



Random Crack Sealing Bituminous Concrete Pavements

1. Scope:

The work covered by this section of the specification consists of furnishing all plant, labor, equipment and materials necessary to perform all operations in connection with the reshaping, cleaning and filling of construction and random cracks in bituminous concrete pavements and vegetation removal and sterilization of cracks where necessary.

2. Materials:

- Federal Specification SS-S-164 or 1401b hot-poured joint sealer.
- SS-C-192g Portland cement, type 1 or 2.
- Bituminous treated hemp or jute roving, or reclaimed neoprene material ground to maximum size of ¼" to 1 ¼".

3. Equipment:

Equipment used in the performance of the work required by this section of the specification shall be subject to the approval of the engineer and maintained in a satisfactory working condition at all times.

- Equipment for reshaping cracks shall be vertical spindle or rotary-type cutter or router.
- Air Compressor: Air compressors shall be portable and capable of furnishing not less than 100 cubic feet of air per minute at not less than 90 pounds per square inch pressure at the nozzle. The compressor shall be equipped with traps that will maintain the compressed air free of oil and water.
- Manually operated, gas powered air-broom or self-propelled sweeper designed especially for use in cleaning highway and airfield pavements shall be used to remove debris, dirt and dust from routed cracks.
- Hand tools shall consist of brooms, shovels, metal bars with chisel-shaped ends and any other tools which may be satisfactorily used to accomplish this work.
- Melting Kettle: The unit used to melt the joint sealing compound shall be double-boiler, indirect-fired type. The space between the inner and outer shells shall be filled with a suitable heat transfer oil or substitute having a flash point of not less than 600°F. The kettle shall be equipped with a satisfactory means of agitating the joint sealer at all times. This may be accomplished by continuous stirring with mechanically operated paddles and/or by continuous circulating gear pump attached to the heating unit. The kettle must be equipped with thermostatic control calibrated between 200°F and 500°F.
- Hand-pouring pots must be equipped with mobile carriage and have a flow control valve which allows all cracks to be filled to refusal so as to eliminate all voids or entrapped air, and not leave unnecessary surplus crack sealer on pavement surfaces.

4. Preparation:

- Cleaning - All cracks shall be thoroughly cleaned to remove all dirt, moisture, foreign material and loose edges from crack wall. Compressed air and/or routing may be utilized.
- Debris Removal - All old material and other debris removed from the cracks shall be removed from pavement surface immediately by means of power sweepers, hand brooms or air brooms.

- Vegetation - When cracks show evidence of vegetation, it shall be removed and, if necessary, sterilized by use of propane torch unit, eliminating all vegetation, dirt, moisture and seeds.
- All cracks of sufficient depth and $\frac{3}{4}$ " or over in width shall first be pre-filled with bituminous treated hemp or jute roving, or reclaimed neoprene material ground to maximum size of $\frac{1}{4}$ " to $\frac{1}{4}$ " to within 1" of top of pavement before applying prepared joint sealer.
- When necessary to allow vehicle traffic to pass over crack sealer prior to curing, dry Portland cement shall be dusted over cracks to eliminate pick-up.
- General - No crack sealing material shall be applied in wet cracks or where frost, snow or ice is present, nor when ambient temperature is below 32°F.

5. Preparation of Sealer:

Joint sealing material shall be heated and applied at temperature specified by the manufacturer and approved by the engineer.

6. Installation of Sealer:

All cracks shall be sealed as specified herein, and the sealer shall be well bonded to the pavement. Unless otherwise directed, the cracks shall be completely filled flush with the pavement and not less than $\frac{1}{4}$ " below surface, without formation of voids or entrapped air.

7. Workmanship:

All workmanship shall be of the highest quality and excess or spilled sealer shall be removed from the pavement by approved methods and discarded. Any workmanship determined to be below the high standards of the particular craft involved will not be accepted and will be corrected and/or replaced as required by the engineer in charge.

8. Performance:

It is the intentions of the Public Agency not to award a contract for this work under this or any other proposal if the bidder cannot furnish satisfactory evidence that he has the ability and experience to perform this class of work and that he has sufficient capital and equipment to enable him to prosecute the work successfully and to complete it within the time named in the contract; and that the Public Agency reserves the right to reject this or any other proposal or to award the contract as is deemed to be the best interest of said Public Agency.

The contractor must submit with his bid proposal a list of six (6) jobs which he has successfully completed, giving the name and the address of these projects so they can be investigated prior to the award of the contract.

9. Sampling and Testing:

Joint sealer will be tested for conformance with Federal Specification SS-S-164 or 1401b. Joint material sample shall be submitted for approval prior to start of the work. Manufacturing certificates that joint sealer meets Federal Specification listed above will be accepted by the engineer, unless otherwise stated in specification proposals.