

SECTION 513—JOINT REHABILITATION

513.1 DESCRIPTION—This work is construction of a sealant reservoir and sealing transverse contraction, construction, or expansion joints in existing Portland cement concrete pavements of the type indicated.

Joint Rehabilitation is classified into two types as follows:

- (a) **Type 1.** Joint Rehabilitation of existing saw cut joints.
- (b) **Type 2.** Joint Rehabilitation of existing metal plate joints.

513.2 MATERIAL—

- (a) **Joint Sealing Material.** [Section 705.4\(b\) or \(c\)](#)
- (b) **Joint Backing Material.** [Section 705.9](#)
- (c) **Tape Bond Breaker.** Duct tape, the width of the sealant reservoir.

513.3 CONSTRUCTION—As shown on the Standard Drawings, and as follows:

(a) Type 1.

1. General. Perform this work after spall repairs at the joint are completed. Clean and seal any unrepaired spalls 50 mm (2 inches) or less in dimension. Construct the joint sealant reservoir by sawing to the width and depth indicated for the appropriate existing joint spacing. In general, center the sealant reservoir around the existing joint opening. Bevel the edge of each joint as indicated. These edges may be beveled using a cutting or grinding device following sawing operation. Immediately after sawing, flush the joint with water.

Place tape bondbreaker immediately prior to sealing on bottom of joint reservoir. Do not allow tape to extend up reservoir face more than 3 mm (1/8-inch).

2. Existing Wide Joint. When the existing joint is found to be as wide as or wider than the required width of sealant reservoir, thoroughly clean the joint to the depth required for the sealant reservoir. Instead of sawing, the vertical faces of the joint may be thoroughly cleaned by sandblasting, or waterblasting. If waterblasting, use a waterblaster with a minimum operating capacity of 0.6 L/s (10 gpm) at 48 MPa (7,000 psi). Place joint backing material to the depth required for the sealant reservoir, in necessary.

3. Sealing. Immediately prior to placing the sealing material, sandblast all vertical faces of the joint and clean with a compressed air stream measuring 700 kPa (100 psi) at the source and free of oil, moisture and other contaminants. Seal as specified in the applicable parts of [Section 501.3\(n\)](#).

(b) **Type 2.** Construct as specified for Joint Rehabilitation Type 1, except remove the portion of the existing steel plate which lies within the new sealant reservoir before sealing the joint. A maximum of 6 mm (1/4-inch) of the plate may protrude into the reservoir.

513.4 MEASUREMENT AND PAYMENT—Meter (Linear Foot)

Includes cleaning and sealing of small unrepaired spalls.

Repair any damage to the existing shoulders as a result of this work at no additional expense to the Department.

SECTION 512—LONGITUDINAL JOINT CLEANING AND SEALING

512.1 DESCRIPTION—This work is cleaning and sealing longitudinal joints in existing cement concrete pavements.

512.2 MATERIAL—[Section 705.4\(b\) or \(c\)](#)

512.3 CONSTRUCTION—Thoroughly clean the longitudinal joints of all existing sealing material, bituminous material, and other foreign material by sawing, sandblasting, or waterblasting. Clean original saw cut joints to a minimum depth of 40 mm (1 1/2 inches). Clean original formed construction joints to a minimum depth of 20 mm (3/4-inch). If sawing is used, immediately flush the joint with water. If waterblasting, use a waterblaster with a minimum operating capacity of 0.6 L/s (10 gpm) at 48 MPa (7,000 psi).

Seal the joint as specified in the applicable parts of [Section 501.3\(n\)](#), to a level 3 mm (1/8-inch) to 6 mm (1/4-inch) below the pavement surface.

512.4 MEASUREMENT AND PAYMENT—Meter (Linear Foot)

SECTION 521—TRANSVERSE JOINT CLEANING AND SEALING

521.1 DESCRIPTION—This work consists of cleaning and sealing existing transverse joints in cement concrete pavements.

521.2 MATERIAL—

- Joint Sealing Material—[Section 705.4\(b\) or \(c\)](#)
- Joint Backing Material—[Section 705.9](#)

521.3 CONSTRUCTION—Clean transverse joints of all existing sealing material, bituminous material, and other foreign material in such a manner which provides a clean, newly exposed concrete surface. Clean to a minimum depth of 38 mm (1 1/2 inches).

Immediately prior to placing backer rod, clean the joint faces by sandblasting and airblasting. For airblasting use a compressed air stream of at least 700 kPa (100 psi) measured at the source. Use air free of oil, moisture, and other contaminants.

Immediately prior to sealing the joint, place the backer rod to a depth of 25 mm (1 inch) below the pavement surface. Use a backer rod 3 mm (1/8-inch) larger in diameter than the joint opening. Seal joint in accordance with [Section 501.3\(n\)](#) and as follows:

- Do not place sealant unless joint is dry.
- Do not place joint sealant unless the ambient air and the pavement temperature is 4 °C (40F) or greater.
- Fill the joint reservoir to a level of 3 mm (1/8-inch) to 6 mm (1/4-inch) below the pavement surface.

521.4 MEASUREMENT AND PAYMENT—Meter (Linear Foot)

SECTION 590—CRACK CLEANING AND SEALING

590.1 DESCRIPTION—This work is cleaning and sealing of cracks in existing cement concrete pavements having an opening of 1.5 mm (1/16-inch) and wider.

590.2 MATERIAL—

(a) **Joint Sealing Material.** [Section 705.4\(b\) or \(c\)](#)

590.3 CONSTRUCTION—Saw or grind cracks to a width of 20 mm (3/4-inch) wide by 25 mm (1 inch) depth. Immediately after sawing and grinding, flush with water. Do not seal the same day as sawing or grinding. If original crack is between 20 mm (3/4-inch) and 25 mm (1 inch) wide, saw or grind to a width of 25 mm (1 inch) and a depth of 30 mm (1 1/4 inches).

Immediately prior to placing the sealant, clean the crack by using a compressed air stream of at least 700 kPa (100 psi) measured at the source.

Seal cracks in accordance with the applicable requirements in [Section 501.3\(n\)](#) and as specified herein.

Do not place joint sealant unless the ambient air temperature is 4 °C (40F) or greater, and the pavement temperature is 4 °C (40F) or greater.

Fill the sealant reservoir to a level of 3 mm (1/8-inch) to 6 mm (1/4-inch) below the pavement surface.

590.4 MEASUREMENT AND PAYMENT—Meter (Linear Foot)