

SUPERPAVE GYRATORY COMPACTION – PLANT MIX

NOTE: This year Type B, Superpave laboratories are required to carry out Gyratory compaction and appropriate subsequent testing using Plant Mix samples as the starting material. Samples for two different mixes will be supplied.

1. SAMPLES

Two boxes of Superpave Plant Mix for two different mixes, namely **A-PS-x-a** and **A-PS-x-b** for the **19.0mm** mix and **B-PS-x-a** and **B-PS-x-b** for the **12.0mm** mix have been provided

2. SAMPLE PREPARATION

The content of each pair of boxes (**a and b**) for each mix, namely **A-PS-x** and **B-PS-x** 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} twice using LS-264. Report the average value to three decimal places.

4. GYRATORY COMPACTION

The specimen preparation parameters for this testing should be as follows:

	19mm(A-PS)	12mm(B-PS)
Mass of individual gyratory specimen, g	4957±40	5120±40
Re-compaction temperature, °C	138	146
Design number of gyrations, N_{des}	75	100
Maximum number of gyrations, N_{max}	115	160
External angle of gyration, °	1.25±0.02	1.25±0.02

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

5.2 Prepare TWO specimens (ONE is admissible) to the **maximum number of gyrations** (using the same re-compaction temperature)

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

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

Report average values of bulk densities to three decimal places

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

6. Report (See Gyratory Plant Compaction Report Forms I & II)

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

Year 2010 CCIL Correlation

The completed Gyratory Report Forms – Plant Mix shall be e-mailed to ibullen@ccil.com by **January 8, 2010** (listed separately on CCIL Web Site). An example of a completed report form is shown below.

Hard copies of the report forms and work sheets must be submitted by **January 8, 2010** by mail or courier to:

Nabil Kamel, M.A.Sc., P.Eng.
 CCIL Program Manager
 3166 Lakeshore Road
 Burlington, Ontario, L7n 1A4
 Tel: 905-632-6456: Fax: 905-632-1990: e-mail: nkamel@ccil.com

2010 CCIL CORRELATION							
Testing Admin Information				Enter your assigned Lab No.:		###	
•	Lab Name (include Branch or Mobile #)						
•	E-mail Address						
•	Reported by (Contact Name)						
•	Phone Number (Contact)	(999) 999-9999					
•	Tested by (Name(s))						
•	Results Reporting Date	January 8, 2010					
Gyratory Compaction - Plant Mix							
	Manufacturer:		Model:		S/N:		
Results for:		A-PS			B-PS		
		X	Y	Average	X	Y	Average
•	<i>M S G (G_{mm} by LS-264)</i>	2.615	2.625	2.620	2.600	2.610	2.605
•	<i>B R D @ N_{des}</i>	2.525	2.535	2.530	2.520	2.526	2.523
•	<i>B R D @ N_{max}</i>	2.546	2.566	2.556	2.540	2.550	2.545
•	<i>% G_{mm} @ N_{ini}</i>	89.2	89.6	89.4	88.8	89.2	89.0
•	<i>% G_{mm} @ N_{des}</i>	96.3	96.9	96.6	96.1	96.5	96.3
•	<i>% G_{mm} @ N_{max}</i>	97.0	98.0	97.5	96.9	97.9	97.4
•	<i>% Air Voids (@ N_{des})</i>	3.2	3.6	3.4	3.4	3.8	3.6
•	<i>% Air Voids (@ N_{max})</i>	2.2	2.6	2.4	2.3	2.7	2.5
<i>Enter your comments, if any, into space below</i>							