Issue date: 08 February 2024
Valid Until: 18 February 2029

NO: SAMM 999

LABORATORY LOCATION/ CENTRAL OFFICE:	Geonamics (M) Sdn. Bhd. No. 6, Lot 25, Jalan Udang Harimau 1 Medan Niaga Kepong 51200 Kuala Lumpur , 51200, WILAYAH PERSEKUTUAN KUALA LUMPUR MALAYSIA
ACCREDITED SINCE :	18 FEBRUARY 2021
FIELD(S) OF TESTING:	MECHANICAL
FIELD(S) OF CALIBRATION:	DIMENSIONAL
SITE:	
1 . SITE LABORATORY(HQ) :	Site Name 1
FIELD(S) OF TESTING :	MECHANICAL

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:	Geonamics (M) Sdn. Bhd. No. 6, Lot 25, Jalan Udang Harimau 1 Medan Niaga Kepong 51200 Kuala Lumpur , 51200, Wilayah Persekutuan Kuala Lumpur
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**
Aggregate	**Determination of Loose Bulk Density and Voids for Aggregates	BS EN 1097-3:1998
	Determination of Aggregate Crushing Value (ACV)	BS 812-110:1990

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Determination of Ten Per Cent Fines Value (TFV)	BS 812-111:1990
	Determination of Aggregate Impact Value (AIV)	BS 812-112:1990
	Determination of Shell Content-Percentage of Shell in Coarse Aggregate	BS EN 993-7:1998
	Determination of Clay Lumps and Friable Particles in Aggregates	ASTM C142/C142M-17
	Determination of Potential Presence of Humus (Organics Impurities)	BS EN 1744-1:2009+A1:2012, Clause 15.1
	Determination of Particle Size Distribution: Sieving Method	BS EN 933-1:2012
	Determination of Particle Density and Water Absorption	BS EN 1097-6:2022
	Determination of pH Value	BS 1377-3:2018+A1:2021, Clause 12
	Determination of Particle Shape-shape Index	BS EN 933-4:2008
	Determination of Particle Shape-Flakiness Index	BS EN 933-3:2012 BS 812-105.1:1989
	Elongation Index	BS 812-105.2:1990
	Soundness of Aggregate	ASTM C88/C88M-18
	Organic Impurities in Fine Aggregate for Concrete	ASTM C40/C40M-20
	Determination of the Water Content by Drying in a Ventilated Oven	BS EN 1097-5:2008
Soils	Determination of Water Content (Oven Drying Method)	BS 1377-2:2022, Clause 4.1 BS EN ISO 17892-1:2014+A1:2022
	Determination of the Liquid Limit: Fall Cone Method	BS 1377-2:2022, Clause 5.2&5.3 BS EN ISO 17892-12:2018+A2:2022 Clause 5.3
	Determination of the Plastic Limit and Plasticity Index	BS 1377-2: 2022, Clause 6 BS EN ISO 17892-12:2018+A2:2022 Clause 5.5
	Determination of Shrinkage Characteristics: Linear Shrinkage Method	BS 1377-2:2022, Clause 7
	Determination of Density: Linear Measurement Method	BS 1377-2:2022, Clause 9 BS EN ISO 17892-2:2014, Clause 5.1

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Determination of Particle Density: Fluid Pycnometer Method	BS 1377-2:2022, Clause 8 BS EN ISO 17892-3:2015, Clause 5.1
	Determination of Particle Size Distribution: Sieving, Hydrometer and Combined Tests	BS 1377-2:2022, Clause 10 BS EN ISO 17892-4:2016, Clause 5.2, 5.3 & 5.5
	Determination of Dry Density/ Water Content Relationship: 2.5 kg Rammer Method 4.5 kg Rammer Method Vibrating Hammer Method	BS 1377-2:2022, Clause 11.3 & 11.4 Clause 11.5 & 11.6 Clause 11.7
	Determination of California Bearing Ratio (CBR)	BS 1377-2:2022, Clause 15
	Consolidated Triaxial Compression Tests on Water Saturated Soils (CIU, CAU, CID, CAD)	BS EN ISO 17892: Part 9 MS 1056: Part 8
	Unconsolidated Undrained Triaxial Tests (UU)	BS EN ISO 17892: Part 8 MS 1056: Part 7, Clause 9
	Determination of the Undrained Shear Strength in Triaxial Compression with Multistage Loading and without Measurement of Pore Pressure (MMU)	BS 1377: Part 7, Clause 9 MS 1056: Part 7, Clause 9
	Unconfined Compression Test (UCT)	BS EN ISO 17892: Part 7 MS 1056: Part 7, Clause 8.2
	Incremental Loading Oedometer Test	BS EN ISO 17892: Part 5 MS 1056: Part 5, Clause 4
	Determination of Water Content (Oven Drying Method)	MS 1056: Part 2, Clause 4.2
	Determination of Liquid Limit-Fall Cone Method	MS 1056: Part 2, Clause 5.3 & 5.4
	Determination of Plastic Limit and Plasticity Index	MS 1056: Part 2, Clause 6
	Determination of Shrinkage Characteristics: Linear Shrinkage Method	MS 1056: Part 2, Clause 7.5
	Determination of Density: Linear Measurement Method	MS 1056: Part 2, Clause 8.2
	Determination of Particle Density: Fluid Pycnometer Method	MS 1056: Part 2, Clause 9.3 & 9.4
	Determination of Particle Size Distribution: Sieving, Hydrometer and Combined Tests	MS 1056: Part 2, Clause 10.2, 10.3 & 10.5
	Determination of Dry Density/ Water Content Relationship: 2.5kg Rammer Method 4.5kg Rammer Method Vibrating Hammer Method	MS 1056: Part 4, Clause 4 & 5

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Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
	Determination of California Bearing Ratio (CBR)	MS 1056: Part 4, Clause 8
Concrete	Compressive Strength of Test Specimens	BS EN 12390-3:2019
	Density of Hardened Concrete	BS EN 12390-7:2019
	Depth of Penetration of Water Under Pressure	BS EN 12390-8:2019
	Cored Specimen- Taking, Examining and Testing in Compression	BS EN 12504-1:2019
	Determination of Water Absorption	BS 1881-122:2011+A1:2020
	Determination of Secant Modulus of Elasticity in Compression	BS EN 12390-13:2021
	Determination of the Initial Surface Absorption of Concrete	BS 1881-208:1996
	Flexural Strength of Test Specimens	BS EN 12390-5:2019
	Tensile Splitting Strength of Test Specimen	BS EN 12390-6:2009
	Determination of Rebound Number	BS EN 12504: Part 2
Rocks	Unconfined Compressive Strength of Intact Rock Core Specimens	ASTM D7012-14e1, Method C
	Elastic Moduli of Intact Rock Core Specimen in Uniaxial Compression	ASTM D7012-14e1, Method D
	Determination of the Point Load Strength Index of Rock and Application to Rock Strength Classifications	ASTM D5731-16
Bituminous Materials	Marshall Stability and Flow of Asphalt Mixtures	ASTM D6927-22
	Bulk Specific Gravity and Density of Non- Absorptive Compacted Asphalt Mixtures	ASTM D2726/D2726M-21
	Quantitative Extraction of Asphalt Binder from Asphalt Mixtures	ASTM D2172/D2172M-17e1 (Method A- Centrifuge Extraction)
	Thickness of Height of Compacted Asphalt Mixtures	ASTM D3549/D3549M-18 (Method A)
Metal & Metal Products (weldable Reinforcing Steel)	Tensile Properties	MS 146:2014, Clause 7.3.3 MS ISO 6892-1:2017 ISO 6892-1:2019 MS ISO 15630-1:2012 BS EN ISO 15630-1:2019
	Bend Performance	BS EN ISO 15630-1:2019

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Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
Welds And Welded Test Specimens (welded Steel Fabric)	Tensile Properties	MS 145:2014, Clause 8.1.3.1 MS ISO 15630-2:2012 BS EN ISO 15630-2:2019 MS ISO 6892-1:2017 ISO 6892-1:2019
	Bend Performance	MS 145: 2014, Clause 7.2.5 MS ISO 15630-2:2012 BS EN ISO 15630-2:2019
	Weld Shear Force	MS 145:2014, Clause 7.2.4 MS ISO 15630-2:2012 BS EN ISO 15630-2:2019

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SITE LOCATION (HQ)	1. Site Name 1
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
Soils	In-situ Density Tests: Sand Replacement Method Suitable for Fine and Medium Grained Soils (Small Pouring Cylinder Method)	BS 1377-9:1990: Clause 2.1
	In-situ Density Tests: Sand Replacement Method Suitable for Fine and Medium Grained Soils (Medium Pouring Cylinder Method)	In-house method GEO/CMT/TM/06/014 with Reference to BS 1377-9:1990
	In-situ Density Tests: Sand Replacement Method Suitable for Fine, Medium and Coarse-grained Soils (Large Pouring Cylinder Method)	BS 1377-9:1990: Clause 2.2
	In-situ Density Tests: Core Cutter Method for Cohesive Soils Free from Coarse-Grained Material	BS 1377-9:1990: Clause 2.4
	In-situ Vertical Deformation and Strength Tests: Determination of the In-situ California Bearing Ratio (CBR)	BS 1377-9:1990: Clause 4.3
	Mackintosh Probe Test	In house test method GEO/CMT/06/01 with reference to JKR Specification
Other Materials (pile Testing)	Standard Test Method for High-Strain Dynamic Testing of Deep Foundations	ASTM D4945-17

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FIELD(S) OF CALIBRATION :	DIMENSIONAL,

SCOPE OF CALIBRATION : DIMENSIONAL

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Instrument Calibrated/Measurement Parameter	**Range**	**Calibration and Measurement Capability Expressed as an Uncertainty (±)***	**Remarks**
Strain Transducer Sensitivity (pile Dynamics, Inc Models)	Up to 200 µ?/V	2.6 µ?/V	In-house method – "BDI Automated Strain Transducer Calibration System (ASTCS)".