics of the wood aggregates are also investigated.

