

‘‘ EFFECT OF STEEL FIBER AND POLYPROPYLENE FIBER ON REINFORCED CONCRETE’’

Erjola Reufi¹, Jozefita Marku²

¹Universiteti i Tiranës, Fakulteti i Shkencave të Natyrës, Departamenti Kimi Industriale,
e-mail: reufierjola@gmail.com

² Universiteti i Tiranës, Fakulteti i Shkencave të Natyrës, Departamenti Kimi Industriale,
e-mail: markujoz@yahoo.com

Abstract

This paper presents the results of an experimental study that investigated, the effects of steel fibers and polypropylene fibers on the mechanical properties of concrete. Two types of fibers used are hooked end steel fibers of 50 mm and 30 mm length with the aspect ratio of 67 (length 50 mm and diameter 0.75 mm) and 44 (length 30 mm and diameter 0.75 mm). On the other hand, three types of polypropylene fibers are used of length 12mm, 6mm and 3 mm. Steel fibers are used of 0%, 0.25%, 0.5%, and 1% by the volume of concrete and polypropylene fiber are prepared of 0 %, 0.25 %, 0.5 %, 1 % by the weight of cement. The experimental program consisted of testing the compressive strength and split tensile strength on steel fiber- reinforced concrete and polypropylene fiber-reinforced concrete. 28 day compressive and split tensile strength were prepared and tested by using cubes of dimensions 10 cm X10 cm X10cm.

Keywords: *Aspect Ratio, Steel Fiber, Polypropylene Fiber, Polypropylene Fiber-Reinforced*