YEAR 2021 CCIL CORRELATION

MIX COMPLIANCE (ON QC)

SAMPLES

Two (2) bulk samples, identified as Materials **MC-A/B/C/D-X** have been provided. The two samples will be either A and B or C and D or B and C. Each of these samples shall be tested individually, i.e. do not combine them.

TESTING

On receipt, each sample shall be warmed and a representative portion obtained by quartering or using a riffle splitter. Two replicates of this representative portion shall then be tested as per LS-264, (latest revision) "Method of Test for Theoretical Maximum Relative Density of Bituminous Paving Mixtures"

Sufficient material from each sample shall then be heated to the appropriate temperature to prepare three briquettes. The briquette specimens shall be prepared as per LS-261 (latest revision), "Method of Test for Preparation of Marshall Specimens". Trough, moulds and hammers shall be preheated to 140 ± 5°C.

For MC-A-X, use a briquette mass 1280 ± 25 g and the compaction temperature of 142°C
For MC-B-X, use a briquette mass 1240 ± 25 g and the compaction temperature of 138°C
For MC-C-X, use a briquette mass 1240 ± 25 g and the compaction temperature of 135°C
For MC-D-X, use a briquette mass 1225 ± 25 g and the compaction temperature of 157°C

Note 1: With the manual hammer, the following should be noted: (a) the compaction pedestal must be secured; (b) the timing of blows should be 60 blows per minute (plus or minus 5 blows); (c) the hammer should be allowed to rebound between successive blows.

Thereafter the specimens shall be tested for:

1. Bulk relative density, LS-262 (latest revision) "Bulk Relative Density of compacted Bituminous Mixes"
2. Marshall stability and flow, LS-263 (Revision 32), "Resistance to Plastic Flow of Bituminous Mixtures using the Marshall Apparatus"
3. Air voids, LS-265, (latest revision) "Determination of Percent Air Voids in Compacted Dense Bituminous Pavement Mixtures"
4. Voids in mineral aggregate, LS-266 (latest revision), "Determination of V.M.A. in Compacted Bituminous Mixtures"

Note 2: For calculation of the V.M.A. use the values for aggregate bulk relative densities and asphalt cement provided on Pages 3 and/or Page 4. An example of a completed work sheet is shown on page **4**. A hard copy of this sheet must be submitted with the laboratory work sheets. The VMA values shall be reported in the designated spaces on the Mix Compliance Report form.

Note 3: Please identify the method used for the determination of flow by selecting from the dropdown feature on the Reporting Form.

All test results shall be reported online and submitted by **January 8 2021.** An example of a completed report form is shown on Page 6.

Hard copies of the report forms and work sheets must be submitted by **January 8 2021** by mail or courier to the following address. **DO NOT** send reports and worksheets by fax.

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YEAR 2021 CCIL CORRELATION

MIX COMPLIANCE - % VMA WORK SHEET (Materials A and B)

LABORATORY No. : LABORATORY NAME

MATERIAL A

Coarse Aggregate 1	(CA1)	45.0%
Fine Aggregate 1	(FA1)	46.0%
Fine Aggregate 2	(FA2)	9.0%
BRD Coarse Aggregate	(CA)	2.950
BRD Fine Aggregate 1	(FA1)	2.910
BRD Fine Aggregate 2	(FA2)	2.904

Compacted Mix BRD (Db) SAMPLE # _____

(1) _____

(2) _____

(3) _____

% AC 5.20 % (by mass of total mix)

Combined Aggregate BRD (Gb): _____

% VMA = (1) _____ (2) _____ (3) _____

MATERIAL B

Coarse Aggregate	(CA1)	41.0%
Fine Aggregate 1	(FA1)	30.0%
Fine Aggregate 2	(FA2)	20.0%
Fine Aggregate 3	(FA3)	9.0%
BRD Coarse Aggregate	(CA1)	2.665
BRD Fine Aggregate 1	(FA1)	2.676
BRD Fine Aggregate 2	(FA2)	2.672
BRD Fine Aggregate 3	(FA3)	2.739

Compacted Mix BRD (Db) SAMPLE # _____

(1) _____

(2) _____

(3) _____

AC 5.00 % (by mass of total mix)

Combined Aggregate BRD (Gb): _____

% VMA = (1) _____ (2) _____ (3) _____

YEAR 2021 CCIL CORRELATION

MIX COMPLIANCE - % VMA WORK SHEET (Materials C and D)

LABORATORY No. : LABORATORY NAME

MATERIAL C

Coarse Aggregate	(CA1)	26.0%
Fine Aggregate 1	(FA1)	59.0%
Fine Aggregate 2	(FA2)	15.0%

BRD Coarse Aggregate	(CA)	2.655
BRD Fine Aggregate 1	(FA1)	2.676
BRD Fine Aggregate 2	(FA2)	2.766

Compacted Mix BRD (Db) SAMPLE # _____

(1) _____

(2) _____

(3) _____

AC 5.50 % (by mass of total mix)

Combined Aggregate BRD (Gb): _____

% VMA = (1) _____ (2) _____ (3) _____

MATERIAL D

Coarse Aggregate	(CA1)	42.0%
Fine Aggregate 1	(FA1)	51.0%
Fine Aggregate 2	(FA2)	7.0%

BRD Coarse Aggregate	(CA1)	2.722
BRD Fine Aggregate 1	(FA1)	2.726
BRD Fine Aggregate 2	(FA2)	2.733

Compacted Mix BRD (Db) SAMPLE # _____

(1) _____

(2) _____

(3) _____

% AC 5.10 (by mass of total mix)

Combined Aggregate BRD (Gb): _____

% VMA = (1) _____ (2) _____ (3) _____

MIX COMPLIANCE - % VMA WORK SHEET (EXAMPLE)

LABORATORY No. : 175 LABORATORY NAME Apex Construction

MATERIAL A

Coarse Aggregate	(CA)	45.2%
Fine Aggregate #1	(FA)	54.8%
BRD Coarse Aggregate	(CA)	BRD 2.697
BRD Fine Aggregate #1	(FA)	BRD 2.659

Compacted Mix BRD (Db) SAMPLE MC-A-14

(1) 2.372
(2) 2.369
(3) 2.374

% AC 5.27 (by mass of total mix)

Combined Aggregate BRD (Gb): 2.673

% VMA = (1) 15.9 (2) 16.1 (3) 15.9

Canadian Council of Independent Laboratories

2020 Asphalt Reporting Form
Mix Compliance

Mix Compliance Report - Certification Program

- CCIL Confidential Lab # CCIL 999
- Lab Name: Demo Lab
- Tested by:
  - ○ Lab Technician
  - ○ Supervisor / Manager
  - ◉ Not listed

Please specify

Super Technician

Mix Compliance Report

Test	A-MC-(N)(i)	A-MC-(N)(ii)	A-MC-(N)(iii)	- Avg	B-MC-(N)(i)	B-MC-(N)(ii)	B-MC-(N)(iii)	- Avg
BRD - *LS-262/D2726*	2.376	2.380	2.379	2.378	2.421	2.430	2.426	2.426
MRD - *LS-264/D2041*	2.485	2.484		2.484	2.501	2.504		2.503
% Voids				4.3				3.1
% VMA	15.6	15.8	15.7	15.7	14.2	14.4	14.3	14.3
Stability (N)	10864	11625	11425	11305	9424	9821	9655	9633
Flow (0.25mm units)	10.4	10.2	10.3	10.3	9.6	10.2	9.9	9.9

Flow Measurement

Automated Method ▼

Comments