

Schedule

CAST Laboratories Pte Ltd
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Certificate No. : LA-2000-0182-G
Issue No. : 23
Date : 15 December 2025
Expiry of Certificate : 22 January 2028
Page : 1 of 4

FIELD OF TESTING: Mechanical Testing

MATERIALS / PRODUCTS TESTED	TEST / PROPERTIES	STANDARD METHODS / TECHNIQUES
A. Metallic Materials / Metals	1. Tensile Test	JIS Z 2241: 2022 ASTM A370: 2024 BS EN ISO 6892:1: 2019 BS EN ISO 4136: 2022 ASME IX: 2023 AWS D1.1/D1.1M: 2020
	2. Bend Test	ASTM A370: 2024 ASME IX: 2023 AWS D1.1/D1.1M: 2020 BS EN ISO 5173: 2023 ASTM E290: 2022
	3. Macro-etching metals & alloys macroscopic examination on welds	ASME IX: 2023 AWS D1.1/D1.1M: 2020 BS EN ISO 17639: 2022 ASTM E340: 2023 ASTM E381: 2022
	4. Hardness Test (i) Vickers Hardness Test (ii) Rockwell Hardness ("B" & "C") Test	ASTM E92: 2023 BS EN ISO 6507-1: 2023 BS EN ISO 9015-1: 2011 BS EN ISO 6508-1: 2023 ASTM E18: 2024
	5. V Notch Charpy Impact	ASTM A370: 2024 ASTM E23: 2025 BS EN ISO 148-1: 2016

Schedule



Certificate No.: LA-2000-0182-G

Issue No.: 23

Date: 15 December 2025

Page: 2 of 4

MATERIALS / PRODUCTS TESTED	TEST / PROPERTIES	STANDARD METHODS / TECHNIQUES
A. Metallic Materials / Metals	6. Fracture Test	ASME IX: 2023 AWS D1.1/D1.1M: 2020 BS EN ISO 9017: 2018
	7. Determination of Chemical Composition	
	(i) Carbon and Low-Alloy Steel Elements: Al, B, C, Cr, Co, Cu, Mn, Mo, N, Ni, Nb, P, S, Si, Sn, Ti, V, W	ASTM A751: 2021 ASTM E415: 2021
	(ii) Stainless Steels Elements: C, Cr, Cu, Mn, Mo, N, Ni, P, S, Si	ASTM A751: 2021 ASTM E1086: 2022
	(iii) Aluminium & Aluminium Alloy Elements: Ag, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sc, Si, Sn, Sr, Ti, Tl, V, Zn, Zr	ASTM E1251: 24
	8. Portable Hardness Test	ASTM E110: 2014(R2023)
B. Steel Reinforcement Bar	1. Tensile Test	SS 2 : pt 1 :1999
	2. Bend Test	SS 2 : pt 2 :1999
	3. Rebend Test	SS 2 : pt 3 : 1987 BS 4449: 2005 +A3: 2016 BS EN ISO 6892:1: 2019 BS EN ISO 15630-1: 2019 SS 560: 2016(2024)+A1:2024
	4. Dimensional Measurement / Surface Geometry	BS 4449: 2005 +A3: 2016 SS 560: 2016(2024)+A1:2024 BS EN ISO 15630-1: 2019
C. Welded Steel Fabric	1. Tensile Test	SS 18: pt1: 1999
	2. Bend Test	SS 32: pt 1: 1999
	3. Rebend Test	SS 561: 2010(2022)+A2:2022
	4. Reverse Bend Test	
	5. Weld Shear Test	BS EN ISO 15630-2: 2019
	6. Strength of Joint For Welded Fabric	

Schedule



Certificate No.: LA-2000-0182-G

Issue No.: 23

Date: 15 December 2025

Page: 3 of 4

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D. Seven wire prestressing strand/ high tensile steel wire/prestressing Steel	1. Tensile Test (Breaking Load) 2. Tensile Strength	BS 5896: 2012 ASTM A416/A416M: 2024 (exclude Table 2 - Yield Strength) SS 475:pt 1 & 4: 2000 BS EN ISO 6892-1: 2019 BS EN ISO 15630-3: 2019 BS 5896: 2012 BS EN ISO 15630-3: 2019 BS EN ISO 6892-1: 2019 ASTM A416/A416M: 2024
E. Reinforcement steel bar with coupler	1. Tensile Load & Permanent Set 2. Tensile Test & Slip Test (Permanent Elongation)	MEC-S029-RO_Jan17 (BS 8110-1: 1997) BS EN 1992-1-1: 2023 ISO 15835-2: 2018
F. Bolts	1. Tensile Test Full Size Bolts 2. Single Shear Test	BS EN ISO 898 - 1: 2013 (Clause 9.2) ASTM F606/F606M: 2021 CL 3.8
G. Nuts	1. Proof Load	BS EN ISO 898 - 2: 2022 BS 3692: 2014 BS 4190: 2014
H. Fiber reinforcement polymer matrix composite bars / GFRP bar	1. Tensile Test	In-house Developed Procedure MEC-S031-R2-Nov25
I. Metal formwork	1. Tensile Test 2. Dimension Test	JIS Z 2241: 2022 In-house Developed Procedure MEC-S032-R0-Mar18

Schedule



Certificate No.: LA-2000-0182-G

Issue No.: 23

Date: 15 December 2025

Page: 4 of 4

Approved signatories

Mr Tee Boon Huat

For all tests

Mr Benedict Lim

For all tests

Mr S. Arivoli

For tests A7, B, C

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 and calibrations. The **management system requirements** in ISO/IEC 17025 are written in language relevant to laboratory operations and meet the principles of ISO 9001 **Quality Management Systems — Requirements** and are aligned with its pertinent requirements.