 Manitoba Infrastructure MATERIALS ENGINEERING BRANCH	Standard No.: MEB- P026
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Standard Practice for: Pay Adjustment for Performance Graded Asphalt Cement	

1.0 SCOPE

This Standard Practice sets the Pay Adjustment for out of specification Performance Graded (PG) asphalt cement.

2.0 REFERENCE STANDARDS

AASHTO Standards

- M320 Performance Graded Asphalt Binder
- R28 Accelerated Aging of Asphalt Binder Using a Pressurized Aging Vessel (PAV)
- R29 Grading or Verifying the Performance Grade (PG) of an Asphalt Binder
- T240 Effect of Heat and Air on a Moving Film of Asphalt Binder (Rolling Thin-Film Oven Test)
- T313 Determining the flexural Creep Stiffness of Asphalt Binder Using Bending Beam Rheometer (BBR)
- T315 Determining the Rheological Properties of Asphalt Binder Using a Dynamic Shear Rheometer (DSR)
- T316 Viscosity Determination of Asphalt Binder Using Rotational Viscometer
- T350 Test for Multiple Stress Creep Recovery

ASTM Standards

- D8 Standard Terminology Relating to Materials for Roads and Pavements

MEB Standards

- P031 Sampling and Testing Asphalt Binder Materials


4.0 GENERAL

The asphalt cement shall conform to the latest specifications for asphalt cements on the Approved Products List (APL), *Performance Graded Asphalt Cement Specification*, unless otherwise noted.

All asphalt cement samples will be subject to testing for acceptance as per *MEB-P031 Standard Practice for Sampling and Testing Asphalt Binder Materials*.

5.0 OUT OF SPECIFICATION RESULTS

The Contract Administrator shall notify the Contractor of out of specification test results as per *MEB-P031 Sampling and Testing Asphalt Binder Materials*.

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When a sample is out of specification, the Contract Administrator shall test previous and subsequent samples until the extent of out of specification is determined.

The Contractor shall respond to the notification of out of specification results within five business days identifying the following:

- The terminal and/or refinery supplying the asphalt cement.
- The quantity and location(s) of material in question.
- Any changes to their quality control plan and procedures.
- Quality Control test results relating to the out of specification asphalt cement in question.

6.0 PAYMENT REDUCTION FACTORS

Pay Adjustment on each load of the supplied asphalt cement will be calculated from Tables 1 through 6. When test results are out of specification on multiple criteria, the greatest percent reduction from Tables 1 through 6 will be used for Pay Adjustment.

6.1 Payment Reduction Factors for High Temperature Grade

Table 1 Dynamic Shear Rheometer on Original Binder

Range (kPa)	Payment Reduction (%)
0.99-0.98	5
0.97-0.93	10
0.92-0.88	15
0.87-0.83	20
0.82-0.78	30
<0.78	50 ¹

Table 2 Dynamic Shear Rheometer on RTFO

Range (kPa)	Payment Reduction (%)
2.19-2.08	5
2.07-1.98	10
1.97-1.88	15
1.87-1.78	20
1.77-1.68	30
<1.68	50 ¹


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Table 3 Dynamic Shear Rheometer on PAV

Range (kPa)	Payment Reduction (%)
5001-5350	5
5351-5600	10
5601-5850	15
5851-6100	20
6101-6350	30
>6350	50 ¹

6.2 Payment Reduction Factors for Low Temperature Grade

Table 4 Bending Beam Rheometer : Stiffness

Range (kPa)	Payment Reduction (%)
301 - 324	5
325 - 340	10
341 - 369	15
370 - 390	20
391 - 400	30
>400	50 ¹


Table 5 Bending Beam Rheometer : M-Value

Range	Payment Reduction (%)
0.299-0.296	5
0.295-0.292	10
0.291-0.286	15
0.287-0.275	20
0.276-0.255	25
0.254-0.240	30
<0.240	50 ¹

6.3 Payment Reduction Factors for Multiple Stress Creep Recovery

Table 6 Elastic Recovery

Deviation ²	Payment Reduction (%)
≤3	5
≤6	10
≤9	15
≤12	20
≤15	30
≤20	50 ¹

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NOTES:

(1) Contract Administrator will review test results to determine if the loads are subject to repair or further payment reduction.

(2) Deviation from the specified minimum elastic recovery will be calculated using the following formula:

$$\text{Deviation} = \text{Min R3.2@58}^\circ\text{C} - \text{Laboratory Test Result}$$

where:

$$\text{Min R3.2@58}^\circ\text{C} = \text{Minimum Elastic Recovery specified in APL 101-2}$$

The percentage of elastic recovery above the minimum R3.2 @58°C requirement will not be considered a deviation.

7.0 PAYMENT ADJUSTMENT

Payment adjustment will be calculated using the following equation:

$$\text{PayAdjustment} = \text{FullPMT} * (\text{Maximum Reduction from Tables 1 through 6})$$

where:

$$\text{FullPMT} = \text{Full Payment}$$

8.0 APPEAL

The Contractor may appeal any out of specification sample. The process is as follows:

- 8.1 The Contractor shall submit a request for Appeal testing. The request must include Quality Control test results from the corresponding lot or batch of the disputed PG asphalt cement.
- 8.2 The Appeal laboratory test results will be used to calculate the Pay Adjustment and no further Appeal can be pursued.
- 8.3 If any of the Appeal results are out of specification, all cost associated with the Appeal tests shall be born by the Contractor.