



Concrete Pavement Restoration with Repair System & Elastomeric Concrete



Application: Surface Preparation-Saw Cutting & Chiselling to Achieve a Rectangular Shape



Application: Vacuum Cleaned Surface Ready for Shali Patch 10/20 Application

Concrete road and pavement are known as rigid pavement, expected to perform long term with essential periodical maintenance. The concrete pavement design fundamentally governed by the flexural strength due to having wheel load comes on the concrete slab to bend which induces bending stress in the pavement.

The ultimate result is the formation of cracks when the bending stress is more than the tensile strength of the concrete. Apart from the exposure condition the distress types to be evaluated before selecting the method of repair.

General defects and distress in concrete

pavement: This happens due to poor quality of concrete, workmanship, design issues & environmental causes.

Structural & functional distress:

Uncontrolled cracks like longitudinal, transverse, diagonal, intersecting which extends through the slab more than half

of the thickness called as structural cracks. The structural cracks caused due to excess loading, long spacing of joints, shallow & late cutting of joints, and restraint at joints lock up, excessive temperature stress and moisture content.

Functional distress does not reduce the load carrying capacity but affects riding quality & safety. Roughness, loss of surface texture or any other surface defects have the significant cause.

The major manifestation of defects due to the above causes cracking, surface defects, Joint defects etc.

- Cracking are of different types viz: plastic shrinkage, transverse, longitudinal, diagonal, edge & corner.
- Surface defects consist of pop-outs/ small holes, scaling, ravelling & polished and smooth surface.
- Joint defects involves: Spalling, Separation at joints, faulting at joints.

- STP Ltd. has come up with various solutions for all type of pavement defects for restoration.

Categories of Repair

- Partial depth repairs (Transverse as well as Longitudinal) of PQC.
- Repairs of longitudinal cracks by using U type anchorages / stitching.
- Repairs of the pavements especially for the areas where aggregates are exposed due to various reasons like after concreting sudden rain started or due to more tear & wear of concrete etc.
- Re-surfacing of pavements by fibre reinforced concrete / mortar for betterment.
- Cross stitching / stapling of panels / cracks: Repair the cracks by putting dowel bars with caps & tie bars so that it can have some space to have movements.
- Repairs of potholes and corner spalls in concrete pavements etc.

STP Materials for Various Repair Requirements

Shali Grout EI LP: Low viscous, 2 component epoxy injection grouting of cracks under gravity and pressure grouting of various type of cracks for surface consolidation, filling and stabilization.

Shali Grout EP 10: 3 component epoxy based pourable grout for partial depth repair.

Shali FIX SC40: Single component Portland cement based ready to use material to restore and repair concrete & masonry surface. It requires only addition of clean water to produce non-shrink, rapid-setting high strength repair mortar for repairing partial & large surface, edges repairs, joint repairs.

Shali Patch EC 10/20: 3 component, new generation, cold applied, elastomeric



Application: Priming the Surface with Shali Prime PUM



Application: Homogeneous Mixing of 3C of Shali Patch EC 10/20 with Electric Stirrer

concrete for flexible repair of concrete pavements with excellent adhesion to the substrate for–

- Crack filling ranging between 5 - 50 mm wide in concrete / flexible roads
- Surface correction in concrete road / pavement.

ShaliPatch® EC 10/20 is self-levelling, easily trowel-able into cracks and spall.

It prevents percolation of water and other chemicals thus protecting it from wearing off.

Application

Excellent patching material for cracks and spalls on–

- Airport runways / Apron / Taxiways PQC Roads / Bridges
- Parking decks
- Industrial floors

Advantages

- High-load bearing capacity
- Outstanding anti-spalling properties
- Tough, Flexible and Durable
- Workable & rapid Cure time
- Excellent resistance to chemical, saltwater, oil, acids, alkalies, crude oil, fuels and minerals
- Compatible with both coal tar and asphalt emulsion-based sealers
- Compatible with both concrete and bituminous pavement
- Excellent to repair surface defects of the road



Application: Pouring of Mixed Material on the Surface and Finishing with Trowel for Smoothing & Finishing



Application: Pavement Joint Configuration

For further information,

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