

ON QC Ignition Furnace (IG) Instructions

Review your shipping address shown in the portal and update it if there are any changes through the request for services. When you receive your samples, review the shipment before signing off with the shipper.

The following samples have been forwarded to your laboratory:

Material **IGCF-I-N** (5 samples)

Material IGMF-I-N and IGMF-II-N (2 pre-mixed samples)

Asphalt Cement IGAC-I-N (1 sample)

A) Ignition Furnace: Reference Procedure LS-292 (latest revision)

- 1) While the furnace is at room temperature, calibrate the furnace balance as described in the furnace manual provided by the manufacturer.
- 2) Set the combustion temperature to 540°C (deemed appropriate for this type of sample) or as indicated for Irradiation type furnace.
- 3) Set the start time (Auto Timer) so that the furnace is at the specified run temperature (see 2 above) for at least 60 minutes before starting the burn of the first sample of the day.
- 4) Set the furnace endpoint to 1.0g (LS-292 Clause 4.2)

B) Sample Preparation

Correction Factor IGCF-I-N Samples:

- 1) 5 sample bags containing approximately 1500g of mixed aggregates and 1 sample of asphalt cement are supplied.
- 2) Aggregates are to be dried prior to mixing.
- 3) A clean mixing bowl will be buttered by mixing a separate sample of HMA (not supplied). The bowl will be scraped clean of this buttering mix prior to mixing the 5 samples supplied.
- 4) Mixing temperature for the correction factor samples is 150°C.
- 5) Weigh and record the dried aggregate sample.
- 6) Based on this weight, add sufficient asphalt cement (supplied) to produce a mix containing 5.00%, **IGAC-I-N** (based on total mix).
- 7) Mix the sample as indicated in LS-261 (latest revision)
- 8) Transfer the mixed sample to a metal tray, spread it out, cover with metal foil and allow it to cool to ambient temperature.
- 9) The sample is now ready for testing.
- 10) 5 samples are provided. Calibration Factor shall be determined from 3 of the 5 samples according to LS-292 Section 4.2.

Pre-mixed IGMF-I-N and IGMF-II-N Samples

Sample bags containing approximately 1500g of IGMF-I-N and IGMF-II-N are supplied and are ready for testing.
Determination of moisture content is not required.



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C) Ignition Furnace Run:

- Weigh the lid, sample tray, catch pan and retaining bracket on the laboratory balance (TABLE 1 for IGCF-I-N (Correction Factor) samples and TABLE 3 – for IGMF-I-N and IGMF-II-N (HMA samples)
- 2) Preheat the sample to be tested to 110°C±5°C (i.e., sufficiently warm to handle). Do not heat for more than 1 hour.
- 3) Place catch pan under sample tray and spread sample evenly on the tray.
- 4) Place lid over sample tray and secure lid, tray and catch pan with the retaining bracket.
- 5) Weigh total assembly on the laboratory balance and record the mass to 0.1g (TABLE 1 for **IGCF-I-N** samples and TABLE 3 for **IGMF-I-N** and **IGMF-II-N** samples)
- 6) Calculate sample mass (C in both TABLE 1 and TABLE 3)
- 7) Enter the sample mass C in the furnace data system.
- 8) Place the assembly in the preheated furnace and close the door.
- 9) Heat the sample at the specified temperature (540°C) until the difference between consecutive mass loss measurements does not exceed requirements for 3, 1minute intervals.
- 10) Record sample mass after ignition (from data tape) (TABLE 1 F for **IGCF-I-N** samples and TABLE 3 F for **IGMF-I-N** and **IGMF-II-N** samples).
- 11) Remove the assembly from the furnace and allow to cool to ambient temperature and weigh to the nearest 0.1g (TABLE 1 E for IGCF-I-N samples and TABLE 3 F for IGMF-I-N and IGMF-II-N samples).
- 12) Record required data from tapes in TABLES 1 and 3 for IGCF-I-N and IGMF-I-N and IGMF-II-N samples respectively.

NOTE 1: LABORATORIES SHOULD TAKE CAUTION REGARDING NEGATIVE CALIBRATION FACTORS. A LARGE NEGATIVE CALIBRATION FACTOR SUGGESTS THAT THE ASPHALT CEMENT HAS NOT BEEN COMPLETELY BURNED DURING THE IGNITION RUN.

D) Ignited Aggregate Gradation

- Carefully transfer the total residue after ignition to a weighing pan and weigh to the nearest 0.1g.
- 2) Laboratories shall complete the attached work sheets (Tables 1-4) and submit copies of the output tapes from the ignition furnace runs.

An example of a completed report form is shown on pages 3 and 4. Your report form should have Wash Pass removed, if it is not, please enter 0.

All test results shall be reported online and submitted by 2026 January 16, Friday.

Remember: Your lab's worksheets must be submitted through the portal with your correlation report. Please combine all worksheets for each portal report into a single pdf prior to uploading. You are required to keep all original worksheet hard copies in a secure dedicated location such as a sealed envelope that is available to CCIL upon request. Do not courier/mail/fax/e-mail the worksheets to CCIL.

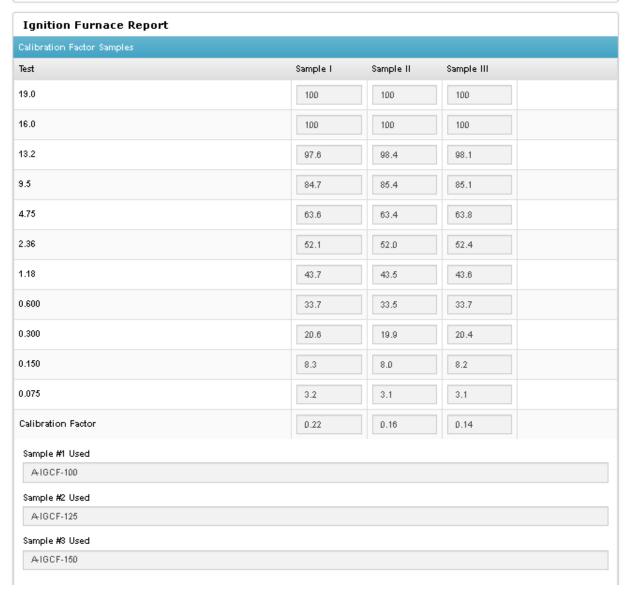
DO NOT send reports and worksheets by fax.



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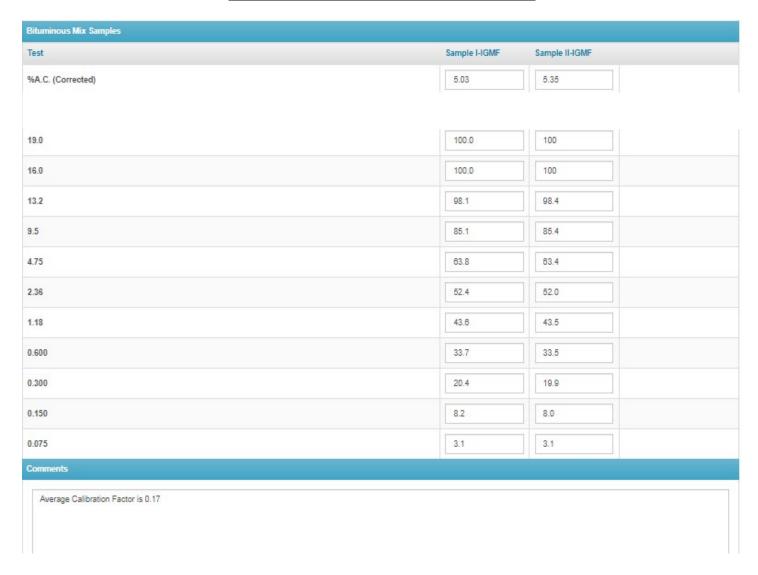


Ignition Furnace Report - Certification Program	
CCIL Confidential Lab # CCIL 999	
▶ Lab Name: Demo Lab ▶ Tested by:	
Lab Technician Supervisor / Manager Not listed	
Please specify	
Super Technician	





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TABLE 1: In-House Prepared Calibration Factor Samples

		G	eneral Inform	ation			
Compa	ny Name						
Technici	an's Name				Date		
		S	pecific Inform	ation			
				Calibi	ration Factor Sa	amples	
			Code No.	Code No.	Code No.	Code No.	Code No.
		L	aboratory Bal	ance	•		
А	Mass of sample par	*					
В	Mass of sample pan, sa	tray, lid, catch					
C = (B - A)	Initial Mass	of Sample, g					
D	Mass of sample a						
E = (D - A)	Final mass of igniti						
			Furnace Balai	nce			
F	Final mass of ignition, g						
G = (C - F)	Loss Furnace, g						
H = (G/C) x 100	Loss Fur	nace, %					
I	Loss Furnace	Correction, %					
J = (H – I)	Total Loss (Appar						
К	Total AC	added, %					
L = (J - K)	Calibration						
		Furnace	Temperature	Information	_		
Test temp	erature shown on	controls, °C					
Initial ter	nperature from da	ata tape, °C					
Maximum t	emperature form	data tape, °C					
Final temperature from data tape, °C							



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TABLE 2: Gradation of In-House Prepared Calibration Factor Samples (After Ignition)

		Calibration Factor Samples				
		Code No.	Code No.	Code No.	Code No.	Code No.
Laboratory	Initial Mass, g					
Balance	Final Mass, g					
Furnace	Initial Mass, g					
Balance	Final Mass, g					
			AGGREGATE			
Dry mass bef	ore washing, g					
Dry mass aft	er washing, g					
			% Pa	ssing		
	16.0 mm					
	13.2 mm					
	9.5 mm					
RADATION	4.75 mm					
DAT	2.36 mm					
G R A	1.18 mm					
	600 μm					
	300 μm					
	150 μm					
	75 μm					

Laboratory Name: _			
Date Tested:			



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TABLE 3: Test Results – Pre-mixed HMA Samples

		G	eneral Inform	ation	•		
Compa	ny Name						
Technici	an's Name				Date		
		Sį	pecific Informa	ation		<u> </u>	
				Prep	ared HMA Sar	mples	
			Code No.	Code No.	Code No.	Code No.	Code No.
		L	aboratory Bal	ance			
А	Mass of sample par	-					
В	Mass of sample pan, sa	-					
C = (B - A)	Initial Mass	of Sample, g					
D	D Mass of sample tray, lid, catch pan, sample after ignition, g						
E = (D - A)	Final mass of sample after						
Furnace Balance							
F	Final mass of ignition, g (•					
G = (C - F)							
H = (G/C) x 100	I IOSS FIITNACE %						
1	Loss Furnace	Correction, %					
J = (H — I)	Total Loss I (Appare	·					
CF*	Correction	Factor, %					
L = (J – CF)	L = (J – CF) Asphalt Cement, %						
		Furnace	Temperature	Information	T	T	Γ
Test temp	erature shown on	controls, °C					
Initial ter	mperature from da	ata tape, °C					
Maximum t	emperature form	data tape, °C					
Final temperature from data tape, °C							

* CF =	Calibration	tactor as c	lerived from	the testi	ng in '	TABLE 1
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$D \rightarrow + \triangle$	Tested:	
Date	TESTED.	



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TABLE 4: Gradation of Aggregates from Pre-mixed HMA Samples (After Ignition)

		Prepared HMA Samples				
		Code No.	Code No.	Code No.	Code No.	Code No.
Laboratory	Initial Mass, g					
Balance	Final Mass, g					
Furnace	Initial Mass, g					
Balance	Final Mass, g					
			AGGREGATE			
Dry mass befo	ore washing, g					
Dry mass aft	er washing, g					
		% Passing				
	16.0 mm					
	13.2 mm					
	9.5 mm					
N 0	4.75 mm					
RADATION	2.36 mm					
G R A	1.18 mm					
	600 μm					
	300 μm					
	150 μm					
	75 μm					

Laboratory Name:	
Date Tested:	