



# Dry Tech Aerogels (Pty)

## Pothole Repair Kit Product Sheet

### Background

The latest count of potholes that was done was about one year ago in South Africa and grown by the hundreds per day as we write this comment. The other problem is the method and material used cold asphalt that do not seal the pothole and is very difficult to work with. Dry Tech Aerogels has designed a pothole repair kit (PRK) that is cold, green and very easy to work with. The repaired hole will be ready in 30 minutes to drive over.

### Benefits

PRK is a product specifically designed for the effective closing of potholes at an affordable price and to create work for a large quantity of jobless people. Benefits of one of the ingredients in the formulation is hydrophobic aerogels that not only strengthens the PRK product but also to make the area surrounding the hole hydrophobic and will not allow water to enter the repaired hole and attack the bearing of the road it can be said that the total area is sealed off. For each hole that has been fixed with PRK another huge benefit of aerogels will be the fight against global warming. Each hole will represent a tree that will absorb CO<sub>2</sub> as it is one the most important attributes of Silica aerogels. Another important benefit of PRK is that it can be mixed with many aggregates from river sand (good), soil, clay, fine crusher, fine Mittal slag (best) making it very cheap to use.



### Other unique attributes of aerogels

This unique technology offers additional benefits....

- Free of allergenic solvents, POP s and plasticisers
  - Wet abrasion resistance to DIN- 13300
  - High opacity to DIN -13300
  - Crack bridging elasticity
  - Rejects soiling agents and algae
  - Powerful adhesion to a wide range of substrates
  - Flame retardant to B1-DIN 4105
  - .Extremely high solar light reflection, up to 98%\*
  - .UV, weather and aging resistant
  - .Crack bridging
  - .Absorption of all VOC's, CO<sub>2</sub> etc. Act like a tree
  - .Excellent bonding to most substrates including metal, easy to apply.
- \* Level of solar reflection varies depending on the colour of the paint 98%= white base coat

### Method of applying

A two component system, consisting of Component A and Component B.

### Always mix both components well before mixing

### Liner coating

Mix 1 part of Component A with four parts of Component B. Mix well and use to coat the outer rim of hole (100mm) and the total inside and edges of hole.

**Aggregate's that can be used;** River sand (good), Soil, crusher sand, Mittal slag crusher sand (best) etc.

### Mixing Instructions

Mix 1 part of Component A to 2 parts of Component B and add to aggregate. Mix well, aggregate to be well covered and semi dry not very wet and fill pothole. Make product level and compact well add more product to make sure that the fixed area is level with the road and will not let water standing as a pool.



Clean hole from dust and apply liner coating



Pothole inside must be properly coated with liner coating



Fill pothole and compact level to existing road

### How much to mix

A standard wheelbarrow can do 0,75m<sup>2</sup>, this will take about 1 litre of Component A and 2 litre of Component B to mix and will be enough for a 0,75m<sup>2</sup> pothole.

### Mix Sizes

- ≤ to 0,50m<sup>2</sup> pothole - ½ wheelbarrow
- < to 0,75m<sup>2</sup> pothole - 1 wheelbarrow
- = to 1,00m<sup>2</sup> - 1 ½ wheelbarrow

### Aggregate

The product once mixed will start curing by using moisture from the air and if wet aggregate is used it will increase the rate of curing.

It will therefore be better to use dryer aggregate. When using soil remove foreign objects and grass from it and if possible find coarse soil with little stones or clay will be good as well.

The preferred aggregate to use and might be cheaper is Mittal slag fine crusher as it is a porous material and work very well with PRK it is a match made in heaven.