

SINGAPORE LABORATORY ACCREDITATION SCHEME



Schedule

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Certificate No. : LA-1988-0023-B-1

Issue No. : 11

Date : 31 March 2021

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FIELD OF TESTING : Civil Engineering Testing

MATERIALS / PRODUCTS TESTED	TESTS / PROPERTIES	STANDARD METHODS / TECHNIQUES / EQUIPMENT
A Concrete i Hardened Concrete	1 Density	BS EN 12390-7 : 2019
	2 Compressive strength of cubes	BS EN 12390-3 : 2019
	3 Rapid Chloride Penetration Test	ASTM C 1202: 19
	4 Water penetration	DIN 1048 Part 5: 1991 BS EN 12390-8: 2019
	5 Compressive strength test on Concrete Core	BS 1881: Part 120: 1983 BS EN 12504 Part 1: 2019 BS EN 12390 Part 3: 2019
	6 Tensile Splitting Strength	BS EN 12390-6: 2009
	7 Measuring the Flexural Tensile Strength of Metallic Fibered Concrete	BS EN 14651: 2005+ A1: 2007
ii Fresh Concrete	1 Dimensional Measurement On Cube Mould	BS EN 12390-1: 2012 SS78: Pt A8: 1987
B. Aggregates	1 Particle size distribution by Sieving	BS EN 933 : Part 1 : 2012
	2 Clay, Slit & Dust Content (Decantation)	BS EN 933 : Part 1 : 2012
	3 Determination of particle shape	BS EN 933-4: 2008
	4 Determination of Shell Content	BS EN 933-7:1998
	5 Determination of bulk density & Voids	BS EN 1097-3:1998
	Determination of particle density & Water Absorption	BS EN 1097-6 : 2013

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C. Cement (Physical)	7 Flakiness Index	BS EN 933-3 : 2012
	8 Moisture Content	BS EN 1097-5 : 2008
	9 LA Abrasion Value	BS EN 1097-2 : 2020
	10 Mortar Bar Method	ASTM C 1260-14
	11 Drying Shrinkage	BS EN 1367-4: 2008
	12 Crushing value	BS 812: Part 110: 1990
	13 Soundness	ASTM C88/C88M-18 BS EN 1367-2:2009(E)
	14 Petrographic	BS EN 932-3: 1997 ASTM C295M-19
	1 Setting Time	BS EN 196-3: 2016
	2 Soundness	BS EN 196-3: 2016
	3 Fineness	BS EN 196-6: 2018
	4 Compressive strength	BS EN 196-1: 2016
D Steel Reinforcement Bar	1 Tensile Test	SS2: 1987 SS2: Pt 1: 1999
	2 Bend Test	SS2: Pt 2: 1999 SS2: Pt 3: 1987
	3 Rebend Test	SS 456: 1999 SS 427: 1998 BS 4449: 1997, 2005 + A2: 2009, 2005+A3:2016 BS EN ISO 6892:1: 2009, 2016 BS EN ISO 15630-1: 2019 SS 560: 2010, 2016

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E Seven wire prestressing strand / high tensile steel wire prestressing steel	1 Tensile Test (Breaking Load)	BS 5896: 1980 BS 5896: 2012 ASTM A416/416 M-2018 (exclude Table 2- Yield Strength) SS 475: Pt 1 & 4: 2000 BS EN ISO 6892-1: 2009, 16 (2019) BS EN ISO 15630-3: 2019
	2 Tensile Strength	BS 5896: 1980 BS 5896: 2012 BS EN ISO 15630-3:2019 BS EN ISO 6892-1: 2009, 16 (2019) ASTM A416/A416M-18
F Welded Steel Fabric	1 Tensile Test	SS 18: Pt1: 1999 SS 18: Pt2: 1970 (1981)
	2 Bend Test	SS 32: Pt1: 1999 SS 32: Pt2: 1986
	3 Rebend Test	SS427: 1998
	4 Weld shear test	SS 456: 1999 SS 561: 2010 BS EN ISO 15630-1: 2019 BS EN ISO 15630-2: 2019 BS EN ISO 6892-1: 2009, 2016 (2019)
G Reinforcement Steel Bar with Coupler	1 Tensile Load	MEC-S029-R2-Oct18 (BS 8110-1: 1997)
	2 Tensile Test & Slip Test (Permanent Elongation)	ISO 15835-2: 2018
H Hardened Concrete NDT	1 Covermeter Test	BS 1881: Pt 204: 1988
	2 Penetration Resistance Test	ASTM C803 / 803M-18

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Approved Signatories

Mr Mohd Nizam	For Ai1 to Ai3 & B1 to B9
Mr Kwek Yeow Seah	For Ai1 to Ai2 , B1 to B8, H1 & H2
Ms Norlaila Bte Gulam Akbar	For all tests (except B14)
Mr Mohd. Nazrul Bin Adnan	For Ai1 to Ai2, Ai6-Ai7, Aii1, D1 to D3, E1, F1, H1 & H2
Ms Nurel Mazleena	For Ai1 to Ai2, B1 to B9, B10 to B12
Mr Mohamad Zaki bin Mat Riffin	For D1 to D3, E1, E2, F1 to F4, G1 & G2
Mr Mohamad Shahrul Aizie bin Pauzi	For B1 to B9 & B12
Mr Badrul Syafiq bin Azahar	For B1 to B9 & B12
Mr Muhammad Nazreen bin Mohd Tarmizi	For B14

Note:

This laboratory is accredited in accordance with the recognised International Standard ISO/IEC 17025. A laboratory's fulfilment 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. 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.