

them to the testing technician. If there are 10 or more cores already tested to date, the pay factor for thickness in the lot will be calculated (without using the result of the disputed core). If less than ten cores have been tested in the disputed lot, the three cores shall be held until ten cores have been tested or the lot is complete, whichever comes first, at which time the pay factor will be calculated.

If the pay factor for the lot that contains the disputed result is 0.95 or greater, and the disputed test result is outside three standard deviations from the mean value of the lot (calculated without using the result of the disputed thickness), the three cores shall be measured and the average value of the three will be calculated.

If any of these three cores falls outside three standard deviations from the mean value for the lot (calculated without using the result of the disputed core), the original thickness test value will stand. If the three cores fall within three standard deviations of the mean value the average of the three measurements will be used as the thickness for the disputed subplot.

If the three cores are not used, the Contractor shall pay for the cost of testing.

3.14.4 Ride Smoothness.

3.14.4.1 The Contractor shall furnish and have available a 10 foot (3 meter), light weight metal straightedge with a rectangular cross section of 2" x 4" (50 x 100 mm) at the paver at all times during paving operations. All courses shall be tested with the straightedge laid parallel or perpendicular to the centerline and any variations from a true profile or cross section exceeding 3/16 of an inch (5 mm) shall be satisfactorily eliminated. The finished surface of the pavement shall be uniform in appearance, free from irregularities in contour and shall present a smooth-riding surface.

3.14.4.2 A GM type profilometer will be furnished by the Department for determination of pavement smoothness. This device produces a Ride Number for the surface tested. The surface will be tested within 30 days after the wearing surface and pavement markings for each discrete section of the project are complete. Immediately before testing, the Contractor will insure the surface is entirely free from any foreign matter that may affect the test results. No special considerations will be given to criteria such as degree of curve and vertical geometry. Ride Number will be calculated to the nearest one hundredth for each 0.1 mile (0.2 km) segment.

3.14.4.3 Profilometer testing will include all mainline paving including bridges with lanes at least 11 feet (3.3 meters) wide. Testing will begin 20 feet (6 meters) after the approach joint and end 20 feet (6 meters) before the departure joint. The pavement will not be evaluated over bridge expansion joints, tapers, raised pavement markings, and sections less than 0.1 mile (0.2 km) in lane length.

3.14.4.4 All areas with bumps or high points exceeding 0.3 inches in 25 feet (8 mm in 7.6 meters) shall be corrected by removal of a minimum of 1 inch (25 mm) of the full lane width by the length required (a minimum of 100 feet (30 meters)) and replaced at the Contractor's expense.

3.14.4.5 Ride Smoothness will be evaluated against the ride smoothness limits in Table 9.

Table 9 - Ride Smoothness Testing Limits

TYPE OF CONSTRUCTION	LSL
All Construction	4.05

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3.14.4.6 A final Ride Number shall be established after the wearing surface is completed and striped. Separate completed sections of a project will be evaluated before the entire wearing surface is completed. Any subplot with a ride number less than 3.7 shall be repaired or replaced.

3.14.5 Cross Slope.

3.14.5.1 Cross slope will be measured once per subplot behind the paver after final rolling of the wearing surface has taken place. Cross slope will only be evaluated when specific slopes and superelevations are shown on the plans for the entire project. Only travel lanes will be evaluated for cross slope. Measurements will be taken only in areas of normal tangent or full bank curves on even stations. The procedure for measuring the cross slope shall be by placing a 10 foot (3-meter) metal straight edge on the surface perpendicular to the traveled lane. A 4 foot (1.2 meter) direct reading level shall be placed on top of it. Percent cross slope shall be read and recorded. A second reading 180 degrees to the first shall be taken and recorded and the two shall be averaged for the test result.

3.14.5.2 Once a cross slope percentage has been measured, a cross slope index (CSI) will be calculated. The target cross slope shall be defined as the cross slope shown on the plans or as ordered to the nearest tenth of a percent. The CSI is the actual deviation from the target divided by the allowable tolerance of 0.5 percent. This will allow statistical comparisons to be made among measurements based on varying specified cross slopes. The CSI will be established for the sole purpose of calculating pay factors. The CSI shall be calculated under the following equation using the specification limits in Table 10.

$$CSI = \frac{(M - SCS)}{T}$$

where: CSI = Cross Slope Index
 SCS = Specified Cross Slope in percent
 M = Measured Cross Slope in percent
 T = 0.50

Table 10 - Cross Slope Index Acceptance Limits

	TARGET	LSL	USL
Cross Slope Index	0.00	-1.00	+1.00

3.14.6 Rejection of Material.

3.14.6.1 An individual subplot. For any sublots with any test results exceeding the specified reject limits, the Engineer will:

- (a) Require complete removal and replacement with hot asphalt mix meeting the contract requirements at no additional expense to the department, or
- (b) Require corrective action to the satisfaction of the Engineer at no additional expense to the Department.

3.14.6.2 A lot in progress. The Engineer will shut down paving operations whenever:

- (a) The pay factor for any property drops below .90 and the Contractor is taking no corrective action, or
- (b) Three consecutive tests show that less than 50 percent by weight of the particles retained on the No. 4 (4.75 mm) sieve have at least one fractured face.