

**CONSTRUCTION SPECIFICATION FOR
CONCRETE PAVEMENT AND BASE REPAIR**

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TS 3.45.01 SCOPE

This specification covers the requirements for the repair of concrete pavement and base.

TS 3.45.02 REFERENCES

This specification refers to the following specifications and publications:

Ontario Provincial Standard Specification, General

OPSS 364 - Partial Depth Repairs in Concrete Pavement (Sept. 1996)

Ontario Provincial Standard Specification, Material

OPSS 1212 - Hot-Poured Rubberized Asphalt Joint Sealing Compound (Dec. 1983)

City of Toronto Specifications

TS 3.40 - Specification for Concrete Road Base (June 2001)

TS 13.00 - Specification for Non-Structural Concrete (June 2001)

TS 3.45.03 DEFINITIONS – Not Used

TS 3.45.04 SUBMISSION AND DESIGN REQUIREMENTS

Submission and design requirements shall be as specified in TS 13.00, except that sections on reinforcing and prestressing steel do not apply.

TS 3.45.05 MATERIALS

TS 3.45.05.01 General

Materials shall be as specified in TS 3.40, except that sections on tie bars and load transfer devices, expansion joint material and adjustment bricks do not apply.

TS 3.45.05.02 Hook Bolt Dowels

Hook Bolt Dowels shall be as specified in TS 3.40.

TS 3.45.05.03 Joint Sealant

Joint sealant shall be hot-poured rubberized asphalt cement meeting the requirements of OPSS 1212.

TS 3.45.06 EQUIPMENT

Equipment shall be as specified in TS 3.40, except that slipform equipment shall not apply.

TS 3.45.07 CONSTRUCTION

TS 3.45.07.01 Partial Depth Repair

Partial depth repair of concrete base and pavement shall be as specified in OPSS 364.

TS 3.45.07.02 Staged Repair

Where the operation requires a staged repair, additional hooked dowels shall be installed to connect the repair stages, as required.

TS 3.45.07.03 Concrete Removal

All areas of concrete removal shall be as shown on the contract drawings or as directed by the Commissioner.

The outer limit of the concrete removal shall be sawcut to the full depth of the existing concrete. The concrete removal method shall ensure that the concrete to be removed is not broken in place and that the adjoining concrete and underlying base remain undisturbed. Where the existing granular base is disturbed, the loosened material shall be removed, the surface compacted and replaced with an additional depth of concrete, at the Contractor's expense.

The section of concrete to be removed along an outer edge of pavement or base shall be a minimum of 1m wide and a minimum of 1m long. An interior section of concrete to be removed shall be a minimum of 600 mm in each direction. Concrete removal shall be configured so as not to leave small areas and excessive joints in close proximity in the final pavement.

Management and disposal of excess material shall conform to OPSS 180.

TS 3.45.07.04 Joints

The outer edges of the repair, except for those abutting curb or gutter shall be considered dowelled contraction joints. Any edge formed by staging shall be considered as an undowelled contraction joint. All joints shall be constructed as specified in TS 3.40 and sealed with an approved joint sealant. Joints shall be formed in the repair section to match any and all joints in the existing concrete pavement or base.

TS 3.45.07.05 Hook Bolt Dowels

Hook bolt dowels shall be installed along all faces of the repair abutting existing concrete road base or pavement. Joints formed due to staging shall can be constructed with a keyed joint or have hook bolt dowels installed.

Hook bolt dowels shall be installed at a depth equal to half the thickness of the existing concrete and spaced at 600 mm centre to centre for longitudinal joints and 300 mm centre to centre for transverse joints.

TS 3.45.07.06 Concrete Placement

Concrete placement for full depth repair of concrete road base or pavement shall conform to TS 3.40.

The surface of the concrete repair shall be flush with the existing concrete road base or pavement.

TS 3.45.07.07 Concrete Finishing

Concrete finishing for full depth repair of concrete road base or pavement shall conform to TS 3.40.

TS 3.45.07.08 Surface Texturing

Concrete pavement shall be textured to match the existing surface, or shall be broom finished as specified in TS 3.40.

TS 3.45.07.09 Concrete Curing

Concrete curing for full depth repair of concrete road base or pavement shall conform to TS 13.00.

TS 3.45.07.10 Concrete Protection

Concrete protection for full depth repair of concrete road base or pavement shall conform to TS 13.00.

TS 3.45.08 QUALITY ASSURANCE

Quality assurance shall conform to TS 13.00, except that the requirements for concrete thickness shall not apply for partial depth repairs.

If the tests on the concrete cylinders show that the concrete does not meet the requirements of this specification, the area represented by the tests shall be removed and replaced at the Contractor's expense.

TS 3.45.09 MEASUREMENT FOR PAYMENT

**TS 3.45.09.01 Concrete Road Base Repair
Concrete Pavement Repair**

Measurement for the above item(s) shall be in square metres (m²) of the surface area of the concrete repair.

TS 3.45.10 BASIS OF PAYMENT

**TS 3.45.10.01 Concrete Road Base Repair - Item
Concrete Pavement Repair - Item**

Payment at the contract price for the above item shall be full compensation for all labour, equipment, materials and incidentals to do the work. Payment shall include, but not be limited to, the sawcutting, removal, disposal of asphalt, concrete and aggregates, the supply and installation of hook bolt dowels, the supplying, placing, curing and protection of concrete and the sealing of all joints.