

REPULPING FIBROUS RESIDUALS FROM PULP AND PAPER MILLS FOR RECYCLING IN CONCRETE

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ABSTRACT

In a recently conducted research on the use of fibrous residuals from pulp and paper mills in concrete, it was shown that inclusion of the residuals in concrete greatly improved the resistance of concrete to freezing-and-thawing and deicing-salt scaling. This improvement was due to microfiber reinforcement of concrete with cellulose fibers contained in the residuals. More fibers can participate in reinforcing the concrete if they are dispersed uniformly in concrete. Although dewatering is highly desirable for disposal of the residuals, it may cause some residuals to be less effective in concrete. Pulp and paper mill operators can contribute to much better research results and widespread use of concrete containing the residuals by providing universities and ready-mixed concrete producers with sufficiently moist residuals or even well-dispersed residuals ready for use in concrete.