

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**WARRANTY WORK REQUIREMENTS FOR MICRO-SURFACING  
(CAPITAL PREVENTIVE MAINTENANCE)**

CFS:KPK

1 of 3

APPR:CJB:DBP:07-12-16  
FHWA:APPR:07-13-16

**a. Description.** This special provision must be used in conjunction with 12SP-500B to construct warranted single course micro-surfacing or multiple course micro-surfacing. Section 504 of the Standard Specifications for Construction remains in effect except as noted in this special provision.

**b. Limits of Warranted Work.** The warranted work includes all micro-surfacing applications on driving lanes within the project limits unless otherwise indicated on the proposal.

**c. Warranty Period.** The length of warranty will be 2 years from the Acceptance Date of Warranted Work.

**d. Amount of Warranty Bond.** Supply a warranty bond equal to 100 percent of the warranted work for micro-surfacing.

**e. Materials.** Add the following to subsection 504.02.A of the Standard Specifications for Construction.

Aggregate used for micro-surfacing must be screened at the project site to ensure aggregate being introduced into the micro-surface mixture is not larger than the top size aggregate allowed in the mix design. The aggregate must be screened directly into the material transport units or micro-surface machine(s). The aggregate screening unit must be capable of producing adequate tonnage to maintain project production in accordance with subsection 504.03.

**f. Construction.** Ensure all construction is in accordance with subsection 504.03 of the Standard Specifications for Construction with the following exception:

Delete subsection 504.03.I.2 of the Standard Specifications for Construction.

**g. Measurement and Payment.** Delete subsection 504.04 of the Standard Specifications for Construction and replace with the following:

The completed work, as described, will be measured and paid for at the contract unit price using the following pay items:

<b>Pay Item</b>	<b>Pay Unit</b>
Micro-Surface, Warranty.....	Square Yard
Micro-Surface, Single Cse, Warranty.....	Square Yard

1. **Micro-Surface, Warranty** includes all materials, equipment, and labor for preparing the surface (excluding removal of pavement markings which will be paid for separately), placing temporary pavement markings, placing the micro-surfacing mixture and complying with all requirements including the warranty. The placement includes application of a rutfilling and/or leveling course and/or a surface course for full width coverage as specified in the contract.

2. **Micro Surface, Single Cse, Warranty** includes all materials, equipment, labor for preparing the surface (excluding removal of pavement markings which will be paid for separately), placing temporary pavement markings, placing the micro-surfacing mixture and complying with all requirements including the warranty. The placement includes application of a single course of mixture for full width coverage as specified in the contract.

**h. Warranty Requirements.** The following lists the allowable threshold limit for each condition parameter within each segment and the maximum number of allowable segments within a driving lane during the warranty period. If the threshold is exceeded for a condition parameter, for more than the maximum number of allowable segments, warranty work is required.

The deficient segments for surface distress may or may not be contiguous to necessitate corrective action. The maximum allowable number of deficient segments for each condition parameter applies to each driving lane in each travel direction. Each driving lane must be evaluated independent of adjacent driving lanes. Any pavement surface requiring removal/replacement to correct deficiencies, for any condition parameter, must be replaced full-width across the driving lane.

The warranty work must be performed prior to conclusion of the warranty period or within such other time frame as agreed to by the Department and the Contractor, unless safety concerns dictate otherwise.

#### Maximum Deficient Segments per Driving lane

4 Segments - A combination of one or more surface deficiencies exceeding the allowable threshold limit for rutting, raveling, bleeding/flushing, and debonding.

1 Segment - Rutting exceeding the allowable threshold limit.

1 Segment - Any single surface deficiency for raveling, bleeding/flushing, and debonding, exceeding 10 percent of the segment length.

#### Threshold Limits and Corrective Action

1. **Rutting.** A single measure of rut depth must not exceed 1/4 inch for any 528 feet (0.1 mile) segment during the first 120 days after initial project acceptance. Rut depths that average in excess of 1/4 inch are deficient. The average rut depth will be defined by 5 measurements at 100 foot intervals in the segment as determined by the Engineer.

Pavement segments where the original pavement rut depth exceeds 1/2 inch are excluded from the warranty for rutting threshold level. The Contractor will define locations where rutting exceeds 1/2 inch and provide the information to the Engineer. Work must not begin until the Engineer has verified and accepted the Contractor's list of warranty exceptions. Any

subsequent rutting caused from movement of the underlying pavement layers is excluded from the warranty.

The measurement will be done using a straight rigid device that is a minimum of 7 feet long and of sufficient stiffness that it will not deflect from its own weight, or a wire under sufficient tension to prevent sag when extended 7 feet. Measurements will be taken by placing this "straightedge" across the pavement surface perpendicular to the direction of travel. The straightedge must contact the surface on at least two bearing points with one located on either side of the rut. The straightedge is properly located when sliding the straightedge along its axis does not change the location of the contact points. Rut depth is then measured at the point of greatest perpendicular distance from the bottom of the straightedge to the pavement surface.

Reapply the micro-surfacing on segments that have a rutting deficiency. The Engineer may accept alternative corrective measures, based on unique conditions. The corrective action must be placed on the full lane width.

2. Raveling. The threshold limit for raveling is 8 percent of the segment length.

Corrective action for this parameter requires the Contractor to reapply Micro-surfacing to the deficient portion of the segment, including shoulders if part of the Micro-surfacing work. The Engineer may accept alternative corrective measures, based on unique conditions. The corrective action must be placed on the full lane width.

3. Bleeding/Flushing. The threshold limit for bleeding or flushing is 5 percent of the segment length.

Corrective action for this parameter requires the Contractor to either reapply micro-surfacing, diamond grind, or remove and replace the micro-surfacing treatment on the deficient portion of the segment, including shoulders if part of the micro-surfacing work. Removal and replacement must be placed on the full lane width. The Engineer may accept alternative corrective measures, based on unique conditions.

4. Debonding. The threshold limit for debonding is 5 percent of the segment length.

Corrective action for this parameter requires the Contractor to either reapply micro-surfacing or remove and replace the micro-surfacing on the deficient portion of the segment, including shoulders if part of the micro-surfacing work. The Engineer may accept alternative corrective measures, based on unique conditions. The corrective action must be placed on the full lane width.