



**Stanger Asia Limited**  
史達嘉亞洲有限公司

**ADDRESS** : Rooms 503 - 504, 5/F. & 705 - 706, 7/F., Fuk Shing Commercial Building,  
地址 28 On Lok Mun Street, On Lok Tsuen, Fanling, New Territories, Hong Kong  
香港新界粉嶺安樂村安樂門街 28 號福成商業大廈 5 樓 503 - 504 室  
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**CLIENTELE** : Public  
服務對象 公眾



Scope of Accreditation  
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**Main Laboratory** : Rooms 503 - 504, 5/F. & 705 - 706, 7/F., Fuk Shing Commercial Building,  
28 On Lok Mun Street, On Lok Tsuen, Fanling, New Territories, Hong Kong  
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**Branch Laboratory** : DD 83 Lot 549, 553, 556 Sha Tau Kok Road, Fanling, New Territories, Hong Kong  
香港新界粉嶺沙頭角公路 83 區 549, 553 及 556 地段

**ACCREDITED TEST** : Calibration Services 校正服務  
**CATEGORIES** Construction Materials 建築材料

**認可測試類別**









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**Calibration Services 校正服務**

ITEM TESTED OR MEASURED 測試或量度項目	SPECIFIC TEST OR PROPERTY MEASURED <sup>®</sup> 特定測試或量度的特性 <sup>®</sup>	CALIBRATION AND MEASUREMENT CAPABILITY (CMC)* 校準和測量能力*
Length and related quantities  - Length  - Digital indicator          - Dip Meter          - Engineer's steel measuring rule	Calibration for length in accordance with GEOSPEC 3: 2001 App. A.3.4.2 over the following ranges :  0.01 mm to 13 mm above 13 mm to 50 mm  Calibration for length in accordance with in-house method CAL310-1 over the following ranges :  0.01 mm to 13 mm above 13 mm to 50 mm  Calibration for length in accordance with in-house procedure CAL-2006 over the following range :  1 m to 200 m  Calibration for length in accordance with in-house procedure CAL-2003 over the following ranges :  200 mm to 1000 mm	1.5 μm 5.1 μm          1.5 μm 5.1 μm          2.4 mm per 5 m          0.4 mm

<sup>®</sup> Unless otherwise specified, accredited activities are conducted at the laboratory.

\* The calibration uncertainty of a device under test, which is usually reported at 95% confidence level, depends on both the CMC of the laboratory and the performance of the device during calibration.

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<p>Length and related quantities</p> <p>- Length</p> <p>- Extensometer</p> <p>- Class 1 and Class 2 with gauge length 50 mm to 600 mm</p> <p>- Grade B, C, D, E and F for gauge length 50 mm to 600 mm</p>	<p>On-site calibration for displacement using calibrating rig and verification of class in accordance with BS EN 10002-4: 1995 over the following range:</p> <p>0.03 mm to 24 mm</p> <p>On-site calibration for displacement using calibrating rig and verification of class in accordance with BS EN ISO 9513: 2002 over the following range:</p> <p>0.03 mm to 24 mm</p> <p>On-site calibration for displacement using calibrating rig and verification of class in accordance with BS EN ISO 9513: 2012 over the following range:</p> <p>0.03 mm to 24 mm</p> <p>On-site calibration for displacement using calibrating rig and verification of grade in accordance with BS 3846: 1970 over the following range:</p> <p>0.03 mm to 24 mm</p>	<p>9.8 μm</p> <p>9.8 μm</p> <p>9.8 μm</p> <p>9.8 μm</p>

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Length and related quantities  - Length  - Linear displacement transducer (LVDT)          - Measuring tape	Calibration for length in accordance with GEOSPEC 3: 2001 App. A.3.4.2 over the following range :  0.01 mm to 100 mm    Calibration for length in accordance with in-house procedure CAL-2005 over the following range :  1 m to 200 m	0.008 mm          1.7 mm per 5 m

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Mass and related quantities (cont'd)  - Hardness  - Hardness testing machine	On-site indirect verification for testing machine for Vickers hardness scale in accordance with BS EN ISO 6507: Part 2: 1998 over the following range :  150 HV30 to 750 HV30	2.6 % HV30

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**Construction Materials 建築材料**

ITEM TESTED OR MEASURED 測試或量度項目	SPECIFIC TEST OR PROPERTY MEASURED 特定測試或量度的特性	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED 規範、標準方法或應用技術
Coating	Mass per unit area of hot-dip galvanized coating by gravimetric method	BS EN ISO 1460: 2020 BS EN 10346: 2015 Annex A
Metallic materials (non-destructive)	Ultrasonic test of H beams with parallel flanges (manual method)  Ultrasonic test of metallic materials (reflection method)	BS EN 10306: 2002  BS 5996: 1993 BS EN 10160: 1999
Welds (non-destructive)	Liquid penetrant test (Colour contrast method)  Magnetic particle test (Magnetic flow method colour contrast method using permanent magnets & A.C. yokes)	BS 6443: 1984 + Amd. 4844 BS EN 571: Part 1: 1997 BS EN ISO 3452-1: 2013 BS EN ISO 3452-1: 2021 in conjunction with the following specification(s): BS 5135: 1984 Table 18 & 19 BS 5400-6: 1999 Cl. 5.5.2.4.1 BS EN ISO 5817: 2003 Table 1 BS EN ISO 5817: 2007 Table 1 BS EN ISO 5817: 2014 Table 1 Buildings Department Code of Practice for the Structural Use of Steel (2011) Table 14.3b  BS 6072: 1981 + Amd. 3960, 4542 & 4843 BS EN 1290: 1998 BS EN ISO 9934-1: 2001 BS EN ISO 17638: 2009 BS EN ISO 17638: 2016 in conjunction with the following specification(s): BS 5135: 1984 Table 18 & 19 BS 5400-6: 1999 Cl. 5.5.2.4.1 BS EN ISO 5817: 2003 Table 1 BS EN ISO 5817: 2007 Table 1 BS EN ISO 5817: 2014 Table 1 Buildings Department Code of Practice for the Structural Use of Steel (2011) Table 14.3b

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<p>Welds (non-destructive) (cont'd)</p>	<p>Radiographic examination (Gamma Ray)</p> <p>Ultrasonic test (Butt welds in plates &amp; pipes, 'T' joint welds, nozzle welds &amp; node welds)</p> <p>Visual examination</p>	<p>BS EN 1435: 1997 in conjunction with the following specification(s): BS 5135: 1984 Table 18 &amp; 19 BS 5400-6: 1999 Cl. 5.5.2.4.2 BS EN ISO 5817: 2003 Table 1 BS EN ISO 5817: 2007 Table 1 BS EN ISO 5817: 2014 Table 1 Buildings Department Code of Practice for the Structural Use of Steel (2011) Table 14.3b</p> <p>BS 3923: Part 1: 1986 (Level 1, 2a, 2b &amp; 3) BS EN 1714: 1998 + Amd. 10286 (Level A, B &amp; C) BS EN ISO 17640: 2010 (Level A, B &amp; C) BS EN ISO 17640: 2018 (Level A, B &amp; C) in conjunction with the following specification(s): BS 5135: 1984 Table 18 &amp; 19 BS 5400-6: 1999 Cl. 5.5.2.4.2 BS EN ISO 5817: 2003 Table 1 BS EN ISO 5817: 2007 Table 1 BS EN ISO 5817: 2014 Table 1 Buildings Department Code of Practice for the Structural Use of Steel (2011) Table 14.3b</p> <p>BS 5289: 1976 BS EN 970: 1997 BS EN ISO 17637: 2011 BS EN ISO 17637: 2016 in conjunction with the following specification(s): BS 5135: 1984 Table 18 &amp; 19 BS 5400-6: 1999 Cl. 5.5.2.4.1 BS EN ISO 5817: 2003 Table 1 BS EN ISO 5817: 2007 Table 1 BS EN ISO 5817: 2014 Table 1 Buildings Department Code of Practice for the Structural Use of Steel (2011) Table 14.3b</p>

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Welds (non-destructive) (cont'd)	Visual examination and bend test on stud connectors	<Visual examination as follows> BS 5289: 1976 BS EN 970: 1997 BS EN ISO 17637: 2011 BS EN ISO 17637: 2016 <together with the following bend test method(s)> BS 5400-6: 1999 Cl. 5.5.4(b) BS EN ISO 14555: 2017 Cl. 11.2, 11.3 (excluding Torque wrench method), 12.2 & 12.3 Buildings Department Code of Practice for the Structural Use of Steel (2011) Cl. 14.3.7.3



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Adhesive	Pull-off test of plaster  Pull-off test of render  Pull-off test of repair mortar  Pull-off test of tiles	In-house method DIA 06  In-house method DIA 02  Hong Kong Housing Authority Materials Testing Services (2017/2018) for Maintenance & Building Materials Specification Part D Cl. 2.1.15 Method 1  In-house method DIA 30 (coring method) In-house method DIA 31 (saw-cut method)
Aggregates (chemical analysis)	Acid-soluble material in fine aggregate  Water-soluble chloride ion content  Acid-soluble sulphate content  Acid-soluble chloride content  Total sulphur content  Presence of humus	BS 812: Part 119: 1985 Excluding Cl. 4  CS3: 2013 Cl. 21.3  CS3: 2013 Cl. 21.5  CS3: 2013 Cl. 21.4  CS3: 2013 Cl. 21.6  CS3: 2013 Cl. 21.7

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Coating	Pull-off test of adhesion  Pull-off test of coating	In-house method DIA 36  BS 3900-E10: 2003 Cl. 9.4.2 BS EN ISO 4624: 2003 Cl. 9.4.2 BS EN ISO 4624: 2016 Cl. 8.4.2
Concrete	Sampling fresh concrete on site  Slump of fresh concrete  Stiffening time of fresh concrete  Flow table test  Density of compacted fresh concrete  Making test cubes from fresh concrete  Curing of test specimens  Compressive strength of concrete cubes in the force range 20 kN - 3000 kN  Obtaining core samples  Compressive strength of concrete cores in the force range 20 kN - 2000 kN in the force range 20 kN - 3000 kN	BS EN 12350-1: 2009 CS1: 2010 Section 1  BS EN 12350-2: 2009 CS1: 2010 Section 2 Part I  CS1: 2010 + Amd. 1/2013 Section 3  CS1: 2010 Section 2 Part IV  BS EN 12350-6: 2009 CS1: 2010 Section 5  BS EN 12390-2: 2009 CS1: 2010 Section 7  CS1: 2010 Section 10  BS EN 12390-3: 2019 CS1: 2010 Section 12  CS1: 2010 Section 15  BS EN 12504-1: 2019 CS1: 2010 Section 15

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Concrete (cont'd)	Density of hardened concrete  Water absorption  Removal of concrete cover to expose reinforcement  Cutting out reinforcement  Moisture content by weighing drilling powder  Moisture content by weighing minicores  Crack survey  Obtaining drilling powder samples  Heat of hydration monitoring (temperature monitoring of concrete structure)  Temperature rise evaluation test	BS EN 12390-7: 2019 CS1: 2010 Section 16  BS 1881: Part 122: 2011 +A1: 2020  Hong Kong Housing Authority Materials Testing Services (2024/2027) for Maintenance & Building Materials Specification Part D Cl. 4.2.1  Hong Kong Housing Authority Materials Testing Services (2024/2027) for Maintenance & Building Materials Specification Part D Cl. 4.2.3  Hong Kong Housing Authority Materials Testing Services (2024/2027) for Maintenance & Building Materials Specification Part D Cl. 4.3.8 Method 1  Hong Kong Housing Authority Materials Testing Services (2024/2027) for Maintenance & Building Materials Specification Part D Cl. 4.3.8 Method 2  Hong Kong Housing Authority Materials Testing Services (2024/2027) for Maintenance & Building Materials Specification Part D Cl. 4.3.14  Hong Kong Housing Authority Materials Testing Services (2024/2027) for Maintenance & Building Materials Specification Part D Cl. 6.4  In-house method CON22  In-house method CON22-1

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Concrete (diagnostic)	Carbonation test  Covermeter survey  Half-cell potential measurement  Infrared thermography for detection of building surface defects  Infrared thermography for detection of thermal anomalies of exposed water-proof membranes/coatings  Resistivity measurement  Surface hardness measurement  Surface penetration radar survey for determination of concrete cover and distribution of steel reinforcement  Ultrasonic pulse velocity measurement (by direct, semi-direct and indirect measurement)	BS EN 14630: 2006 Building Research Establishment Information IP 6/81 Hong Kong Housing Authority Materials Testing Services (2024/2027) for Maintenance & Building Materials Specification Part D Cl. 4.3.1 (Method 2)  BS 1881: Part 204: 1988 + Amd. 6201  ASTM C876-15  Hong Kong Concrete Institute TM1 Issue 2 (2022)  Hong Kong Concrete Institute TM4 Issue 1 (2024)  BS 1881: Part 201: 1986 Cl. 2.3  BS EN 12504-2: 2012 BS EN 12504-2: 2021  Hong Kong Concrete Institute TM2 Issue 1 (2009)  BS 1881: Part 203: 1986 BS EN 12504-4: 2021

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Concrete (chemical analysis)	Original Water Content of hardened concrete  Chloride content  Chloride content by weight of concrete sample  Chloride content (expressed as percentage by mass of concrete)  Sulphate content  Sulphate content by weight of concrete sample  Sulphate content (expressed as percentage by mass of concrete)	CS1: 2010 Cl. 21.7  BS EN 14629: 2007 Method A <i>excluding</i> Cl. 4.1 BS 1881: Part 124: 1988 Cl. 10.2 BS 1881: Part 124: 2015 + A1:2021 Clause 12.1 CS 1: 2010 Section 21.10.2  BS 1881: Part 124: 1988 Cl. 10.2 in conjunction with In-house method CHEM06-S (by calculation) CS 1: 2010 Section 21.10.2 in conjunction with In-house method CHEM06-S (by calculation)  BS 1881: Part 124: 2015 + A1:2021 Clause 12.1 in conjunction with In-house method CHEM-06S (by calculation)  BS 1881: Part 124: 1988 Cl. 10.3 BS 1881: Part 124: 2015 + A1:2021 Clause 12.2 CS 1: 2010 Section 21.10.3  BS 1881: Part 124: 1988 Cl. 10.3 in conjunction with In-house method CHEM07-S (by calculation) CS 1: 2010 Section 21.10.3 in conjunction with In-house method CHEM07-S (by calculation)  BS 1881: Part 124: 2015 + A1:2021 Clause 12.2 in conjunction with In-house method CHEM-06S (by calculation)

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Concrete (chemical analysis)	Cement content (By calcium oxide determination)  Cement and Aggregate content (By calcium oxide determination)  Aggregate / Cement ratio (By calcium oxide determination)  Detection of PFA  pH value	BS 1881: Part 124: 1988 Section 5.4 & 5.9 <i>excluding</i> Cl. 5.9.4 BS 1881: Part 124: 2015+A1:2021 Section 6 <i>excluding</i> Clause 6.5-6.8  CS 1: 2010 Section 21.6.4, 21.6.6 & 21.6.7 BS 1881: Part 124: 2015+A1:2021 Section 6 Clause 6.9  BS 1881: Part 124: 1988 Section 5.9 <i>excluding</i> Cl. 5.9.4  CS 1: 2010 Section 21.5  Hong Kong Housing Authority Materials Testing Services (2020/2022) for Construction Materials Part D Cl. 1.4.14 Hong Kong Housing Authority Materials Testing Service (2024/2027) for Construction Materials Part D Cl.1.4.14

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Controlled low strength materials	Flowability	ASTM D6103/D6103M-17 in conjunction with the following specification(s): Highways Department Guidance Notes on Use of Self-compacting Backfill Material RD/GN/049 (Sep 2022)
	Load placement capacity (by ball drop test)	ASTM D6024/D6024M-16 in conjunction with the following specification(s): Highways Department Guidance Notes on Use of Self-compacting Backfill Material RD/GN/049 (Sep 2022)
Fire (other)	Flammability testing of fabrics (protective nets/ screens/tarpaulins/plastic sheeting)	BS EN ISO 15025: 2002 (Procedure A - Surface ignition without cleansing and soaking) BS EN ISO 15025: 2016 (Procedure A - Surface ignition without cleansing and soaking) in conjunction with the following specification: BS 5867-2: 2008 Cl. 6.3 (Type 'B' performance requirements)

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Foundation	<p>Borehole video inspection test</p> <p>Compression static loading test (SLT)</p> <p>Compression static loading test on pile (SLT) using multiple hydraulic jacks and load cells</p> <p>Crosshole sonic logging test (SOLT)</p> <p>Pile dynamic test (PDA)</p> <p>Pile integrity test (PIT)</p> <p>Plate load test (PLT)</p> <p>Tension static loading test (SLT)</p> <p>Tension static loading test on pile (SLT) using multiple hydraulic jacks and load cells</p> <p>Ultrasonic echo sounder test (UEST)</p>	<p>Hong Kong Housing Authority Materials Testing Services (2023/2025) for Non-destructive Pile Testing Cl. D8 &amp; D10</p> <p>Hong Kong Housing Authority Materials Testing Services (2024/2026) for Non-destructive Pile Testing Cl. D8 &amp; D10</p> <p>Architectural Services Department General Specification for Building (2022) Section 5.29</p> <p>Buildings Department Code of Practice for Foundations (2017) Cl. 8.4</p> <p>General Specification for Civil Engineering Works (2006) Vol. 1 App. 8.1</p> <p>General Specification for Civil Engineering Works (2020) Vol. 1 App. 8.1</p> <p>Hong Kong Housing Authority Specification Library (2022) PIL1.T610.9 to PIL1.T1110.9</p> <p>Buildings Department Code of Practice for Foundations (2017) Cl. 8.4 with modification</p> <p>General Specification for Civil Engineering Works (2020) Vol. 1 App. 8.1 with modification</p> <p>ASTM D6760-16</p> <p>ASTM D4945-17</p> <p>ASTM D5882-16</p> <p>BS 1377: Part 9: 1990 Cl. 4.1 (incremental loading) excluding Cl. 4.1.6.1</p> <p>Buildings Department Code of Practice for Foundations (Apr 2017) Cl. 8.2(2) excluding 8.2(2)(f) to (h)</p> <p>Architectural Services Department, Technical Instruction No. 04/2005 (revision date: Jun 2019) Particular Specification for Tension Piles</p> <p>Buildings Department Code of Practice for Foundations (2017) Cl. 8.10</p> <p>In-house method STA07</p> <p>Hong Kong Concrete Institute TM3 Issue 2 (2024)</p>

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Ground water (chemical analysis)	Sulphate content (as SO <sub>3</sub> )	GEOSPEC 3 : 2017 Test 9.3
	pH value	GEOSPEC 3 : 2017 Test 9.5
Grout	Bleeding and free expansion	ASTM C940-98a General Specification for Civil Engineering Works (2006) Vol. 2 Cl. 17.59-17.60
	Compressive strength of grout cubes in the force range 20 kN - 3000 kN	CS1: 2010 Section 12
	Flow of grout for preplaced-aggregate concrete by flow cone method	ASTM C939-02 ASTM C939/C939M-22
	Making of grout cubes	CS1: 2010 Section 7 with modification
	Curing of test specimens	CS1: 2010 Section 10
Manhole covers / steps	Loading test of manhole covers and gully gratings	BS EN 124: 1994 + Amd. 8587 Cl. 8 BS EN 124-1: 2015 Cl. 8
	Mass determination and resistance to fracture of manhole covers, gully gratings and kerb overflow weirs	General Specification for Civil Engineering Works (2006) Vol. 1 Cl. 5.95 & App. 5.3 General Specification for Civil Engineering Works (2020) Vol. 1 Cl. 5.95 & App. 5.3

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Metallic materials	<p>Tensile test of metallic materials in force range 0.5 kN – 2000 kN</p> <p>Tensile test &amp; slip/permanent elongation test of mechanical coupler for reinforcing bar in the force range 0.5 kN – 2000 kN</p> <p>Tensile test of bolting assemblies for determination of tensile resistance in the force range 0.5 kN – 2000 kN</p>	<p>BS EN 10002-1: 2001            BS EN ISO 6892-1: 2009 Cl. 10.4 Method B            BS EN ISO 6892-1: 2019 Cl. 10.3.3 Method B            in conjunction with the following specification(s):            BS 4360: 1986 Cl. 23            BS 4360: 1990 Cl. 23            BS EN 10025-1: 2004 Cl. Cl. 7.3.1, 9.2.3.2 &amp; 10.2.1            BS EN 10025-2: 2004 Cl. 10.2 &amp; Table 7            BS EN 10025-2: 2019 Cl. 10.2.1, Table 6 &amp; 7            BS EN 10025-3: 2004 Cl. 10.2 &amp; Table 5            BS EN 10025-3: 2019 Cl. 10.2.1, Table 4            BS EN 10025-4: 2004 Cl. 10.2 &amp; Table 5            BS EN 10025-4: 2019 Cl. 10.2.1, Table 4            BS EN 10025-5: 2004 Cl. 10.2 &amp; Table 4            BS EN 10025-5: 2019 Cl. 10.2.1, Table 4            BS EN 10025-6: 2004 + A1: 2009 Cl. 10.2, Table 5            BS EN 10088-2: 2005 Cl. 7.4.2, Table 7 - 20            BS EN 10088-2: 2024 Cl. 7.4.2, Table 7 - 20            BS EN 10088-3: 2023 Cl. 7.4.2, Table 8 - 25            BS EN 10164: 2018 Cl. 6 &amp; 9.1            BS EN 10210-1: 1994 Cl. 6.6.1, 9.2 &amp; 9.2.1            BS EN 10210-1: 2006 Cl. 6.6.1, 9.2.1 &amp; 9.2.2            BS EN 10219-1: 2006 Cl. 6.7.1, 9.2.1 &amp; 9.2.2            BS EN 10248-1: 2023 Cl. 9.3.3.2 &amp; 10.2.1            BS EN 10255: 2004 +A1: 2007 Cl. 9.3 &amp; Table 1</p> <p>BS EN ISO 6892-1: 2009 Cl. 10.4 Method B            &amp; ISO 15835-2: 2018 Cl. 5.4 excluding Cl. 5.4.4            BS EN ISO 6892-1: 2019 Cl. 10.3.3 Method B            &amp; ISO 15835-2: 2018 Cl. 5.4 excluding Cl. 5.4.4            in conjunction with the following specification(s):            BS 8110: Part 1: 1985 Cl. 3.12.8.16.2            BS 8110: Part 1: 1997 Cl. 3.12.8.16.2            Buildings Department Code of Practice for Structural Use            of Concrete (2013) Cl. 3.2.8.3            General Specification for Civil Engineering Works (2006)            Vol 2 Cl. 15.35            General Specification for Civil Engineering Works (2020)            Vol 2 Cl. 15.35            ISO 15835-1: 2018 Cl. 5.4.1 Option 2 &amp; 5.4.2</p> <p>BS EN 15048-2: 2016 Cl. 6.2.2 – 6.2.5, 6.3 &amp; 6.4            in conjunction with the following specification:            BS EN 15048-1: 2016 Cl. 4.2.2</p>

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Metallic materials (cont'd)	<p>Tensile test of steel reinforcing bars for reinforcement of concrete in the force range 0.5 kN – 2000 kN</p> <p>Tensile test of machined and unmachined specimens of bolts, screws and studs in the force range 0.5 kN – 1500 kN</p> <p>Charpy 'V' notch impact test</p>	<p>BS EN 10002-1: 2001          BS EN ISO 6892-1: 2009 Cl. 10.4 Methods B          BS EN ISO 6892-1: 2019 Cl. 10.3.3 Method B          in conjunction with the following specification(s):          BS 4449: 2005 + A2: 2009 Cl. 7.2.2, 7.2.3 &amp; 8.1.3.1 &amp; 9          BS EN ISO 15630-1: 2002 Cl. 5          BS EN ISO 15630-2: 2002 Cl. 5          CS2: 2012 (Rev. 6) Cl. 6.1 &amp; 6.4</p> <p>BS EN ISO 6892-1: 2009 Cl. 10.4 Method B          BS EN ISO 6892-1: 2019 Cl. 10.3.3 Method B          in conjunction with the following specification(s):          BS 3692: 2014 Cl. 14 &amp; 21          BS 4190: 2014 Cl. 15 &amp; 21          BS EN ISO 898-1: 1999 Cl. 8.1 &amp; 8.2          BS EN ISO 898-1: 2013 Cl. 9.2 &amp; 9.7          BS EN ISO 3506-1: 2020 Cl. 7 &amp; 9.1          BS EN ISO 13918: 2018 + A1: 2021 Table 2          BS EN 14399-10: 2018 Cl. 4.2          BS EN 15048-1: 2016 Cl. 5.3.3 – 5.3.5</p> <p>BS EN 10045-1: 1990          BS EN ISO 148-1: 2010 with modification          BS EN ISO 148-1: 2016 with modification          in conjunction with the following specification(s):          BS 4360: 1990 Cl. 25-27          BS EN 10025-1: 2004 Cl. 10.2.2          BS EN 10025-2: 2004 Cl. 10.2 &amp; Table 9          BS EN 10025-2: 2019 Cl. 10.2.2, Table 8          BS EN 10025-3: 2004 Cl. 10.2 &amp; Table 6 &amp; 7          BS EN 10025-3: 2019 Cl. 10.2.2, Table 5 &amp; 6          BS EN 10025-4: 2004 Cl. 10.2 &amp; Table 6 &amp; 7          BS EN 10025-4: 2019 Cl. 10.2.2, Table 5 &amp; 6          BS EN 10025-5: 2004 Cl. 10.2 &amp; Table 5          BS EN 10025-5: 2019 Cl. 10.2.2, Table 5          BS EN 10025-6: 2004 + A1: 2009 Cl. 10.2 Table 6 &amp; 7          BS EN 10025-6: 2019 Cl. 10.2.2, Table 5 &amp; 6          BS EN 10088-2: 2005 Cl. 7.4.4, Table 8, 10 &amp; 11          BS EN 10088-2: 2024 Cl. 7.4.5, Table 7, 8 &amp; 10          BS EN 10088-3: 2023 Cl. 7.4.5, Table 8, 9, 11 to 14, 16 &amp; 17          BS EN 10210-1: 2006 Cl. 6.6.2, 9.2.3, Table A3 &amp; B3          BS EN 10219-1: 2006 Cl. 6.7.2, 9.2.3, Table A3, B4 &amp; B5          BS EN 10248-1: 2023 Cl. 9.3.3.3 &amp; 10.2.2 &amp; Table 3</p>

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Metallic materials (cont'd)	<p>Mass per meter of steel reinforcing bars</p> <p>Rebend test of steel reinforcing bars</p> <p>Static tension test, static compression test, cyclic tension &amp; compression tests for mechanical connector systems (Type 2 Splice) for steel reinforcing bars in the force range 10 kN – 2000 kN</p> <p>Vickers hardness test in scale range HV 10 &amp; HV 30</p> <p>Proof load test of steel nuts in the force range 0.5 kN – 1500 kN</p>	<p>BS EN ISO 15630-1: 2002 Cl. 12            CS2: 2012 (Rev. 6) Cl. 6.1 &amp; 6.2            in conjunction with the following specification:            BS 4449: 2005 + A2: 2009 + A3: 2016 Cl. 7.2.2, 7.3 &amp; 9</p> <p>BS EN ISO 15630-1: 2002 Cl. 7            CS2: 2012 (Rev. 6) Cl. 6.1 &amp; 6.5            in conjunction with the following specification(s):            BS 4449: 2005 + A2: 2009 Cl. 7.2.5 &amp; 9</p> <p>ICC Evaluation Service, Inc. AC133 (Approved Jan 2010, Effective 1 Jul 2010) Cl. 4.1.2 with modifications            in conjunction with the following specification:            Buildings Department Code of Practice for Structural Use of Concrete (2013) Cl. 3.2.8.4 (b), (c) &amp; (d)</p> <p>BS EN ISO 6507-1: 1998            BS EN ISO 6507-1: 2023            in conjunction with the following specification(s):            BS EN ISO 898-1: 2013 Cl. 9.9.3(a) &amp; Table 3            BS EN ISO 898-2: 2022 Cl. 10.2.3 &amp; Table 12            BS EN 15048-1: 2016 Cl. 5.3.8            BS EN 10088-2:2024 C;7.4.6</p> <p>BS 3692: 2001 Annex C.1            BS 3692: 2014 Annex C.1            BS 4190: 2001 Annex A.1            BS 4190: 2014 Annex A.1            ISO 898-2: 1992 Cl. 5 to 7 &amp; 8.1            BS EN ISO 898-2: 2022 Cl. 8.2            in conjunction with the following specification(s):            BS EN ISO 3506-2: 2020 Cl. 10.1            BS EN 15048-1: 2016 Cl. 5.3.6</p>

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Paint & varnish	Dry-film coating thickness by acoustic method  Dry-film coating thickness by eddy current method  Dry-film coating thickness by magnetic method	BS EN ISO 2808: 2019 (Method 10 – Ultrasonic reflection)  BS EN ISO 2808: 2007, BS 3900-C5: 2007 (Method 7D) BS EN ISO 2808: 2019 (Method 7C)  BS EN ISO 2178: 2016 BS EN ISO 2808: 2007, BS 3900-C5: 2007 (Method 7C) BS EN ISO 2808: 2019 (Method 7B.2) in conjunction with the following specification(s): BS EN ISO 1461: 2022 Cl. 6.2.2, Table 3 & 4
Road surfaces	Skid resistance of road surfaces/markings using a portable pendulum tester	ASTM E303-93 (Reapproved 2018) Highways Department (Research and Development Division) Guidance Notes on Road Testing - RD/GN/009 (Sep 1989)
Rock	Pull-out test of rock dowels  Point load strength index of rock by diametral and axial tests	In-house method SPRD 01  ASTM D5731-95 ASTM D5731-16 International Society for Rock Mechanics (1985) Suggested method for determining point load strength

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Soil (Phase I)	Moisture content by oven-drying at 45°C ± 5°C	GEOSPEC 3: 2001 Test 5.1 GEOSPEC 3: 2017 Test 5.1
	Moisture content by oven-drying at 105°C ± 5°C	GEOSPEC 3: 2001 Test 5.2 GEOSPEC 3: 2017 Test 5.2
	Comparative test for the determination of moisture content by oven-drying	GEOSPEC 3: 2001 Test 5.3 GEOSPEC 3: 2017 Test 5.3
	Liquid limit, plastic limit, and plasticity index	GEOSPEC 3: 2001 Test 6.1 GEOSPEC 3: 2017 Test 6.1
	Liquidity index	GEOSPEC 3: 2001 Test 6.2 GEOSPEC 3: 2017 Test 6.2
	Particle density by gas jar method	GEOSPEC 3: 2001 Test 7.1 GEOSPEC 3: 2017 Test 7.1
	Particle density by small pycnometer method	GEOSPEC 3: 2001 Test 7.2 GEOSPEC 3: 2017 Test 7.2
	Particle size distribution by wet sieving (with dispersant)	GEOSPEC 3: 2001 Test 8.1 GEOSPEC 3: 2017 Test 8.1
	Particle size distribution by wet sieving (without dispersant)	GEOSPEC 3: 2001 Test 8.2 GEOSPEC 3: 2017 Test 8.2
	Particle size distribution by hydrometer (with dispersant)	GEOSPEC 3: 2001 Test 8.5 GEOSPEC 3: 2017 Test 8.5
	Particle size distribution by hydrometer (without dispersant)	GEOSPEC 3: 2001 Test 8.6 GEOSPEC 3: 2017 Test 8.6
	Construction of a continuous particle size distribution curve from the results of wet-sieving and sedimentation tests	GEOSPEC 3: 2001 Test 8.7 GEOSPEC 3: 2017 Test 8.7

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Soil (Phase I) (cont'd)	<p>Dry density/moisture content relationship of soils containing particles which are not susceptible to crushing (using a 1000cc mould and 2.5 kg rammer)</p> <p>Dry density/moisture content relationship of soils containing particles which are susceptible to crushing (using a 1000cc mould and 2.5 kg rammer)</p> <p>Dry density/moisture content relationship of soils containing particles which are not susceptible to crushing (using a CBR mould and 2.5 kg rammer)</p> <p>Dry density/moisture content relationship of soils containing particles which are susceptible to crushing (using a CBR mould and 2.5 kg rammer)</p> <p>Dry density/moisture content relationship of soils containing particles which are not susceptible to crushing (using a 1000cc mould and 4.5 kg rammer)</p> <p>Dry density/moisture content relationship of soils containing particles which are susceptible to crushing (using a 1000cc mould and 4.5 kg rammer)</p> <p>Dry density/moisture content relationship of soils containing particles which are not susceptible to crushing (using a CBR mould and 4.5 kg rammer)</p> <p>Dry density/moisture content relationship of soils containing particles which are susceptible to crushing (using a CBR mould and 4.5 kg rammer)</p>	<p>GEOSPEC 3: 2001 Test 10.1 GEOSPEC 3: 2017 Test 10.1</p> <p>GEOSPEC 3: 2001 Test 10.2 GEOSPEC 3: 2017 Test 10.2</p> <p>GEOSPEC 3: 2001 Test 10.3 GEOSPEC 3: 2017 Test 10.3</p> <p>GEOSPEC 3: 2001 Test 10.4 GEOSPEC 3: 2017 Test 10.4</p> <p>GEOSPEC 3: 2001 Test 10.5 GEOSPEC 3: 2017 Test 10.5</p> <p>GEOSPEC 3: 2001 Test 10.6 GEOSPEC 3: 2017 Test 10.6</p> <p>GEOSPEC 3: 2001 Test 10.7 GEOSPEC 3: 2017 Test 10.7</p> <p>GEOSPEC 3: 2001 Test 10.8 GEOSPEC 3: 2017 Test 10.8</p>

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Soil (Phase I) (cont'd)	<p>In-situ bulk density and in-situ dry density of soils by the sand replacement method suitable for fine- and medium-grained soils (with small pouring cylinder)</p> <p>In-situ bulk density and in-situ dry density of soils by the sand replacement method suitable for fine-, medium-, and coarse-grained soils (with large pouring cylinder)</p> <p>Relative compaction of fill material</p>	<p>GEOSPEC 3: 2001 Test 11.1            GEOSPEC 3: 2017 Test 11.1</p> <p>GEOSPEC 3: 2001 Test 11.2            GEOSPEC 3: 2017 Test 11.2</p> <p>GEOSPEC 3: 2001 Test 11.4            GEOSPEC 3: 2017 Test 11.4            Buildings Department PNAP 55 (1994) Cl. 2 App. A</p>
Soil (other)	<p>Pull-out test of soil nails</p> <p>Soil nail performance</p> <p>Time domain reflectometry (TDR) test on soil nails</p>	<p>Architectural Services Department General Specification for Building (2017) Cl. 26.39            Architectural Services Department General Specification for Building (2022) Cl. 26.44            General Specification for Civil Engineering Works (2020) Vol. 1 Cl. 7.144            GEOGUIDE 7 (2008) Cl. 6.3.2            GEOGUIDE 7 (2017) Cl. 6.3.2            GEOGUIDE 7 (2023) Cl. 6.3.2            Hong Kong Housing Authority Specification Library (2022) SLO.T310.9 to SLO.T320.9</p> <p>Architectural Services Department General Specification for Building (2017) Cl. 26.42            Architectural Services Department General Specification for Building (2022) Cl. 26.47</p> <p>Geotechnical Engineering Office Guidelines on Test Procedure using Time Domain Reflectometry (TDR) to determine the length of installed soil nails (July 2007)</p>

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Soil (chemical analysis)	Organic matter content	GEOSPEC 3: 2017 Test 9.1
	Loss-on-ignition (L.O.I)	GEOSPEC 3: 2017 Test 9.2
	Total sulphate content (as SO <sub>3</sub> )	GEOSPEC 3: 2017 Test 9.3
	Water-soluble sulphate content (as SO <sub>3</sub> )	GEOSPEC 3: 2017 Test 9.3
	Water-soluble chloride content	GEOSPEC 3: 2017 Test 9.4
	pH value	GEOSPEC 3: 2017 Test 9.5

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Structural fixings	Tensile test of anchors by incremental loading in the force range 1 kN – 665 kN	BS 5080: Part 1: 1993 Cl. 6, 7.1.1 & 7.1.3
	Tensile proof load test of anchors by incremental loading in the force range 1 kN – 665 kN	BS 5080: Part 1: 1993 Cl. 6, 7.1.1 & 7.1.3 with modifications
	Tensile proof load test of drilled-in anchors used for cantilevered structure/hanger/curtain wall remedial works by incremental loading in the force range 2 kN – 640 kN	Buildings Department PNAP APP-169 (Oct 2023) App. A
	Tensile proof load test of drilled-in anchors used for works other than cantilevered structure/hanger/curtain wall remedial works in the force range 2 kN – 640 kN	Buildings Department PNAP APP-169 (Oct 2023) App. B
	Tensile proof load test of cementitious or polymer based grouted bolts or dowels or reinforcing bars works or/and steel T-bolts with cast-in channels in the force range 2 kN – 640 kN	Buildings Department PNAP APP-169 (Oct 2023) App. C
	Shear test of anchors by incremental loading in the force range 1 kN – 235 kN	BS 5080: Part 2: 1986 + Amd. 7602 Cl. 4, 7.1, 7.2.1 & 7.2.3
	Shear proof load test of anchors by incremental loading in the force range 1 kN – 235 kN	BS 5080: Part 2: 1986 + Amd. 7602 Cl. 4, 7.1, 7.2.1 & 7.2.3 with modifications
	Shear proof load test of drilled-in anchors used for cantilevered structure/hanger/curtain wall remedial works by incremental or continuous loading in the force range 2 kN – 220 kN	Buildings Department PNAP APP-169 (Oct 2023) App. A
	Shear proof load test of drilled-in anchors used for works other than cantilevered structure/hanger/curtain wall remedial works in the force range 2 kN – 220 kN	Buildings Department PNAP APP-169 (Oct 2023) App. B
Shear proof load test of cementitious or polymer based grouted bolts or dowels bars works or/and steel T-bolts with cast-in channels in the force range 2 kN – 220 kN	Buildings Department PNAP APP-169 (Oct 2023) App. C	

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Tiles	Static coefficient of friction of ceramic tiles by horizontal dynamometer pull-meter method	ASTM C1028-07
Underground Utility Survey	Pipe cable locating / Electromagnetic locating	Specifications for Nondestructive Testing, Surveying, Imaging and Diagnosis for Underground Utilities – 1.1 Pipe Cable Locating / Electromagnetic Locating (2019) published by Department of Land Surveying and Geo-Informatics (LSGI) of The Hong Kong Polytechnic University
Welds (destructive)	Bend test on welds in metallic materials	BS EN 910: 1996 BS EN ISO 5173: 2023
	Charpy V-notch impact test on welds in metallic materials	BS EN 875: 1995 BS EN ISO 9016: 2011
	Fracture test on welds in metallic materials	BS EN 1320: 1997
	Longitudinal tensile test on welds in metallic materials in the force range 20 kN – 1500 kN	BS EN 876: 1995 BS EN ISO 5178: 2011
	Macroscopic examination on welds in metallic materials	BS EN 1321: 1997 + Amd. 14972 BS EN ISO 17639: 2022
	Transverse tensile test on welds in metallic materials in the force range 15 kN – 1500 kN	BS EN 895: 1995 BS EN ISO 4136: 2011
	Vickers hardness test across welded joints in the scale of HV 10	BS EN 1043: Part 1: 1996 BS EN ISO 9015-1: 2011

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**Construction Materials 建築材料**

ITEM TESTED OR MEASURED 測試或量度項目	SPECIFIC TEST OR PROPERTY MEASURED 特定測試或量度的特性	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED 規範、標準方法或應用技術
Steel (chemical analysis)	Total carbon content  Total sulphur content  Nitrogen content  Carbon Equivalent Value  Chromium, Copper, Manganese, Molybdenum, Nickel, Phosphorus, Silicon, Titanium, Vanadium	In-house method CHEM22 (Carbon-Sulfur Analyzer by Infrared Spectrometric Method)  In-house method CHEM22 (Carbon-Sulfur Analyzer by Infrared Spectrometric Method)  BS EN ISO 15351: 2010 ISO 15351: 1999  In-house method: CHEM27 (By calculation)  In-house method: CHEM24 (ICP-OES)
Carbon and low alloy steel (chemical analysis)	Aluminum content  Niobium content	In-house method: CHEM25 (ICP-OES)  In-house method: CHEM26 (ICP-OES)
Steel reinforcing bar (Product analysis grade 250, 500B, & 500C) (chemical analysis)	Carbon, Sulphur, Phosphorus, Nitrogen, Nitrogen binding element (Vanadium), Copper and Carbon Equivalent Value	CS2: 2012 Cl. 1.5.1 in conjunction with SCCT Technical Note No. 3  <i>Test procedure for compliance testing of total carbon and sulphur:</i> In-house method CHEM22 (Carbon-Sulfur Analyzer by Infrared Spectrometric Method)  <i>Test procedure for compliance testing of nitrogen:</i> BS EN ISO 15351: 2010 ISO 15351: 1999  <i>Test procedure for compliance testing of copper, phosphorous &amp; nitrogen binding element (vanadium):</i> In-house Method CHEM24 (ICP-OES)  <i>Test procedure for compliance testing of carbon equivalent value:</i> In-house method CHEM27 (By calculation)