

## **COMPARISONS OF DIFFERENT SYNTHETIC FIBERS AS THE MAIN REINFORCEMENT OF AIR-CURED FIBER CEMENT**

(Paper K3)

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### **ABSTRACT**

One of the worldwide solutions for increasing the durability of fiber cement containing cellulose pulp is its combination with polymeric fibers. These synthetic fibers are designed in order to achieve improved modulus of elasticity, good adhesion with the matrix and stable behavior in the cementitious environment. Three different polymeric fibers are considered at the moment: polypropylene (PP), polyvinyl alcohol (PVA) or polyacrylonitrile (PAN). The objective of the present work is to evaluate the performance of these polymeric fibers in one low-cost route for the production of asbestos free fiber cement by Hatschek process without negatively affect the mechanical properties (strength and toughness mainly) of the composite. This technology for air cured fiber cement is already in use by Brazilian producers in commercial scale.