

INCLUDE IN ALL PROJECTS WITH A PAVING COMPONENT

AMENDMENTS TO SPECIFICATION 3.50, ASPHALT CONCRETE PAVEMENT (EPS), RE: QUALITY CONTROL TESTING USING MAXIMUM SPECIFIC GRAVITY TESTING OF HOT MIX ASPHALT

- (i) Table 3.50.4.2 in Subsection 3.50.4.2, **Methods of Testing for Acceptance and Appeal Testing**, is replaced in its entirety with the following:

**TABLE 3.50.4.2
TEST METHODS ON MANAGED QA PROJECTS**

	<i>TEST DESCRIPTION</i>	<i>TEST METHOD</i>
1	<i>Sampling Mixes</i>	<i>ATT-37</i>
2	<i>Coring</i>	<i>ATT-5</i>
3	<i>Extraction</i>	<i>ATT-12</i>
4	<i>Correction Factor, Extracted Asphalt Content</i>	<i>ATT-12 Part III</i>
5	<i>Percent Fracture</i>	<i>ATT-50</i>
6	<i>Sieve Analysis</i>	<i>ATT-26</i>
7	<i>Density, Immersion Method, Waxed Asphalt Concrete Specimens</i>	<i>ATT-6</i>
8	<i>Density, Immersion Method, Saturated Surface Dry Asphalt Concrete Specimens</i>	<i>ATT-7</i>
9	<i>Density, Using Automated Vacuum Sealing Method</i>	<i>AASHTO T331</i>
10	<i>Voids Calculations, Asphalt Concrete Specimens</i>	<i>ATT-36</i>
11	<i>Percent Compaction, Asphalt Concrete Pavement</i>	<i>ATT-67</i>
12	<i>Forming Marshall Specimens, Field Method</i>	<i>ATT-13</i>
13	<i>Moisture Content, Oven Method Asphalt Concrete Mixes</i>	<i>ATT-15</i>
14	<i>Smoothness of Pavements using IRI Criteria</i>	<i>See Special Provisions</i>
15	<i>Stratified Random Test Sites for A.C.P. Projects</i>	<i>ATT-56</i>
16	<i>Appeal Testing, Asphalt Content, Density and Gradation</i>	<i>ATT-68</i>
17	<i>Asphalt Content, Ignition Method</i>	<i>ATT-74</i>
18	<i>Correction Factor, Ignition Asphalt Content</i>	<i>ATT-74 Part II</i>
19	<i>Maximum Specific Gravity of Bituminous Mixes</i>	<i>ASTM 2041</i>
ADDITIONAL TEST METHODS FOR ALL QC OR QA ACCEPTANCE LOTS		
20	<i>Asphalt Content</i>	<i>AASHTO T164, T287 or ATT-12 or ATT-74</i>

NOTES:

- *In all test methods used as reference in this specification, metric sieves as specified in Canadian General Standards Board Specification 8-GP-2M shall be substituted for any other specified wire cloth sieves in accordance with Specification 3.2, Aggregate Production and Stockpiling.*
 - *In all cases the latest amendment or revision current at the closing date of the Tender is implied when reference is made to one of the above standards in the Specification.*
- (ii) Table 3.50.4.3 in Subsection 3.50.4.3, **Quality Control Testing**, is replaced in its entirety with the following:

INCLUDE IN ALL PROJECTS WITH A PAVING COMPONENT

TABLE 3.50.4.3
QUALITY CONTROL TESTING REQUIREMENTS – MANAGED QA TESTING PROJECTS

TEST	STANDARD	MINIMUM FREQUENCY
AGGREGATE PRODUCTION		
		See Specification 3.2
ASPHALT MIX PLANT		
Calibration	ATT-17	Once per project or as required
Inspection	ATT-16	(2)
SAMPLES		
Asphalt Cement	ATT-42	See Specification 5.7
Tack, Prime and Fog Materials	ATT-42	See Specification 5.7
Cold Feed Aggregate	ATT-38	
Mix	ATT-37	(2)
QA Cores - Stratified Random Test Sites Chosen By The Consultant	ATT-56	One per segment for each Lot. One per segment for selected Lots as directed by the Consultant.
i) QA Cores for Pavement Density	ATT-5	
ii) QA Cores for Asphalt Content and Gradation	ATT-5	
TESTS WITH SPECIFIED MINIMUM FREQUENCIES		
Mix Asphalt Content	AASHTO T164, T287 or ATT-12 or AT-74	(2)
Correction Factors	ATT-12, Part III or ATT-74, Part II	As Required
Mix Moisture Content	ATT-15	(2)
Aggregate Sieve Analysis	ATT-26	(2)
Pavement Segregation	Segregation Rating Manual	Each Lot
Field Formed Marshall Briquettes	ATT-13	(2)
Density Immersion Method, Saturated Surface Dry	ATT-7	(2)
Maximum Specific Gravity of Bituminous Mixes (G_{mm})	ASTM 2041	(2), (3)
Void Calculations, Cores or Formed Specimens	% of G_{mm}	(2), (3)
Void Calculations, Cores or Formed Specimens	ATT-36	(2), (3)
Pavement Smoothness using IRI Criteria	See Special Provisions	Travel lanes of all top lift paving
TESTS WITH NO SPECIFIED MINIMUM FREQUENCIES		
Temperatures	ATT-30	(1)
Percent Compaction, Cores or Nuclear Density	ATT-67, ATT-5 or ATT-11	(1)
Random Test Site Locations	ATT-56	(1)
Correction Factors, Nuclear Moisture-Density Measurement	ATT-48	(1)

(1) Minimum Frequency not Specified.

(2) When a Lot has eight hours of plant production or more, a minimum of four checks and tests are required. When a Lot has less than eight hours of plant production, these tests shall be performed once for every two full hours of plant production.

(3) Report Maximum Specific Gravity (G_{mm}) and air voids calculated by using both ATT-36 (voids table) and by % of G_{mm} as follows:

***INCLUDE IN ALL PROJECTS WITH A PAVING
COMPONENT***

$$\text{Air Voids (\%)} = \left(\frac{G_{mm} - G_{mb}}{G_{mm}} \right) \times 100$$

Where: G_{mm} = Maximum specific gravity, and
 G_{mb} = Marshall or core bulk density (tonne/m³)

Notes to the Consultant (Do not insert into the tender)

Submit QC Lot Paving Reports along with the QA Lot Paving Reports on a weekly basis to trans.constructqa@gov.ab.ca.