

**SECTION 12**  
**ASPHALT CONCRETE LEVELING COURSE AND CRACK FILL REPAIRS**

**12-1 ASPHALT CONCRETE LEVELING COURSE**

**12-1.1 General** - Asphalt leveling course shall be placed in areas designated by the Engineer prior to placing any designated asphalt bituminous seal coat, interlayer or asphalt concrete overlay.

The area to be leveled shall be well cleaned, loose material removed and a tack coat applied.

**12-1.2 Tack Coat** - Tack coat shall be asphalt grade RS-1, SS-1, or SS-1h in accordance with Section 94, "Asphaltic Emulsions," of the State Standard Specifications. It shall be applied at the rate of 0.02 to 0.10 gallons per square yard; the exact rate of application shall be as approved by the Engineer and shall provide a thorough coating of the area to receive asphalt concrete leveling course.

**12-1.3 Asphalt Concrete** - The asphalt concrete leveling course shall be of such aggregate gradation to ensure a smooth conform to the existing pavement surface can be achieved. The maximum size aggregate shall be 1/2".

**12-1.4 Placement** The asphalt-leveling course shall be placed in areas as marked by the Engineer. The material shall be placed and compacted in such a manner as to ensure a uniform cross section is achieved with the adjacent existing surface.

In place density of the leveling course shall not be less than as specified by Section 9-6, "Asphalt Concrete Placement," of these Technical Provisions.

**12-1.5 Measurement** - The quantity of asphalt concrete leveling course will be measured on a square foot basis or tonnage basis as indicated in the Bid Proposal. Final qualities for payment purposes must be agreed upon by the Engineer prior to placing any subsequent bituminous seal coat, interlayer or asphalt paving.

**12-1.6 Payment** - The contract unit price paid for placing asphalt concrete leveling course shall be considered as including full compensation for furnishing all labor, materials, tools, equipment, and doing all other incidental work involved in placing and compacting asphalt concrete leveling course as indicated by the Contract Plans and as approved by the Engineer; including but not necessarily limited to surface preparation and applying tack coat.

**12-2 CRACK FILL REPAIRS**

**12-2.1 Procedures** - This work shall consist of placing asphalt concrete and/or asphalt rubber crack sealant in pavement cracks as specified by Contract or directed by the Engineer.

Cracks designated to be repaired shall be cleaned to a minimum depth of 3/4" by routing, blast cleaning, and/or other hand methods, followed by high pressure air jets of at least 90 psi, to remove all vegetation, residue, moisture and foreign matter. Air jets used for cleaning shall not have oil residues. Exposed surfaces shall be dry at the time the sealant is applied.

Summary of Crack Fill Requirements				
Type of Crack	Routing Required	Tack <sup>(1)</sup> Coat	Sand Filler <sup>(2)</sup> To 1" of Grade	Type of Filler
1/8" or less	No Repair	No Repair	No Repair	No Repair
Greater than 1/8" but less than 3/8"	Yes, 1"	No	No	Sealant
Greater than 3/8" but less than 1"	No	No	No	Sealant
1" or greater in width and-- less than 3" in depth	No	Yes	No	Sealant
over 3" in depth	No	Yes	Yes	3/8" AC <sup>(3)</sup>

- Notes:** (1) Tack coat in accordance with **Section 12-1.2.**  
 (2) Sand shall be  $\pm 1\%$  saturated surface dry at the time it is placed and compacted.  
 (3) Asphalt concrete shall be well compacted by hand tamping and shall be flush with the adjacent pavement..

**12-2.2 Asphalt Rubber Crack Sealant** - The sealant shall consist of a mixture of paving grade asphalt and vulcanized granulated crumb rubber. The mixture may contain granulated reclaimed rubber (GRR). GRR, if used, shall conform to the following requirements:

Gradation		Characteristic	Requirement	
Sieve Size	Percent Passing		Min.	Max.
No. 8	100	Allowable GRR, %	--	25
No. 10	98-100	Cone Penetration, @77°F	--	40
No. 30	-----	Softening Point, °F	175	--
No. 40	0-10	Resilience, @77°F, %	30	--

The sealant shall be capable of being melted and applied to cracks at temperatures below 400°F. Modifiers may be used to facilitate blending. When heated, the material shall readily penetrate cracks of 1/8" in width.

Exposed surfaces shall be dry at the time the sealant is applied.

Sealant materials shall be heated and placed in conformance with the manufacturer's written instructions. Joint sealant materials shall not be placed when the pavement surface temperature is below 50°F.

Sufficient sealing material shall be *injected under pressure* into the cracks from the bottom up so that upon completion of the work the surface of the sealant in the crack shall be flush with the adjacent pavement surface, or at the elevation approved by the Engineer. If necessary to fully fill cracks, Contractor shall place sand or other "backer" materials in the cracks prior to injecting sealant, and multiple passes shall be made as required to fully fill and seal cracks flushed with the adjacent surface.

All cracks shall be leveled and excess crack sealant removed immediately after placing. Sand shall be applied to sealed cracks, as necessary and at the direction of the Engineer, to absorb excess material. Crack sealant shall be dry or Contractor shall cover with sand prior to allowing traffic on crack sealed road. Sealed cracks in the finished condition shall not protrude above the adjacent surface.

The finished crack sealant shall bond to the faces of the crack. There shall be no separation or opening between the sealant and the faces, and there shall be no crack, separation, or other opening in the sealant.

If requested by the Engineer, a Certificate of Compliance shall be submitted prior to application.

**12-2.3 Measurement** - The quantity of crack fill repair will be measured as specified in the Special Provisions. Final qualities for payment purposes must be agreed upon by the Engineer prior to placing any subsequent bituminous seal coat, interlayer or asphalt paving.

**12-2.4 Payment** - The contract unit price paid for the type of crack repair shall be considered as including full compensation for all labor, tools, material, equipment, including but not limited to preparation and tack coat and no additional compensation shall be made therefor.

If there is no Contract Unit Price provided for in the "Contract Bid Proposal" form, then compensation for crack repairs designated by the City shall be paid for as extra work.