ARC INNOVATIONS

Road Stabilisation

Road Stabilisation Using Arc Innovations Technology

ARC INNOVATIONS
ARC Innovations provides solutions inspired by cutting-edge reseARCh and technologies for eco-innovative products. ARC Innovations develops, produces, commercialises and represents, and then markets these solutions for and to players predominantly in the construction and mining industries.

What sets ARC Innovations apart is our ability to convert waste into resources. By doing this we can significantly reduce costs. Companies approach ARC Innovations because of our ability to increase profits and lower carbon emissions. In some cases ARC Innovations has managed to turn projected losses into profits.

Description:

Product
Activator HC

Description:
Activator HC is a factory blended liquid hydrocarbon that dissolves and activates silicate and aluminate particles forming pseudozeolitic crystals.

Activator HC is used to promote the flow, and reactions within concrete while inhibiting the effects of unburnt or partially burnt coal
within the concrete matrix.

Typical Uses

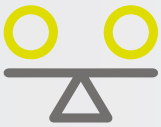
Activator HC is used largely in road stablisation for the activation and densification of concrete with high Portland cement replacement concretes significant benefits:

- Reduced shrinkage in PFA and GGBS modified concrete.
- Able to increase Portland cement replacement up to 95% in specific scenarios with PFA and/or GGBS.
- Increase impermeability of liquids.
- Resistance to chemical attack.

Advantages

Activator HC is used as follows in constituted mix designs exhibit: -

- Controlled concrete setting in high Portland cement replaced concrete.
- Increased impermeability and durability.
- Passivation of steel.
- Inhibits the reaction of unburnt or partially burnt coal within the Portland concrete matrix.
- Increased skid resistance of the surface.
- All weather traffic-ability of the surface.
- Elimination of common pavement failures due to heavy haul traffic, rutting, corrugating and potholes.
- Reduction in maintenance requirements to all roads (gravel and surfaced roads).
- Improved storm water management by making the road surface proud of existing surface.
- A means of modifying the behavior of ash to form a stronger composite material.
- Environmental – Sustainability and Reduction in CO_2
- **Use in construction:**
    - Low Water Requirements
    - Increased Durability
    - Cost savings using conventional concrete
- **As a road stabiliser, it can aid in:**
    - Dust control.
    - Water-erosion control.
    - Fixation and leaching control of both waste and recycled materials.



Stabilisation Projects

Activator HC is currently being used with ash to form the stabilized layer at Eskom's new Majuba ash dump facility. In addition to the significant cost saving, there has been a saving of approximately 8,000 tons of Carbon Emissions.

Cost Savings

Activator HC with ash for road stabilization can result in a cost saving of up to 35%.
Activator HC with ash for concrete applications can result in a cost saving of up to 15%.

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