Colorado Procedure 47-90

Standard Method of Test for

Rejuvenating Agent Evaluation Procedure

1. SCOPE

1.1 The layout of a rejuvenating agent test area, application of the test rejuvenating agent, and determination of whether or not rejuvenating agent is needed.

1.2 Asphalt Rejuvenating Agents are composed of a petroleum resin-oil base uniformly emulsified with water. Rejuvenating Agents are used as an agent to counter roadway oxidation and add new life into the existing material. A Rejuvenating agent may need to be added to a pavement undergoing rehabilitation per the test.

2. APPARATUS

2.1 Covered applicator, keel, tape measure, paint brush, rejuvenating agent, camera (optional).

NOTE 1: The applicator should have a perforated top that allows a rapid dispersal of the rejuvenating agent. Measure and mark the applicator so that the markings will correspond to the desired rate of application for the test section in gal/sq.yd., i.e., .03, .05, .075, .10, .125, and .15 gal/sq. yd. (L/m^2, i.e., .14, .23, .34, .45, .57, .68 L/m^2). See Figure 47-1.

3. LOCATION OF TEST SITES

3.1 A minimum of three locations should be selected for each project. It may be necessary to increase the number of test locations depending on the length of the projects.

3.2 Each test site should be two feet in length by two feet in width (0.6 m x 0.6 m). Approximately one-half of the area should be located in the outside wheel path, and approximately one-half should not be within the wheel path.

NOTE 2: The first test location should contain three test sites to determine the approximate amount of rejuvenating agent that may be required. The other test locations would require one test site. Suggested starting rates are .05, .10, and .15 gal/sq.yd. (.23, .45, and .68 L/m^2).

4. PREPARATION

4.1 Dilute the full strength rejuvenating agent into to two parts of rejuvenating to one part water.

4.2 Pour the proper amount of diluted rejuvenating agent into the applicator and cover.

4.3 Pour enough rejuvenating agent into a container of sufficient size to hold the paint brush so that all of its bristles are covered. Let stand until the test site is prepared.

5. PROCEDURE

5.1 Mark each test site on the pavement.

5.2 Photograph each test site before rejuvenating agent is applied. (Optional)

5.3 Remove the paint brush from the container and wipe the excess rejuvenating agent back into the container.

5.4 Apply the rejuvenating agent to the test site as evenly as possible.

5.5 Use the paint brush to distribute the rejuvenating agent over the test site more uniformly.

5.6 Note the time of application and record the time and the rate of application on the pavement adjacent to the test site.

5.7 Let the rejuvenating agent stand undisturbed on the test site until it has penetrated. Record the time. If the rejuvenating agent fails to penetrate into the pavement in 20 minutes or less, try a smaller amount of rejuvenating agent. If this is not practical, then note that no rejuvenating agent is required for that test site.

NOTE 3: See Figure 47-2 A and B for examples of total penetration and partial penetration.

5.8 Photograph the test site after the test is completed. (Optional)

6. RECORD

6.1 No CDOT Form used, record on your own worksheet.

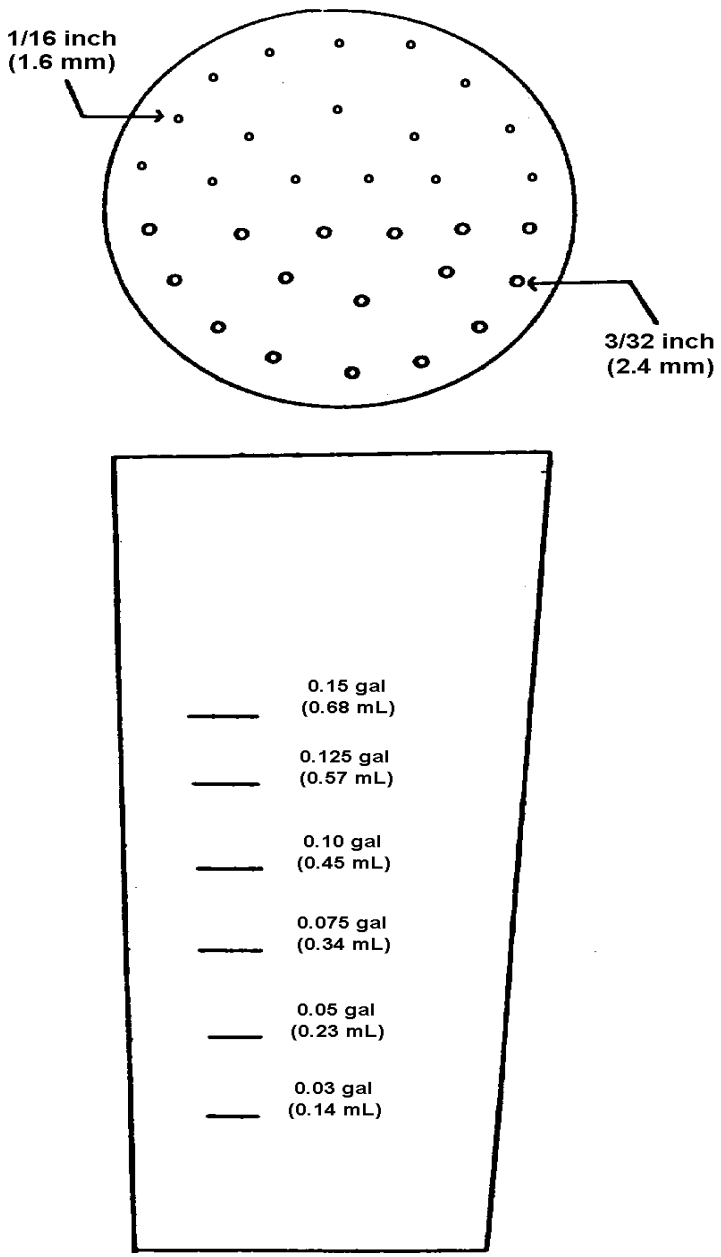

FIGURE 47-1

FIGURE 47-2 A: Total Penetration

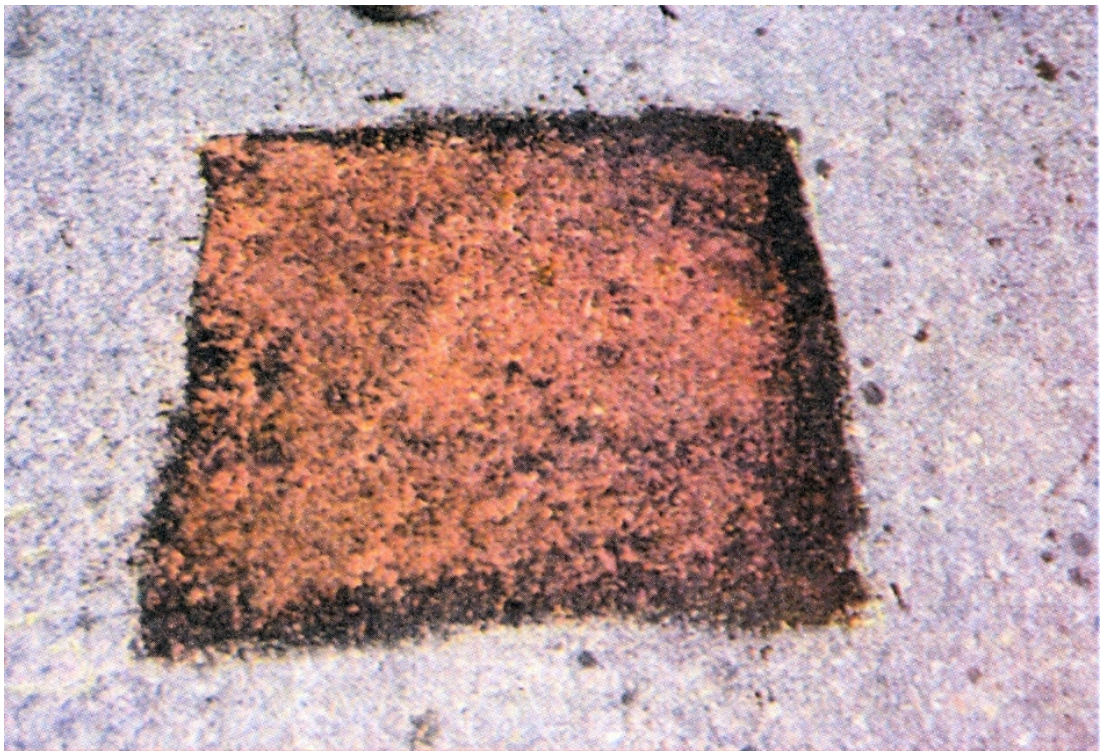

FIGURE 47-2 B: Partial Penetration