

## Inhibiting sulphate attack on concrete by hydrophobic green plant extract

### Abstract:

Organic base (Amine) and inorganic base (Nitrite) have been known for protection of concrete structures but are not commercially indigenous to most developing economies due to manufacturing difficulties and are toxic to the environment. Also inhibitors are not known to stop sulphate attack in concrete. Hence, the objective of the present investigation was to study a novel, eco-friendly and hydrophobic green plant extracts inhibitor and compares its effectiveness with established calcium nitrite and ethanolamine inhibitors. *Bambusa Arundinacea* (Green plant extracts), calcium nitrite and ethanolamine corrosion inhibitors were selected for the present investigation. Compressive strength of 100×100×100mm concrete cubes after 7, 28 and 90 days of curing test was used. The results of the inhibitors studied showed that *Bambusa Arundinacea* has superior compressive strength compared to calcium nitrite and ethanolamine. *Bambusa Arundinacea* may be considered a better substitute for nitrite and amine- based corrosion inhibiting admixtures for durable concrete structures due its pore blocking effects.