

## **ITEM 490.1701--07 - PRODUCTION COLD MICRO MILLING**

**DESCRIPTION.** This work shall consist of the milling, shaping and removal of portions of existing surfaces by a cold micro milling process, and subsequent cleaning, utilizing equipment and procedures meeting the requirements in this specification. The work shall consist of production cold micro milling of Hot Mix Asphalt (HMA) pavement as indicated in the contract documents and as shown on the plans.

**MATERIALS.** Provisions of §490-2, Materials, shall apply except as modified below:

**Equipment.** The micro milling machine shall be capable of removal of a 3.6 meter travel lane and cleaning up both edge seams in the single pass. Milling shall be performed using a down-cut drum. The contractor shall be knowledgeable of equipment capabilities and is advised that the texture specified may not be obtainable at high production speeds. Drum shall have maximum tooth spacing of 8.0 millimeters and have a minimum of 3 wraps of teeth. The carbide cutting teeth shall be uniform in diameter with a uniform length of  $\pm 0.5$  millimeters. The tooth holder blocks shall be uniform and not cause variations in the cut radius greater than  $\pm 0.5$  millimeters. The Contractor shall submit a copy of manufacturer's specifications 2 days prior to test section. The specifications must indicate the drum configuration meeting the requirements of this specification. In addition, the Contractor must supply documentation showing the recommended RPMs and the advancing speed for the machine.

The advancing ground speed of the milling operation shall be a function of the RPM's of the milling drum such that the full uniform texture pattern is achieved. The speed of milling operation, in meters per second, shall be limited to  $2/3$  times drum RPM's. Any proposal to advance faster than this speed shall be discussed with the Engineer and proven on the test strip, and result in no repeated inconsistencies in texture during production milling. If these inconsistencies are present, the machine speed will be reduced to the recommended speed as stated above.

**CONSTRUCTION DETAILS.** Provisions of §490-3, Construction Details, shall apply except as modified below:

The extent of milling will be as indicated on the plans or as ordered by the Engineer-in-Charge. In rutted areas, the cut shall be no deeper than necessary to texture the low points of wheel ruts. The entire surface shall be textured, substantially free from waves or irregularities, and shall not vary from a 3.0 meter straight edge by more than 3.2 millimeters. There can be occasional exceptions where the bottom of a wheel path may not be textured and other low point defects in order to maintain acceptable profile. The texture produced for the finished pavement shall be a uniform surface with longitudinal striations. The difference between the high and low of the surface texture shall be approximately 2.0 millimeters.

Any non-mainline areas (shoulders, ramps, gore areas, turnouts, etc.) may require equipment utilizing a milling head less than 3.6 meters in width. The equipment used to do this work will be capable of providing a textured surface similar to the mainline milled surface and to the same tolerances as the mainline micro milling machine.

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On first day of milling, after acceptance of proposed equipment submittal, the Contractor shall construct a test section at recommended ground speed. The texture and consistency of profile and cross slope of this test section shall be evaluated by the Engineer. If the Contractor proposes to mill at higher speeds than the recommended speed, a test section must be constructed to demonstrate the texture achieved will meet the specification limits.

**METHOD OF MEASUREMENT.** Provisions of §490-4, Method of Measurement, shall apply.

**BASIS OF PAYMENT.** Provisions of §490-5, Basis of Payment, shall apply.

*Payment will be made under:*

<b>Item No</b>	<b>Item Pay</b>	<b>Unit</b>
490.1701--07	Production Cold Micro Milling	Square Meter