

CH205

Ingredients

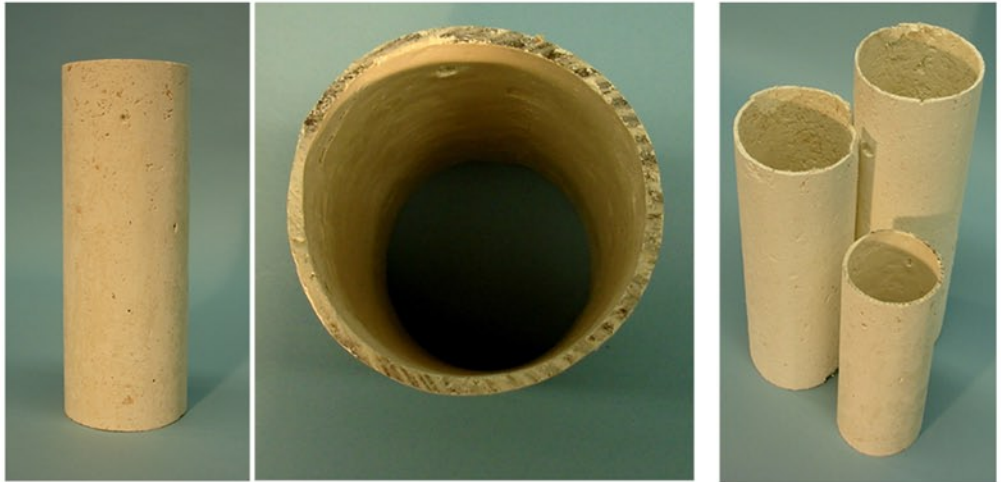
Snowcrete (white cement)
Glass fibres
Wallpaper paste
water

Method

Dry mix cement with glass fibres. Mix wallpaper paste with water separately. Combine. Mix well.

Application

Do not compress too much as to avoid removal of excess water from the mix which tampers with the degree of opacity of the concrete.



We decided to add a water based compound admixture to the cement to allow us to make the material less dense, thinner and less brittle. Our first thought was to use gelatine as an admixture as it also reacts with water allowing it to set. Our investigations lead us to look at applications where gelatine is used.

'The advantage of using gelatine as a binding agent is that the bound asbestos mixture can be mixed with cement in a subsequent process. The resultant block is so hard that the asbestos fibres remain permanently bound and can be disposed of in landfill.

In the near future, gelatine could be of great help in a tanker accident where thousands of litres of oil pollute the sea. Why? The basic principle is simple: oil and water don't mix. By adding an emulsifier, such as surfactants, we obtain a suspension of oil in water. As a result, little drops of oil are formed that float in the water. The cold, aqueous phase is transformed into the jelly phase by the addition of the aggregate gelatine.

This results in systems that are stable, capable of being cut and subsequently stored for a longer period of time. In the event of an oil tanker accident, any oil spillage could be solidified and cut into pieces, hence warding off an environmental disaster.' (www.gelatine.org)

We decided to use wallpaper paste as an admixture as it was affordable and readily available unlike gelatine. Glass fibres were used as an aggregate as fibre cement is already a known concrete technology. We experimented with different ratios of cement to wallpaper paste, making sheets of the material each time, allowing it to dry and observing its qualities.

After we were happy with the material in sheet form we tested different methods of shaping the material. The first method we used was to compact it within a mould of two different tube sizes. We found this technique to reduce the light transmittance. The second method we used a tube as form work and placed the wet material upon it and gently rolled it until we got the desired thickness. The tube was then wrapped and allowed to cure until enough strength had been formed to enable us to remove the formwork. The material was then sanded until a polished finish was gained.

Qualities of the material: Light, Opaque, cheap alternative to alabaster, thinner profiles

Applications: This material can be used in light shades, lighting features, back lit feature walls.

