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**MICROSTRUCTURAL CHARACTERIZATION OF GEOPOLYMERIC CONCRETE REINFORCED FOR STEEL FIBER**

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Geopolymers are inorganic polymers that exhibit amorphous to semicrystalline structure characterized as polysialates [2]. Geopolymer is used as agglomerate on geopolymer concrete instead of Portland cement. In this work, results of scanning electron microscopy (SEM) are introduced in order to collect informations for a better understand of geopolymeric concrete's microstructure. A Geopolymeric Cement Concrete (GCC) was developed and its characteristics were compared with Portland Cement Concrete (PCC) This concrete mechanical performance was evaluated by fatigue behavior. The SEM micrographs presented in Figure 1 show the characteristics morphologies of both concretes (geopolymeric concrete and Portland concrete). However, in both concrete's micrographs, is noticed the occurrence of irregular fracture's surface - a common characteristic of concretes. Figures 1A and 1B show the denser (and less porous) microstructure of geopolymeric concrete compared with Portland cement concrete. Figure 1C shows that the cracking propagation tends to outline the aggregate at the aggregate/matrix interface. In Figure 1E show the matrix of the Portland cement concrete and the steel fiber. The Figure 1F shows, in detailed, the formation of Portlandite's crystals present in Portland cement. A better adherence between the matrix of geopolymeric concrete and the steel fiber can be noticed in Figure 1G, starting from the smallest degradation of the interface fiber/matrix due to the inexistence of Portlandites gradients concentration in this area.