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(54) Title: BOARD WITH FIBER-REINFORCED DENSE LAYER

(57) Abstract: Disclosed is a composite gypsum board comprising a set gypsum core disposed between face (e.g., Manila) and back (e.g., Newsline) cover sheets. The set gypsum core is formed from a core slurry comprising stucco, water, and optional additives, such as foaming agent, migrating starch, accelerator, retarder, dispersant, etc. A dense layer formed from a dense layer slurry comprising stucco, water, fiber (e.g., paper fiber), and optionally, strength-enhancing starch, is disposed between the core and the face paper. The dense layer slurry contains a greater concentration of fiber, and optionally, strength-enhancing starch, than the core slurry, but the concentration of one or more other additives (e.g., accelerator, retarder, dispersant, or combinations thereof) is lower or the same in the dense slurry as compared with the core slurry. Also disclosed is a method of making board using one board mixer. In embodiments, paper fiber is added to water to form a suspension. The suspension is introduced, while in a non-laminar state, into the dense slurry. Further disclosed is apparatus, such as an extractor and an additive injection system, which can be a part of a cementitious slurry mixing and dispensing assembly.

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