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Effect of the surface treatment of recycled rubber on the mechanical strength of composite concrete/rubber

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Volume 48, pages 2809–2814, (2015) [Cite this article](#)**Materials and Structures**[Aims and scope](#)[Submit manuscript](#)[L. P. Rivas-Vázquez](#), [R. Suárez-Orduña](#) , [J. Hernández-Torres](#) & [E. Aquino-Bolaños](#) **1380** Accesses  **73** Citations [Explore all metrics](#) →

Abstract

In this study, the influence of the addition of tire rubber in concrete was evaluated, to partially replace the fine aggregate of sand particles. The rubber fibers were also surface treated with different solvents to improve adhesion of the fibers to the concrete matrix. Compressive strength, slump test, Fourier Transform Infrared Spectroscopy of concrete samples were performed at time intervals of up to 28 days. The results showed a decrease on mechanical property values after the addition of tire rubber without treatment as well as a

decrease of workability. It was also observed that the tire rubber treatment with acetone caused an increase of the mechanical strength of the samples.

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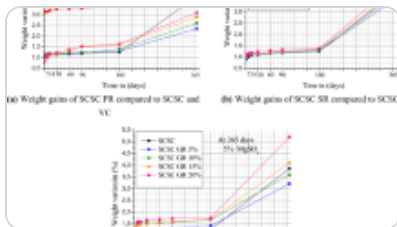
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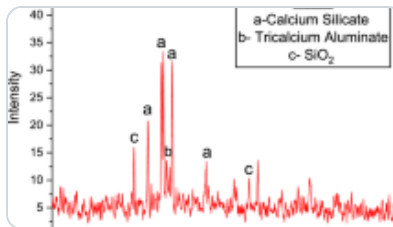
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