

## عنوان مقاله:

Reinforcement of Cement Mortar with Waste Cotton Fluff Fiber

## محل انتشار:

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## خلاصه مقاله:

Cotton fluffs waste fiber is a useless outcome of cotton milling plant, which is directly thrown away. Laboratory studies show that the use of these fibers in cement mortar got beneficial properties in concrete. In this study fluff cotton fiber were used, as a partial replacement of cement at ranges of  $0.5 \text{ kg/m}^3$  -  $5 \text{ kg/m}^3$ . Seven different compositions, were made by using these trials and their properties were measured. Samples of  $1 \text{ kg/m}^3$  cotton fluff fiber were showed ۲۶% increase from compressive strength after ۱۱ days, but these strength differences reached ۱% up to ۴۲ days. Microstructure of samples was studied by scanning electron microscope (SEM) and fiber-concrete bonding. SEM images showed suitable bonding between cement mortar and fibers in low amount of cotton fluff. The observations also indicated that in higher amount of the fibers, dispersion will not be applied thoroughly and a mass shape in the composite will be partly found.

## کلمات کلیدی:

Composite, cement mortar, Cotton fluff fiber, Reinforcement, Compressive strength

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1899736>

