Concrete Rehabilitation

Description of the concrete to be rehabilitated

- Concrete foundation wall rehabilitation.
- Concrete ceiling rehabilitation.
- Concrete retaining wall rehabilitation.
- Crack repair up to 3/8” thick.

Preparation

- Protect people, motor vehicles, equipment and plants.
- Cover with tarps, polyethylene film or other coverings.
- Remove any existing coatings that have failed.
- Locate areas of deteriorated or delaminated concrete using a hammer and mark boundaries.
- Simplify and square off boundaries.

Concrete Removal

- Saw-cut perimeter of deteriorated concrete areas to depth required by the cementitious patching material supplier.
- Make cuts perpendicular to concrete surfaces and no deeper than cover on reinforcement.
- Remove deteriorated and delaminated concrete by breaking up and dislodging.
- Remove additional concrete, if necessary, to provide a depth of removal required by cementitious patching material manufacturer over entire removal area.
• Test areas where concrete has been removed by tapping with hammer, and remove additional concrete until unsound and disbanded concrete is completely removed.

• Provide fractured aggregate surfaces with a profile of at least 1/8 inch that are perpendicular or parallel to original concrete surface.

• Thoroughly clean removal areas of loose concrete, dust and debris.

• Allow surface to dry before applying bonding agents (primers).

**Apply New Patch Materials**

• Apply epoxy bonding agent (primers).

• Apply patching mortar by troweling toward edges of patch to force contact with edge surfaces. For large patches, fill edges first and then work toward center, always troweling toward edge of patch.

• For vertical or overhead patching, place material in lifts of not more, nor less than, recommended by patch material manufacturer.

• When multiple lifts are used, score the surface for a rough surface for subsequent lifts.

• For final surface, allow to become firm and then finish to a smooth surface with a wood or sponge float.

• Wet cure cementitious patching materials, including polymer-modified, cementitious patching materials, for not less than seven days by water-fog spray or water-saturated absorptive cover.

**Apply New Concrete Resurfacing (Parging)**

• After repair of all defective areas, resurface the entire surface by coating the concrete with parging mix.

• Thoroughly wet surface to prevent absorption.

• Coat surface with parging mix as soon as surface of concrete approaches saturated surface dry condition.
• Apply thin layer of parging mix as required to form a smooth uniform finish.

• Immediately begin a moist cure for 72 hours.

Materials

• Bonding Agent (Primer).

• Armatec 110 EpoCem, Sika Corporation – Epoxy Modified Cementitious.

• Sikalatex, Sika Corporation – Acrylic-polymer latex.

• Cementitious Patching Material (Patching Mortar).

• Vertical Surface – Sika Repair 223, Primer Armatec 110.

• Horizontal Surface – Sika Repair 222, Primer Armatec 110.

• Parging Mix.

• Specially blended mix of Portland Cement and Sand (no lime) for use in parging applications.

Contact LCEF to find an Architectural Advisory Committee member near you for additional information.