Issue date: 24 June 2025
Valid Until: -

NO: SAMM 200
(Issue 1, 24 June 2025 replacement
of SAMM 200 dated 24 June 2025)

LABORATORY LOCATION/ CENTRAL OFFICE:	Industrial Concrete Products Sdn. Bhd. Wisma IJM Annexe, Jalan Yong Shook Lin , 46050, SELANGOR MALAYSIA
ACCREDITED SINCE :	24 JUNE 2025
FIELD(S) OF TESTING:	MECHANICAL
FIELD(S) OF CALIBRATION:	DIMENSIONAL MASS

This laboratory has demonstrated its technical competence to operate in accordance with MS ISO/IEC 17025:2017 (ISO/IEC 17025:2017).

This laboratory's fulfillment of the requirements of ISO/IEC 17025 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025 are written in language relevant to laboratory operations and operate generally in accordance with the principles of ISO 9001 (see Joint ISO-ILAC-IAF Communiqué dated April 2017).

*** The uncertainty covered by the CMC is expressed as the expanded uncertainty corresponding to a coverage probability of approximately 95 % and have a coverage factor of k=2 unless stated otherwise.**

CENTRAL LOCATION:	Industrial Concrete Products Sdn. Bhd. Wisma IJM Annexe, Jalan Yong Shook Lin , 46050, Selangor
FIELD(S) OF TESTING :	MECHANICAL,

SCOPE OF TESTING : MECHANICAL

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Admixture For Concrete	Determination of pH for Aqueous	ISO 4316: 1977
Aggregate	Determination of Aggregate	BS 812: Part 110: 1990
	Determination of the aggregate	BS 812: Part 110: 1990
	Determination of the aggregate	BS 812: Part 110:1990
	*-œDetermination of Loose BulkBS EN 1097-3:1998 *-œDetermination of Loose Bulk	*-œDetermination of Loose Bulk
Coarse And Fine Aggregate	Determination of Particle Size	BS EN 933-1: 2012
Fine Aggregate	Determination of The Organic	ASTM C40/C40M-20
Hardened Concrete	Compressive Strength of Test	BS EN 12390-3: 2019

NO: SAMM 200
(Issue 1, 24 June 2025 replacement
of SAMM 200 dated 24 June 2025)

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Compressive Strength of	BS EN 12390-3: 2019
	Compressive Strength of Concrete Cube	BS EN 12390-3:2009 MS EN 12390-3:2012
	Compressive Strength of Concrete Cube (0-2000 kN)	BS EN 12390-3:2009
	Density of Hardened Concrete	BS EN 12390-7:2009
	Surface Hardness Test by	BS EN 12504-2:2012
	Compressive Strength of	BS EN 12390-3: 2019
	Compressive Strength Test (Cubes, Cores & Cylinders)	BS EN 12390-3: 2019 (Test at ambient conditions)
	Surface Hardeness Testing by	BS EN 12504 -" 2: 2021
	Compressive Strength Test (Cubes, Cores & Cylinders)	BS EN 12390-3: 2019 (Test at ambient conditions)
	Surface Hardeness Testing by	BS EN 12504 -" 2: 2021
	Compressive Strength of Concrete Cube & Cylinder in the force range of OKN to	BS EN 12390-3:2009 MS EN 12390-3:2012
	Compressive Strength of Concrete Core in the force range of OKN to 3000kN	BS EN 12504-1:2009 MS EN 12504-1:2013
	Determination of Density	BS EN 12390-7:2009
	Determination of Density, Absorption and Voids	ASTM C 642:13
	Initial Surface Absorption	BS 1881 Part 208: 1996
	Rapid Chloride Permeability	AASHTO Designation T277:15
	7. Water Permeability	DIN 1048 Part 5: June 1991
	8. Static Modulus of Elasticity in	ISO 1920 Part 10: 2010
	Penetration Resistance in the	ASTM C 803/C 803M -18
	Compressive Strength of	None
	Rebound Hammer Test	BS EN 12504-2: 2021
	Compressive Strength of	MS EN 12390-3:2012
	Compressive Strength of Concrete Cube in the force range of 0 kN to 3000 kN	MS EN 12390-3:2012 BS EN 12390-3:2019
	Compressive Strength of	MS EN 12390-3: 2012
	Concrete Cube	(curing on specimens performed by
	Concrete Cube	customer)
	Compressive Strenght of Cubes	Test instruction reference to BS EN
Metallic Materials	Determination of Tensile	BS EN ISO 6892-1: 2016
	Tensile Testing	E8/E8M-2021
	Metallographic Test i) Sample preparation	ASTM E3-11 (2017)
	None	ASTM E3-11 (2017)
	Tensile test at ambient	ASTM A370-21
	Tensile test at ambient	ASTM A370-21
	Tensile Testing	E8/E8M-2021

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Tensile test at ambient temperature	ASTM A370-2020 ASTM E8-2016
	None	JIS Z2248:2006
	None	None
	Metallography	None
	None	In house developed procedure
	Bend Test	ISO 7438: 2016
	Tensile Test Force Range: 0 to 1000 kN	ISO 6892-1: 2019 Excluding site sampling
	Elemental Analysis	ASTM E1251: 17a
Soil	Determination of pH value of fine	BS 1377-3: 2018
	Determination of Soil pH	MS 678: Part - V: Part |, Soil pH:
	None	None
	Total Recoverable Elements	USEPA 200.2 Rev. 2 : 8 EMMC
	Chloride	MS 678: Part VI to
	In-situ Density Test	BS 1377: Part 9:1990 Clause 2.1
	Moisture Content	BS EN ISO 17892-1:2014
	Particle Size Distribution -" Wet	BS EN ISO 17892-4:2016
	Arsenic, Mercury, Cadmium,	EPA 3050 B
	Loss on Ignition	BS 1377 part 3: 1990 (Clause 4)
	Carbonate	BS 1377 Part 3: 1990 (Clause 6.3)
	Moisture Content	BS 1377-1: 2016
	In-situ California Bearing Ratio (CBR)	BS 1377 : Part 9 : 1990 Clause 4.3
	Moisture Content	BS 1377-1: 2016
	In-situ California Bearing Ratio (CBR)	BS 1377 : Part 9 : 1990 Clause 4.3
	pH Value	BS 1377-3:1990:9.5
	None	None
	Aluminum (Al)	USEPA 200.2, Revision 2.8, 1994
	Particle Size Distribution (gravel,	In House Method 0588 based on
	Determination of Particle Size Distribution for Soils	BS 1377: Part 2: 1990 Clause 9
	Determination of Moisture Content	BS 1377: Part 2: 1990 Clause 3.2
	Determination of the Liquid Limit (Casagrande apparatus method)	BS 1377: Part 2: 1990 Clause 4.5
	Determination of the Plastic Limit and Plasticity Index	BS 1377: Part 2: 1990 Clause 5
	Determination of dry density/moisture content relationship (Rammer Method)	BS 1377: Part 4: 1990 Clause 3.3, 3.4, 3.5 & 3.6
	Determination of dry density/moisture content relationship (Vibrating Hammer Method)	BS 1377: Part 4: 1990 Clause 3.7
	Determination of soil density test	BS 1377: Part 2: 1990 Clause 7
	Determination of The Moisture	BS 1377: Part 2:1990: Method 3.2
	Determination of In-Situ Density	BS 1377: Part 9: 1990

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Determination of The Moisture	BS 1377: Part 2:1990: Method 3.2
	Toxicity characteristic leaching	USEPA 1311: 1992
	Phosphorus, P Sulphur, S	None
	SVOCs (Refer to Appendix 2 and 3 for	EPA Method 3510C: 1996
	Determination of Moisture Content	BS 1377:2:1990, Clause 3.2 MS 1056:2:2005, Clause 4.2
	Determination of Density	BS 1377:2:1990, Clause 7.2 MS 1056:2:2005, Clause 8.2
	Linear Shrinkage	BS 1377:2:1990, Clause 6.5 MS 1056:2:2005, Clause 7.5
	Determination of Particle Density	BS 1377:2:1990, Clause 8.3 MS 1056:2:2005, Clause 9.3
	Determination of Liquid Limit Using Casagrande Method	BS 1377:2:1990, Clause 4.5 & 4.6 MS 1056:2:2005, Clause 5.5 & 5.6
	Determination of Liquid Limit Using Cone Penetrometer Method	BS 1377:2:1990, Clause 4.3 & 4.4 MS 1056:2:2005, Clause 5.3 & 5.4
	Determination of the Plastic Limit	BS 1377:2:1990, Clause 5
	Maximum dry density / Moisture content relationship	BS 1377: Part 4: 1990
	Shear Strength Test without	None
	The laboratory Vane e	BS 1377: Part 7: 1990: Clause 3
	Field Density Test (Sand Replacement Method)	BS 1377: Part 9:1990 Clause 2.1
	Plastic limit test	Test instruction reference to BS
	Moisture content	BS1377-2, Clause 4.1

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FIELD(S) OF CALIBRATION :	DIMENSIONAL, MASS

SCOPE OF CALIBRATION : DIMENSIONAL

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty (±)*	Remarks
Digital	None	None	caliper checker
Internal & External	None	None	
Mechanical	None	None	
	-30 °C	0.03 °C	Thermometer
	None	None	Thermometer

Issue date: 24 June 2025
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NO: SAMM 200
(Issue 1, 24 June 2025 replacement
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Instrument Calibrated/Measurement Parameter	**Range**	**Calibration and Measurement Capability Expressed as an Uncertainty (±)***	**Remarks**
	Tensile Test	ISO 6892-1: 2019 Excluding Site Sampling	
Vernier Caliper	0.05 mm to 300 mm	0.10 mm	Comparison
	0 to 6in	0.002 in	Calibrated with
	0 to 150 mm	0.01 mm	Calibrated using gauge blocks based on BS EN ISO 13385-1:2019

SCOPE OF CALIBRATION : MASS

Instrument Calibrated/Measurement Parameter	**Range**	**Calibration and Measurement Capability Expressed as an Uncertainty (±)***	**Remarks**
Standard Weight	500 g	0.2g	Comparison
	10 mg	0.007 mg	Comparison with
	None	0.009 mg	Direct Comparison
	5 kg	0.02 g	Calibration using
	1mg	4ug	Calibrated using
	1kg	14mg	Mass comparison
	10 mg	0.007 mg	Comparison with
	1g 29 59 10g	0.021 mg 0.021 mg 0.023 mg 0.05 mg	Calibrated using standard weight by comparison method with reference to standard OIML R111 (2004)
	1mg,2mg,5mg, 10 mg , 20 mg	0.02 mg	Calibrated using Standard Weights and Comparator as standards according to OIML R111-2 : 2004
	200 mg , 500 mg	0.02 mg	Calibrated using Standard Weights and Comparator as standards according to OIML R111-2 : 2004
	1g,29,5g	0.03 mg	Calibrated using Standard Weights and Comparator as standards according to OIML R111-2 : 2004
	1g,29,5g	0.04 mg	Calibrated using Standard Weights and Comparator as standards according to OIML R111-2 : 2004
	50g	0.06 mg	Calibrated using Standard Weights and Comparator as standards according to OIML R111-2 : 2004

Issue date: 24 June 2025
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NO: SAMM 200
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Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty (±)*	Remarks
	100g	0.11 mg	Calibrated using Standard Weights and Comparator as standards according to OIML R111-2 : 2004
	200 g	0.19 mg	Calibrated using Standard Weights and Comparator as standards according to OIML R111-2 : 2004
	500 g	1.3 mg	Calibrated using Standard Weights and Comparator as standards according to OIML R111-2 : 2004
	1kg	None	Calibrated using Standard Weights and Comparator as standards according to OIML R111-2 : 2004
	2kg	4.6 mg	Calibrated using Standard Weights and Comparator as standards according to OIML R111-2 : 2004
	5kg	13 mg	Calibrated using Standard Weights and Comparator as standards according to OIML R111-2 : 2004
	10 kg	117 mg	Calibrated using Standard Weights and Comparator as standards according to OIML R111-2 : 2004

Instrument Calibrated/Measurement Parameter	**Range**	**Calibration and Measurement Capability Expressed as an Uncertainty (±)***	**Remarks**
	20 kg	125 mg	Calibrated using Standard Weights and Comparator as standards according to OIML R111-2 : 2004
	1kg 2kg 10 kg 20 kg	13 mg 19mg 40 mg 77mg 0.16 g	Comparison using the ABBA or AB1.... BnA weighing sequence. “Intermediate values
	1kg 2kg 10 kg 20 kg	None	can be calibrated with
	1kg 2kg 10 kg 20 kg	None	uncertainty interpolated from the next higher and lower nominal value
	1kg 2kg 10 kg 20 kg	None	tabulated.”
	2mg	0.005 mg	
	2mg	0.005 mg	2. Intermediate values
	10 mg	0.005 mg	tabulated can be
	20 mg	0.006 mg	calibrated with uncertainty
	50 mg	0.006 mg	interpolated from the next
	100 mg	0.007 mg	higher and lower nominal
	200 mg	0.007 mg	values tabulated.
	500 mg	0.007 mg	
	500 mg	None	3. Calibration Method
	1g	0.009 mg	based on OIML R111-1
	29	0.010 mg	-2004
	5g	0.014 mg	
	10g	0.020 mg	
	20g	0.028 mg	
	50g	0.07 mg	
	100g	0.14 mg	
	200 g	0.3 mg	
	500 g	0.7 mg	
	1kg	1.3 mg	
	2kg	2.6 mg	
	5 kg	8mg	
	10 kg	15 mg	
	20 k	50 m	
	5 kg	0.2g	
	10 kg	0.2g	2. Intermediate values
	20 kg	0.39	tabulated can be

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Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty (±)*	Remarks
	20 kg	None	calibrated with
	20 kg	None	uncertainty interpolated
	20 kg	None	from the next higher and
	20 kg	None	lower nominal values
	20 kg	None	tabulated.
	20 kg	None	3.Calibration method
	20 kg	None	based on OIML R111-1
	20 kg	None	(2004).
	2 kg to 25 kg	0.2g	Calibrated using standard weight and comparator as standard according to OIML R111-1:2004 (E)
	1g	0.04 mg	
	29	0.05 mg	
	5g	0.06 mg	
	10g	0.07 mg	
	20g	0.09 mg	Calibrate using
	50g	0.10 mg	reference standard
	100g	0.17 mg	weight by
	200 g	0.4 mg	comparison method
	500 g	0.002 g	according to ABBA
	1kg	0.006 g	weighing scheme
	2kg	0.02 g	
	5 kg	0.03 g	
	10 kg	0.2g	
	20 kg	04g	
	2kg 5 kg 10 kg 20 kg 25 kg	0.2g	Calibrated by using standard weights and weighing comparator
	2kg 5 kg 10 kg 20 kg 25 kg	0.2g	Calibrated by using standard weights and weighing comparator