

## 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 **PSS-I-(N)-a and PSS-II-(N)-b for the 19.0mm mix and PSS-I-(N)-a and PSS-II-(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 (PSS-I)	12.5mm (PSS-II)
Mass of individual gyratory specimen, g	4865±40	4945±40
Recompaction temperature, °C	138	145
Initial number of gyrations, $N_{ini}$	8	9
Design number of gyrations, $N_{des}$	100	125
Maximum number of gyrations, $N_{max}$	160	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

The Gyratory Plant Mix test results shall be reported online and submitted by **January 4 2019**. An example of a completed report form is shown below.

Hard copies of the report forms and work sheets must be submitted by **January 4 2019** by mail or courier to:

## Year 2019 CCIL Correlation

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](mailto:nkamel@ccil.com)

**DO NOT** send reports and worksheets by fax

**2019 CCIL CORRELATION - EXAMPLE REPORT  
BC, MB, NB, NL, NS and SK**

**Testing Admin Information**

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

<ul style="list-style-type: none"> <li>• Lab Name (include Branch or Mobile #)</li> <li>• E-mail Address</li> <li>• Reported by (Contact Name)</li> <li>• Phone Number (Contact)</li> <li>• Tested by (Name(s))</li> <li>• Results Reporting Date</li> </ul>	<b>Apex Construction</b>	
	enstein@apex.com	
	Frank Enstein	
	(999) 999-9999	
	Jim Dandy	
	January 4 2019	

**Gyratory Compaction - Plant Mix**

Manufacturer:	Best	Model:	1234	S/N:	12345
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Results for:	PSS-I			PSS-II		
	(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.)	<b>X</b>
External Angle (1.25 deg.)	