

# Analysis of Results Utilising Fly Ash Polymer Materials in Novel Applications

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**Abstract:** *The tasteless, non-toxic substance known as nano-SiO<sub>2</sub> is devoid of pollutants and has hydroxyl groups that help water adsorb onto its surface. Small particle size, high purity, low density, big surface area, and good dispersion qualities are the characteristics of nano-SiO<sub>2</sub>. Moreover, nano-SiO<sub>2</sub> exhibits outstanding mechanical, optical, and reinforcing qualities as well as thixotropy. Concrete's microstructure and mechanical qualities can be improved by adding nano-SiO<sub>2</sub>. For this reason, nano-SiO<sub>2</sub> is frequently employed as an additive in the building materials industry. Excellent mechanical, fire, acid-alkali, and high-temperature resistance qualities are possessed by geopolymers. Furthermore, geopolymers can be made from construction and mineral waste as raw materials. Thus, geopolymers have great promise for use as building materials and can potentially replace regular Portland cement.*

**Keywords:** Tasteless, Non-Toxic, Nano-Sio<sub>2</sub>, Particle Size, High Purity, Low Density, Big Surface Area, Good Dispersion Qualities