

closest fitting metal cap or sleeve, equipped with a stop to prevent closing during placement operations. Maintain a clearance of 1 inch [25 mm] between the closed end of the cap and the dowel to accommodate future slab movement.

Position each dowel such that its final deviation from parallel to the surface of the pavement and parallel to the longitudinal centerline of the pavement does not exceed 1/2 inch [13 mm]. Position each dowel such that its final deviation from being centered on the joint does not exceed 2 inches [50 mm]. Position each dowel such that at no point in its length does it deviate from the surface of the pavement as shown in the plans in excess of 1 inch [25 mm].

Provide the Engineer with confirmation of the location of the dowel bars. The Contractor shall confirm that the paving operation has not displaced the dowels from their required positions. Perform confirmation checks daily for the first two days of the paving operation and weekly thereafter.

350-15.5 Expansion Joints Around Structures: Form expansion joints by placing premolded expansion joint material about all structures and features projecting through, into or against the pavement. Ensure that such joints are 1/2 inch [13 mm] in width.

350-15.6 Cleaning Joints and Cracks:

350-15.6.1 Cleaning Joints in New Pavement:

350-15.6.1.1 Sawed Joints: Immediately after sawing the joints which require sealing, completely remove the resulting slurry from the joint and the immediate area by flushing with a jet of water under pressure and by using other tools as necessary.

After flushing, blow out the joints with compressed air. After the flushed joints have dried, sandblast the joint faces to thoroughly remove all foreign material. Perform sandblasting in two passes, once for each face.

Patch all spalled edges with an epoxy compound.

Immediately prior to joint seal installation, clean the joints using compressed air to remove all traces of debris and dust within and on the joint surfaces.

350-15.6.1.2 Non-Sawed Joints: Thoroughly clean joints which require sealing of all foreign material for the full depth of the seal installation.

With the exception of slurry removal due to sawing, meet the cleaning requirements as specified for sawed joints.

350-15.6.2 Cleaning Joints in Existing Pavement: Remove all existing joint-sealing material and foreign material for the full depth of the new joint seal by sawing, wire brushing, sandblasting, or other methods approved by the Engineer.

Remove any existing sealant or parting strip material below the tape or backer rod bond breaker and replace it with additional bond breaker. When conditions require removal and replacement with additional bond breaker below the new joint seal, obtain the Engineer's approval of the type of bond breaker and its installation procedure. Perform cleaning by any method or combination of methods, as detailed in the plans.

Flush the joint with a pressurized jet of water, and use other tools as necessary, to remove loose remnants and debris.

After flushing, blow out the joints with compressed air. After the flushed joints have dried, sandblast the joint faces to thoroughly remove all foreign material. Perform sandblasting in two passes, once for each face.

Patch all spalled edges with an epoxy compound.

Immediately prior to joint seal installation, clean the joints using compressed air to remove all traces of debris and dust within and on the joint surfaces.

350-15.6.3 Cleaning Random Cracks in Existing Pavement: Do not begin cleaning random cracks in existing pavement until all other concrete pavement repairs have progressed to the point where those operations will not adversely affect the installation of the new seal.

Cut the random cracks to be repaired and sealed into grooved joints to the depth and width detailed in the plans. Clean the joints as specified in 350-15.6.2.

350-15.7 Sealing Joints and Cracks: Seal joints in new pavement before allowing any traffic or construction equipment on the pavement. Complete sealing within 72 hours (weather permitting) of sawing.

When using silicone and non-silicone sealants in the transverse and longitudinal joints, respectively, always use the silicone sealants first to prevent contamination at the intersection of the joint faces. Remove non-silicone sealant 1 foot [300 mm] in each direction from the transverse joints, and replace it with silicone sealant.

350-15.7.1 Hot-Poured Type Sealant: When the plans require hot poured sealant for specific joints, fill the joint thoroughly, without trapping air, ensuring the sealant is recessed below the pavement surface as required, and control the pouring rate to avoid spilling of sealant onto the adjacent pavement surface. If any spilling of sealant occurs, immediately remove and clean the entire surplus amount from the pavement surface. Place poured material when the ambient air temperature is 50°F [10°C] or greater.

350-15.7.2 Low Modulus Silicone Sealant: Use low modulus silicone sealant of either Type A (non-self-leveling silicone sealant), or Type B and/or Type C (self-leveling silicone sealant). Because Type A will not flow into the proper shape under its own weight, install and tool it so that the sealant is in firm contact with the joint faces and is formed into the appropriate shape as specified. Types B and C will normally flow into the proper shape without tooling. Exercise care to provide the required depth of recess above the sealant surface and below the pavement surface. Install the silicone sealant at temperatures above 40°F [5°C].

350-16 Thickness Determinations.

350-16.1 Core Borings: After completing the concrete pavement, including any corrective work to meet ride requirement, drill cores from the pavement to determine the actual thickness. When the Department is ready to core the finished pavement for thickness, provide traffic control, coring equipment, and operator to obtain the cores. The Engineer will select the coring locations and make the acceptance measurements. Take borings at random intervals and at various points on the cross-section so that each test boring represents an area not exceeding 2,500 yd² [2,000 m²].

Replace the portions of the pavement removed by the borings at no expense to the Department.

350-16.2 Method of Calculating Average Thickness: The Department will determine the average thickness of pavement from the length of all cores taken as indicated above and will calculate it as follows:

(a) The Department will not take into account in the calculation any areas of pavement which are left in place, but for which no payment will be made.

(b) When the thickness as measured by the cores is more than 1/2 inch [13 mm] greater than the specified thickness, the Department will consider it in the calculation as the specified thickness plus 1/2 inch [13 mm].

(c) The Department will calculate the average thickness for the entire job as a unit.

350-17 Deficient Thickness.

350-17.1 General: The Department will not pay for any pavement which is more than 1/2 inch [13 mm] less than the specified thickness. When the pavement contains no longitudinal construction joint, the Department will not pay for the area of such pavement that is the product of the full width of the strip placed as a unit times the sum of the distances each way from the short core or cores to the cores on each side which show measurements within the tolerance limits. When the pavement contains longitudinal construction joints, for the width, the Department will use the width between longitudinal construction joint and the edge of pavement.

350-17.2 Deficient Pavement Requiring Removal: The Engineer will evaluate areas of pavement found deficient in thickness by more than 1/2 inch [13 mm] and if, in his judgment, the deficient