



Ge-NANO NME

Modified Bitumen Emulsion

PRODUCT OVERVIEW

The proven concept of these New- Age modifying agents in emulsions (NME) has been demonstrated with the scientific testing and use of NME stabilisation of in- situ materials (ranging from G5 to G8 materials) in the design and construction of several roads. Accelerated pavement testing (APT) or HVS (Heavy Vehicle Simulator) have also been completed on these roads.


Based on the scientific design approach followed through the analysis of the mineralogy of the materials and designing of a material-compatible modifying agent, the results of these tests far exceeded the engineering requirements. This further resulted in considerable cost savings (materials as well as time of construction).

The general acceptance of new technologies lies in both the value for money and the ease of use, lending themselves to be used to maximise labour-enhanced construction.

Applications here range from simple road construction using basic equipment (Water Cart, Grader and compaction equipment) to sophisticated equipment using recyclers or central mixing plants.



GREEN TECHNOLOGY – ENVIRONMENT BENEFITS

- Use of Naturally available materials – Savings of 50%+
 - No Blasting or crushing of stone required.
 - Water is the 'By Product' of NME technology
 - Less energy and fuel used during construction.
 - Less or No haulage costs required of expensive materials.
 - Permanent Bonding of material therefore 'No Leaching'
 - Conservation of Naturally available Materials
 - Less Material wastage
 - Reduction in Exhaust fume Pollution
 - Reduction in Noise Pollution
 - Reduced Dust emissions
 - Less traffic disruptions
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ADVANTAGES

OF USING Ge-NANO NME

- Stable Anionic Based Technology
- Moisture Resistance, stronger, longer lasting, Flexible Hydrophobic Roads
- Proven Technology
- Chemical Bonding of Aggregates (Opposed to current Electrical and Mechanical Stabilising Agents and methods)
- Internationally Applicable Technology and design
- Proven Savings between 30% to 50% on current road infrastructure costs and designs
- Exceeds UCS (Unconfined Compressive Strength) and ITS (Indirect Tensile Strength) Engineering Requirements in Both WET and DRY Conditions
- Cold Emulsions – No special Heating Requirements
- Material Compatible Design (Based on Minerology of the material)
- NME stabilising Agents are not 'Load Sensitive'.
- Can be used on 'ALL' category of Roads from Gravel to Super-Highways
- NO requirement for Cement or Lime Additives
- No Special curing Required.
- Ease of compaction through the lubrication (Oil in water) of the Modified Bitumen Emulsion on Aggregates.
- No Thermal or Stabilisation cracks are introduced into the pavement layer.
- Lower dosage of stabilising agent required with greater distribution of the NME agent throughout the pavement layer.
- Reduced or No' nozzle clogging in Watercarts Sprayers or Recycler's
- Reduced or Elimination of weathering of Pavement layers through Hydrophobicity of the stabilised Layers.
- Reduced or Elimination 'Freeze Thaw' in Pavements Layers by reducing or eliminating the seepage or water and rain with-in the pavement structure.



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