

GENERAL REQUIREMENTS FOR REFEREE TESTING

Special Provision No. 199S64

DRAFT September 2026

1.0 SCOPE

This Special Provision describes the general requirements for referee testing related to laboratory and field testing of engineering materials and associated costs. Standard Specifications, Special Provisions and test methods provide details on the referee testing and/or acceptance for specific materials where applicable.

2.0 DEFINITION

Referee Testing means testing of a material property or attribute, for the purpose of resolving acceptance, by:

- a) An independent, third-party laboratory based on applicable referee roster; or
- b) Where there is no applicable referee roster:
 - i. The MTO laboratory; or
 - ii. An assigned service provider.

3.0 REFEREE TESTING REQUIREMENTS

Referee testing may be invoked provided that all associated contractual conditions have been met. The material and specific property or properties, attribute(s) lot and subplot(s), as applicable, for which the referee testing is being requested shall be identified in writing and submitted to the Contract Administrator, within the time specified in the Contract Documents.

Referee testing shall be carried out by a laboratory designated by the Owner from a roster maintained for this purpose, or as specified in the Contract Documents. Where there is no applicable referee roster, referee testing shall be carried out by the MTO laboratory, or the same service provider assigned by the Owner to carry out the QA testing.

Referee test results shall be binding on both the Contractor and the Owner.

4.0 OBSERVATION

The Contractor and Owner may each designate a maximum of two representatives to observe the referee testing. The Contractor's designated representatives shall not be changed without notifying the Contract Administrator at least 24 hours prior to the scheduled referee testing.

The method of observation for the referee testing, either remote or in person, shall be selected by the Owner. The Owner and the Contractor shall be notified a minimum of 3 Business Days in advance of the date and time of referee testing. Provided that such notice was given, referee testing shall commence on time and be carried out regardless of the absence of one or more observers.

In addition to the two Owner representatives permitted above, the Owner may at any time appoint a referee inspector to audit the referee services and the referee laboratory premises, either remotely or in-person.

All communications with the referee testing laboratory shall be through the Contract Administrator.

Observing representatives shall follow all referee laboratory protocols and shall not impede the progress of the referee testing. Observing representatives shall be permitted to validate sample identification and view sample condition. Subject to safety requirements, testing procedures and equipment limitations, representatives shall be permitted to witness test activities, take notes, view equipment readings and review

completed worksheets while observing the testing. The taking of photographs, videos or electronic recordings shall not be permitted.

Concerns with sample condition or sample identification shall be made known to all representatives prior to commencement of the referee testing. Comments on deviations from the applicable test method shall be made at the time of referee testing. Unresolved concerns shall be specific in nature and submitted in writing to the referee laboratory's designated representative and the other observing representatives present, at the time of testing.

5.0 REFeree TESTING COSTS

Referee testing costs shall be the sum of all applicable testing costs, as specified in Table 1 to Table 7, for all tests included in each referee testing request plus, applicable general fees, unless otherwise specified elsewhere in the Contract Documents. Responsibility for payment of referee testing costs shall be as specified elsewhere in the Contract Documents.

No compensation shall be made for any costs incurred in observing the referee testing or for travelling to and from the referee laboratory.

TABLE 1
Referee Testing Costs – General Fees

Test	Description	Fee
	Remote arrangement fee (Note 1)	\$150
	Standard shipping and handling charge (Note 2)	\$340
Notes: 1. This fee will be paid for each referee assignment when remote observation is provided by the Service Provider. 2. The standard shipping and handling charge shall be applied per delivery of referee samples to the referee laboratory.		

TABLE 2
Referee Testing Costs – Aggregate and Soil Referee Testing Services

Test	Description	Fee
2.1 Aggregate Testing Methods		
LS-600	Dry Preparation of Aggregates for Determination of Physical Constants	\$165
LS-601	Material Finer Than 75 µm Sieve in Mineral Aggregates by Washing	\$205
LS-602	Sieve Analysis of Aggregates (includes washing of the fine aggregate portion according to LS-601)	\$445
LS-603	Resistance to Degradation of Coarse Aggregate by Abrasion and Impact in the Los Angeles Abrasion Machine	\$815
LS-604	Relative Density and Absorption of Coarse Aggregate	\$430
LS-605	Relative Density and Absorption of Fine Aggregate	\$485
AGH11	Superpave Mixture: Aggregate Bulk Specific Gravity (Gsb): LS-266, LS-604, LS-605. Follow provisions for blended coarse and fine aggregates.	\$1,175 per combined density
AGH12	Superpave Mixture with RAP: Aggregate Bulk Specific Gravity (Gsb): LS-266, LS-604, LS-605. Follow provisions for blended coarse and fine aggregates. Note: Aggregates from RAP are to be incorporated as identified in the appropriate LS.	\$1,560 per combined density
LS-606	Soundness of Aggregates by Use of Magnesium Sulphate (coarse aggregate fraction only)	\$860
LS-607	Percent Crushed Particles in Processed Coarse Aggregate	\$305
LS-608	Percent Flat and Elongated Particles in Coarse Aggregate Containing no RAP or RST Aggregates	\$460 (Note 3)
LS-609	Petrographic Analysis of Coarse Aggregate (Part A), complete analysis	\$1,190
LS-609	Petrographic Analysis of Coarse Aggregate (Part B), includes the extraction using LS-282	\$1,190

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TABLE 2
Referee Testing Costs – Aggregate and Soil Referee Testing Services
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Test	Description	Fee
2.1 Aggregate Testing Methods		
LS-609	Petrographic Examination of Coarse Aggregate (Part A), analysis for determination of percentage of specific material types only (e.g., % total carbonate rock type, and/or % contamination)	\$540
LS-610	Organic Impurities in Concrete Sands	\$210
LS-613	Insoluble Residue of Carbonate Aggregates	\$655 (Note 1)
LS-614 or CSA A23.224A	Freezing and Thawing of Coarse Aggregate	\$975
LS-615 or CSA A23.226A	Potential Alkali Carbonate Reactivity of Carbonate Rocks by Chemical Composition	\$1,330
LS-616	Petrographic Analysis of Fine Aggregate (Part A)	\$1,360 (Note 1)
LS-616	Petrographic Analysis of Fine Aggregate (Part B)	\$660 (Note 1)
LS-616	Mica Content	\$1080 (Note 1)
LS-617	Percent Particles with Two or More Crushed Faces and Uncrushed Particles in Processed Coarse Aggregate	\$345
LS-618 or CSA A23.229A	Resistance of Coarse Aggregate to Degradation by Abrasion in the Micro-Deval Apparatus	\$850
LS-619 or CSA A23.223A	Resistance of Fine Aggregate to Degradation by Abrasion in the Micro-Deval Apparatus	\$850
LS-620 or CSA A23.225A	Accelerated Detection of Potentially Deleterious Alkali Silica Reactive Aggregate by Expansion of Mortar Bars	\$3,335
LS-621	Amount of Asphalt Coated Particles in Coarse Aggregate	\$265
LS-627	Open Graded Drainage Layer (OGDL) Core Porosity Test	\$395
LS-629	Uncompacted Void Content of Fine Aggregate. (Test for determination of relative density will be paid separately)	\$495
LS-631	Presence of Plastic Fines in Aggregates	\$290
LS-634	Amount of Reclaimed Content in Coarse Aggregate	\$400
LS-282	Extraction for Aggregates that Incorporate RAP and/or RST	\$450 (Note 1)
2.2 Aggregate Testing (AASHTO/ASTM Methods)		
AASHTO T 84	Specific Gravity and Absorption, Fine Aggregate	\$860
AASHTO T 85	Specific Gravity and Absorption, Coarse Aggregate	\$425
AASHTO T 176	Sand Equivalent, (Method 1)	\$450
ASTM D4791	Flat and Elongated Particles, Coarse Aggregate	\$485
ASTM D5821	Fractured Particles, Coarse Aggregate, One Face	\$340
ASTM D5821	Fractured Particles, Coarse Aggregate, Two Faces	\$390

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TABLE 2
Referee Testing Costs – Aggregate and Soil Referee Testing Services
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Test	Description	Fee
2.3 Soils Testing		
LS-701	Determination of Moisture Content of Soils	\$85
LS-702	Determination of Particle Size Analysis of Soils (includes LS705, Relative Density, in triplicate)	\$1,200
LS-703/704	Liquid Limit, Plastic Limit and Plasticity Index of Soils	\$425
LS-705	Determination of Relative Density of Soils (in triplicate)	\$870
LS-706	Moisture Density Relationship of Soils Using 2.5 kg Rammer and 305 mm Drop	\$675
LS-707	Moisture Density Relationship of Soils Using 4.5 kg Rammer and 457 mm Drop	\$770
LS-709	Determination of Permeability of Granular Soils	\$1,140
2.4 Geotextile Testing		
ASTM D4632/ D4632M	Grab Breaking Load and Elongation of Geotextiles	\$200
ASTM D4533/ D4533M	Trapezoid Tearing Strength of Geotextiles	\$200
ASTM D6241	Static Puncture Strength of Geotextiles and Geotextile Related Products Using a 50 mm Probe	\$200
ASTM D1004	Standard Test Method for Tear Resistance (Graves Tear) of Plastic Film and Sheeting	\$200
ASTM D4833/ D4833M	Standard Test Method for Index Puncture Resistance of Geomembranes and Related Products	\$200
Notes: 1. When extraction (LS-282) is required, it shall be paid for one time per sample.		

TABLE 3
Referee Testing Costs – Bituminous Referee Testing Services (Note 1)

Test	Description	Fee
3.1 Hot Mix Asphalt Testing		
AQA1	Resistance to Moisture Induced Damage: AASHTO T 283	\$1,135 per sample
AQA2	Mix Properties: LS-264, LS-265, LS-266, LS-282 (or LS-292), AASHTO R 35, AASHTO T 166, AASHTO T 312	\$795 per sample
AQA3	SMA Draindown Characteristics: LS-310	\$265 per sample
AQA5	Ignition Oven Calibration: LS-292	\$840 per calibration
AQA6	Compaction: LS-262, LS-264, LS-287. Each core shall be measured for core thickness. Bulk Relative Density (BRD) shall be determined from the oven dried pavement core. Core compaction shall be calculated using the Maximum Relative Density (MRD) of the loose asphalt mix obtained from the corresponding subplot of the pavement core.	\$185 per sample
AQA8	Determination of Pavement Lift Thickness using Pavement Core: LS-294 (single lift)	\$45 per core
	Determination of Pavement Lift Thickness using Pavement Core: LS-294 (multi-lift)	\$75 per core
AQA10	SMA Grit Gradation & AC Content: LS-282 (AC content and gradation only)	\$420 per sample
3.2 Hot Mix Asphalt Performance Testing		
AQA14	FITSCB on Mix: LS-334 (four individual test specimens are one test)	\$1,705 per test
AQA15	FITSCB on Cores: LS-334 (four individual test specimens are one test)	\$1,360 per test
AQA16	Hamburg Wheel-Track on Mix: LS-335 (Four 150 mm diameter specimens, grouped in pairs (1 and 1a), representing similar material run in the Hamburg Wheel Tracking Device simultaneously are one test)	\$2,840 per test
AQA17	DCT on Mix: LS-336 (three individual test specimens are one test)	\$2,840 per test
AQA18	DCT on Cores: LS-336 (three individual test specimens are one test)	\$2,270 per test
AQA19	ISS on a Core: AASHTO TP 114	\$835 per sample
AQA22	Hamburg Wheel-Track on Cores: LS335 (Four cores, grouped in pairs (1 and 1a), representing similar material run in the Hamburg Wheel Tracking Device simultaneously are one test)	\$2,555 per test

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TABLE 3
Referee Testing Costs – Bituminous Referee Testing Services (Note 1)
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Test	Description	Fee
3.3 Emulsified Asphalt and Tall Oil Pitch Emulsion Testing		
ECA1	Tack Coat: ASTM D5 (Penetration), LS-217 (Residue by Distillation)	\$390 per sample
ECA6	Penetration (ASTM D5), Ductility (ASTM D113), Flash Point (ASTM D1310), Storage Stability (LS-221), Sieve Test (ASTM D6933) for Type II only, Residue by Distillation (LS-217), Oil Portion of Distillate (LS-217), Particle Charge (LS-218) for Type I only, Saybolt Viscosity (ASTM D7496), Ash Content (ASTM D8078) Note: Used for Granular Sealer Type I and Type II	\$1,550 per sample
ECA7	Tall Oil Pitch: Particle Charge (LS-218), Solids Content (LS-229) Note: Used for Granular Sealer Type III.	\$740 per sample
3.4 Performance Graded/Recovered Asphalt Cement Testing		
PGA1	PGAC Continuous Grading Plus: LS-228 (Method A), LS-299, LS-308, LS-319, LS-320, AASHTO M 320, AASHTO R 29 (Section 6), AASHTO T 350, ASTM D7643, ASTM D8078. Compare AASHTO R 29 (Section 6) results against AASHTO M 320 and report the continuous high and low grading temperatures according to ASTM D7643 rounded to the nearest 0.1°C. Conduct LS-299 (DENT), LS-319 (T _δ 45), and LS-320 (ΔTC) on the 20 hour PAV residue (LS-228 Method A) only.	\$3,630 per sample
PGA2	PGAC Continuous Grading Only: LS228 (Method A), AASHTO M 320, AASHTO R 29 (Section 6), ASTM D7643. Compare AASHTO R 29 (Section 6) results against AASHTO M 320 and report the continuous high and low grading temperatures according to ASTM D7643 rounded to the nearest 0.1°C.	\$1,135 per sample
RAC1	RAC Continuous Grading Plus: LS228 (Method A), LS-284, LS-299, LS-308, LS-319, LS-320, AASHTO M 320, AASHTO R 29 (Section 6), AASHTO T 350, ASTM D7643, ASTM D8078. Compare AASHTO R 29 (Section 6) results against AASHTO M 320 (except for original binder requirements). AASHTO T 240 (RTFO) is not performed on RAC. Use AASHTO M 320 criteria for RTFO residue ($G^*/\sin\delta \geq 2.2\text{kPa}$). Report the continuous high and low grading temperatures according to ASTM D7643 rounded to the nearest 0.1°C. Conduct LS-299 (DENT), LS308 (ExBBR), LS-319 (T _δ 45), and LS-320 (ΔTC) on the 20hour PAV residue (LS228 Method A) only.	\$4,110 per 20 kg loose mix sample

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TABLE 3
Referee Testing Costs – Bituminous Referee Testing Services (Note 1)
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Test	Description	Fee
3.4 Performance Graded/Recovered Asphalt Cement Testing, con't		
RAC2	RAC Continuous Grading Only: LS-228 (Method A), LS-284, AASHTO M 320, AASHTO R 29 (Section 6), ASTM D6473, ASTM D8078. Compare AASHTO R 29 (Section 6) results against AASHTO M 320 (except for original binder requirements). AASHTO T 240 (RTFO) is not performed on RAC. Use AASHTO M 320 criteria for RTFO residue ($G^*/\sin\delta \geq 2.2\text{kPa}$). Report the continuous high and low grading temperatures according to ASTM D7643 rounded to the nearest 0.1°C.	\$1,560 per 20 kg loose mix sample
3.5 Cold In-place Recycled Mix Testing		
CIR1	Moisture Content of CIR Slabs: LS-282 (Following Determination of Moisture Content portion only)	\$85 per sample
CIR2	ITS of CIR/CIREAM and EAM: LS-297 (Following Procedure for Preparing and Curing the Specimen from Field-recovered Core Samples)	\$730 per sample
CIR3	ITS of CIREAM and EAM: LS-297 (Following Procedure for Coring and Curing Specimen from Slab Samples)	\$850 per sample
3.6 Hot-Poured Rubberized Asphalt Testing		
HPR1	Hot Poured Rubberized Asphalt Crack Sealant Quality Test ASTM D5329, ASTM D36 Cone Penetration (ASTM D5329), Softening Point (ASTM D36), Bond (ASTM D5329), Resilience (ASTM D5329), Asphalt Compatibility (ASTM D5329)	\$1,850 per sample
Notes: 1. The minimum fee for any individual bituminous referee testing assignment will be \$350 (including the \$150 for providing remote observation as per Table 1.)		

TABLE 4
Referee Testing Costs – Concrete Referee Testing

Test	Description	Fee
4.1 Concrete Testing		
LS-407	Compressive Strength of Moulded Concrete Cylinders	\$125 (per set of two 150 mm diameter cylinders or three 100 mm diameter cylinders)
LS-410	Compressive Strength Testing of Concrete Cores	\$140 (per one core)
LS-412	Scaling Resistance of Concrete Surfaces Exposed to Deicing Chemicals	\$2,100 (per set of two slabs, Note 1)
LS-426	Compressive Strength of High Strength Concrete Cylinders	\$125 (per set of three 100 mm diameter cylinders)
LS-431	Microscopical Determination of Air Void System Parameters in Hardened Concrete for Referee Test	\$900 per test (Note 2)
LS-433	Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration	\$815 (per set of two specimens from one core or cylinder)
LS-450	Determination of Concrete Pavement Thickness Using Drilled Core Specimens	\$95 (per one core)
ASTM C495	Compressive Strength of Cellular Concrete	\$125 (per set of three 100 mm diameter cylinders)
CSA A3004-C2	Grout Compressive Strength	\$125 (per set of three specimen)
LS-435	Linear Shrinkage	\$500 / specimen
4.2 Admixture Testing		
LS-413 and LS-414 Chemical Admixture (Including Superplasticizers)	Sample: Chemical Admixture (Including Superplasticizers) Method of Test for NonVolatile Content of Chemical Admixtures, Latex Admixtures and Curing Compounds and Method of Test for Relative Density of Chemical Admixtures, Air Entraining Admixtures, Latex Admixtures and Curing Compounds	\$650 (per non-volatile content and relative density determination of one sample of admixture)
LS-414 and LS-415 Air Entraining Admixture	Sample: Air Entraining Admixture Method of Test for Relative Density of Chemical Admixtures, Air Entraining Admixtures, Latex Admixtures and Curing Compounds and Method of Test for pH of Aqueous Solutions by Glass Electrode	\$650 (per relative density and pH determination of one sample of admixture)
4.3 Mechanical Connectors Testing		
LS-434	Method of Test for Mechanical Connectors Used to Splice Steel Reinforcement	\$625 (per one set of three sample connectors)

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TABLE 4
Referee Testing Costs – Concrete Referee Testing
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Test	Description	Fee
4.3 Mechanical Connectors Testing		
LS-434	Method of Test for Mechanical Connectors Used to Splice Steel Reinforcement	\$625 (per one set of three sample connectors)
4.4 Waterproofing		
-	Waterproofing Membrane Thickness (Field Guide for the Acceptance of Hot Mix and Bridge Deck Waterproofing)	\$1,150
-	Waterproofing Membrane Quality (OPSS 914 and OPSS 1213)	\$1,265
Notes: 1. Fee includes cutting and trimming of concrete slabs. 2. Shipping of AVS samples to the Ministry and polishing, if necessary, is included in the fee.		

Table 5
Referee Testing Costs – Concrete Pavement Smoothness Referee Measurement (Note 1)

Test	Description	Fee
5.1 Concrete Pavement Measurement Fee		
-	Number of Sublots Measured	-
-	1 to 5	\$3,290
-	6 to 10	\$4,880
-	11 to 20	\$6,530
-	21 to 30	\$7,950
-	31 to 40	\$9,530
-	41 to 60	\$11,070
-	61 to 80	\$12,710
-	81 to 100	\$14,130
-	101 to 150	\$15,720
-	151 or more	\$17,370
5.2 One-Time Mobilization Fee		
-	Region of the Contract	-
-	West Region	\$1,080
-	Central Region	\$1,080
-	East Region	\$1,080
-	Northeast Region South (Area south of the boundary formed by Hwy 522 and a straight line between Trout Creek and Petawawa)	\$1,080
-	Northeast Region North (Area north of the boundary formed by Hwy 522 (including Hwy 522) and a straight line between Trout Creek and Petawawa)	\$3,410
-	Northwest Region	\$6,810
Notes: 1. The standard shipping and handling charge shall not be applied to surface smoothness by inertial profiler testing costs and FWD testing costs.		

TABLE 6
Referee Testing Costs – Asphalt Pavement Smoothness Referee Measurement (Note 1)

Test	Description	Fee	
6.1	Asphalt Pavement Measurement Fee	Sublots Located On	
-	Number of Sublots Measured	400 Series Hwy (Note 2)	Non400 Series Hwy
-	1 to 5	\$3,290	\$3,120
-	6 to 10	\$4,880	\$4,140
-	11 to 20	\$6,530	\$4,880
-	21 to 30	\$7,950	\$5,680
-	31 to 40	\$9,530	\$6,470
-	41 to 60	\$11,070	\$7,830
-	61 to 80	\$12,710	\$9,420
-	81 to 100	\$14,130	\$11,120
-	101 to 150	\$15,720	\$12,490
-	151 or more	\$17,370	\$14,070
6.2	One-Time Mobilization Fee		
-	Region of the Contract	-	
-	West Region	\$1,080	
-	Central Region	\$1,080	
-	East Region	\$1,080	
-	Northeast Region South (Area south of the boundary formed by Hwy 522 and a straight line between Trout Creek and Petawawa)	\$1,080	
-	Northeast Region North (Area north of the boundary formed by Hwy 522 (including Hwy 522) and a straight line between Trout Creek and Petawawa)	\$3,410	
-	Northwest Region	\$6,810	
Notes:			
1. The standard shipping and handling charge shall not be applied to surface smoothness by inertial profiler testing costs and FWD testing costs.			
2. 400 series highways include the Queen Elizabeth Way (QEW) highway.			

TABLE 7
Referee Testing Costs – Falling Weight Deflectometer (FWD) Referee Testing for Concrete Pavement and Concrete Base (Note 1)

Test	Description	Fee
7.1 Testing Fee		
-	Number of Joint Tested	-
-	1 to 24	\$3,000
-	25 to 48	\$3,700
-	49 to 72	\$5,300
-	73 to 96	\$6,000
-	97 to 120	\$7,600
-	121 to 144	\$8,300
-	145 to 168	\$9,900
-	169 to 192	\$10,600
-	193 to 216	\$12,200
-	217 to 240	\$12,900
7.2 One-Time Mobilization Fee		
	Region of the Contract	-
-	West	\$2,250
-	Central	\$1,200
-	East	\$2,250
-	Northeast	\$2,750
-	Northwest	\$6,500
Notes: 1. The standard shipping and handling charge shall not be applied to surface smoothness by inertial profiler testing costs and FWD testing costs.		

WARRANT: All contracts.