

SUPERPAVE GYRATORY COMPACTION – PLANT MIX – BC, MB, NB, NL, NS and SK

IMPORTANT NOTE: Type A Superpave Mix Design laboratories are required to carry out Gyratory Compaction and appropriate subsequent testing using **only** Lab Mix Samples as the starting material, consequently **no** testing on Mix compliance samples (plant mixes) is required.

1. PLANT SUPERPAVE SAMPLES (PSS)

Two boxes of Superpave Plant Mix for two different mixes, namely **I-PSS-(N)-a and II-PSS-(N)-b for the 19.0mm mix** and **I-PSS-(N)-a and II-PSS-(N)-b for the 12.5mm mix** have been provided

2. SAMPLE PREPARATION

The content of each pair of boxes (**I and II**) for each mix contain the same type of mix. In preparation for testing the two portions of the sample are combined to represent one uniform sample for all required tests.

3. MAXIMUM SPECIFIC GRAVITY (G_{mm})

Determine the G_{mm} of each mix type using D2041. Report the value of each of the two replicates (i) and (ii) to three decimal places.

4. GYRATORY COMPACTION

The specimen preparation parameters for this testing are as follows:

	19.0mm (I-PSS)	12.5mm (II-PSS)
Mass of individual gyratory specimen, g	4950±40	4835±40
Recompaction temperature, °C	150	150
Initial number of gyrations, N_{ini}	9	9
Design number of gyrations, N_{des}	125	125
Maximum number of gyrations, N_{max}	205	205
Internal angle of gyration, °	1.16°±0.02°	1.16°±0.02°

4.1 Prepare TWO specimens to the **design number of gyrations**

4.2 For each mix type, prepare two specimens to the **maximum number of gyrations** (one specimen is acceptable if sample size is insufficient to prepare two) using the same recompaction temperature.

5. BULK DENSITY AND % G_{mm} (Compaction Degree)

Measure the bulk density of the specimens and complete all necessary calculations, **using applicable ASTM and AASHTO procedures** to obtain % G_{mm} at N_{ini} , % G_{mm} at N_{max} and the % air voids at N_{des} .

Report the values of bulk densities to three decimal places.

Report the values of % G_{mm} to one decimal place

6. Report (See example Gyratory Plant Compaction Report Form on page 3)

- 1) Laboratory name
- 2) Laboratory code number
- 3) e-Mail address

Year 2018 CCIL Correlation

- 4) Reported by (name and telephone number)
- 5) Date reported
- 6) Manufacturer, Model, and Serial number of the Superpave Gyratory Compactor used to compact the samples.

- 7) Test results as per report form

The Gyratory Plant Mix test results shall be reported online and submitted by **January 5 2018**. An example of a completed report form is shown below.

Hard copies of the report forms and work sheets must be submitted by **January 5 2018** by mail or courier to:

Nabil Kamel, M.A.Sc., P.Eng.
CCIL Program Manager
3410 South Service Road, Suite 104
Burlington, Ontario, L7N 3T2
Tel: 289-337-8888: Fax: 289-337-8889: email: nkamel@ccil.com

DO NOT send reports and worksheets by fax

**2018 CCIL CORRELATION - EXAMPLE REPORT
BC, MB, NB, NL, NS and SK**

Testing Admin Information

your assigned CCIL Lab No.: **BC99**

• Lab Name (include Branch or Mobile #)	Apex Construction
• E-mail Address	enstein@apex.com
• Reported by (Contact Name)	Frank Enstein
• Phone Number (Contact)	(999) 999-9999
• Tested by (Name(s))	Jim Dandy
• Results Reporting Date	January 5 2018

Gyratory Compaction - Plant Mix

Manufacturer:	Best	Model:	1234	S/N:	12345
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Results for:	I-PSS			II-PSS		
	(i)	(ii)	Average	(i)	(ii)	Average
• $MSG (G_{mm})$	2.615	2.625	2.620	2.600	2.610	2.605
• $BRD @ N_{des}$	2.525	2.535	2.530	2.52	2.526	2.523
• $BRD @ N_{max}$	2.546	2.566	2.556	2.540	2.550	2.545
• $\% G_{mm} @ N_{ini}$	89.2	89.6	89.4	88.8	89.2	89.0
• $\% G_{mm} @ N_{max}$	97.4	97.8	97.6	97.7	97.7	97.7
• $\% Air Voids (@ N_{des})$	3.4	3.4	3.4	3.1	3.2	3.2

Compactor Calibration (Indicate with an "X" the applicable setting).

Internal Angle (1.16 deg.)	X
External Angle (1.25 deg.)	