TITLE OF INVENTION: HOLCIM PERMECRETE

Specification/Description

In Singapore and other similar places, there is a heavy down pour of rain water frequently. This needs an elaborate drainage arrangements and most of the water is run off.

This invention conserves the rainwater as it is quickly drained to ground water table and as such becomes a useful source of natural water.

Further it also permits plant roots to pass through. It also conserves the scarce natural resources like sand.

Technically it is specially designed strong concrete (compressive strength 35 MPa and above) with unique properties and as such suitable for all types of parameters.

Novelty

It is a unique judicious combination of Ordinary Portland Cement (OPC) (17%), 10mm and below granite stones (62%), with retarder (300ml per 100kg cementitious materials) and water with water cement ratio of 0.36, mixed in a special way so that each aggregate particle is suitably coated with cement water paste. The placement of the concrete is also done by a special method used so that it remains pervious but get well compacted.

It is also low density concrete (density around 1800kg per cubic meter) against that of normal concrete of density 2350 to 2400 kg per cubic meter) having sound and heat insulation properties and this can be used for further following applications.

1. Partition walls so that enhancing sound proof properties.

2. Better insulation of sound, thus reducing noise pollution to neighbours.

3. Better insulation of heat thus reducing energy costs for heating or cooling of the room.

4. Lower load on foundation due to 25 percent less dead weight for the members cast with the same.

This product specially designed and having unique properties provides financial, environment and technical advantage over normal concrete.

1. It is a one invention but due to it’s multi-advantages, it can be advantageously be used for more than one application. Further it is light weight concrete and can

be designed to have densities from 1700 to 1950 kg/m^3. It has voids of about 25 to 30% thus when used in partition walls, it would provide thermal and sound insulation thus it can provide energy conservation as far as air conditioning cost is concern and it would provide better acoustic properties. It would have compressive strength in the range of 15 to 35 MPa thus serving structural and non-structural use.

2. Holcim Permecrete is a specially created light weight concrete which is strong and pervious to permit the water to pass through it so that it is conserved and goes to add to ground water and making environment friendly.

3. Further it conserves natural resources like sand, etc being no fines concrete.

4. It also permits plant roots to grow through it as such on pathways, we can grow grass etc. to make it natural and environment friendly.

5. It is best suited for carparks, cycling tracks, pathways, etc in Singapore where there are rain pours intermittently throughout the year and as such this rain water is conserved being absorbed into the ground through pervious concrete and adds to ground water table and also keeping the concrete surface clean and dry.

Claims

1. This unique product Holcim Permecrete having special technical features as characterized by the unique judicious combination of Ordinary Portland Cement (OPC) of 17%, 10mm and below granite stones of 62%, with retarder of 300ml per 100kg cementitious materials and water accordance to water cement ratio of 0.36, mixed in a special way so that each aggregate particle is suitably coated with cement water paste. The placement of the concrete is also done by a special method used so that it remains pervious but get well compacted, shall be having exclusive intelligent property rights for the inventor and anyone trying to utilize this combination directly or indirectly and copying the same would be breaching the patents filed for this product by the inventor and the said party would be liable for legal actions.