Issue date: 06 April 2025
Valid Until: -

NO: SAMM 685

LABORATORY LOCATION/ CENTRAL OFFICE:	UTHM Commercial Laboratories, Universiti Tun Hussein Onn Malaysia (UTHM) Jalan Kluang, Parit Raja, Batu Pahat 86400 Batu Pahat Johor , 86400, JOHOR MALAYSIA
ACCREDITED SINCE :	06 APRIL 2025
FIELD(S) OF TESTING:	CHEMICAL 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).

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FIELD(S) OF TESTING :	CHEMICAL, MECHANICAL

SCOPE OF TESTING : CHEMICAL

Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
Distilled Water,	Hydrogen potential (pH)	APHA 4500-H* B. (23'4 edition 2017)
	Organics:	None
	Trihalomethanes	None
Electrical Lighting And Similar	4 Radiated emission	CISPR 15:2018
Environments, Industrial Environments, And Equipment Used In Power Station And Substation Environment	Immunity	EC 61000-6-1:2016 EC 61000-6-2:2016 EC 61000-6-5:2015

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Ground Water,	Dissolved Oxygen (DO)	APHA 4500-0 G. (23" edition 2017)
	None	None
Industrial, Scientific And Medical	4 Disturbance voltage at the	CISPR 11:2015+AMD1:2016
Mineral Water,	None	None
	pH	APHA
Potable Water,	None	None
Reverse Osmosis Water,	None	None
	Phosphate	None
Sewage	None	None
	Dissolved Oxygen	APHA 4500-0 G
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
Surface Water,	None	None
	Dissolved Solids	APHA 2540 C-Total Dissolved Solids
	Phenol	APHA 5530 B -Cleanup Procedure
	Organochlorinated Pesticides	Standard test methods:
	Fluoride, Chloride, Sulphate,	In-house Method JKM W 0303,
	Determination of Acrylamide in	JKM W 0410: (In-house)
	Surfactant, Anionic	HACH METHOD 8028
	Temperature	APHA 2550B
Water	None	None
	None	None
	None	None
	None	None
	Ammonical Nitrogen	APHA 4500-NH3
	None	None
	Lead	APHA 3120 B
	Tin	None
	Iron	None
	Heterotropic plate count	APHA 9215 D
	Standard total coliform	APHA 9222 B
	None	None
	None	None
	pH	APHA - B
	Escherichia coli and Coliform	ISO 9308-1:2014 (E) / Enumeration by
	Bisphenol A	In-house test method MKA TMO6 based
	Total Hardness	HACH Method 8226, 8" Edition, 2015

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Hardness by Calculation	APHA 2340 B & In-house test method
	Color	HACH Method 8025, Edition, 2014
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	Determination of pH	APHA 4500-H* B, 2005
	Determination of chloride	APHA 4500-CI B, 2005
	Determination of sulphate	APHA B, 2005
	Determination of alkalinity	APHA 2320 B, 2005
	Determination of total solids	APHA 2540 B, 2005
	pH	APHA 4500 H*B
	Color	APHA 2120 C (2017)
	Heterotrophic Plate Count	APHA 9215 B (2017
	Standard Total Coliform	APHA 9221 B (2017
	Escherichia coli	APHA 9221 F (2017)
	Examination for Legionella spp.	AS/NZS 3896:2008
	pneumophila	None
	Staphylococcus aureus count	APHA 9213 B (2017)
	Fecal Streptococcus	APHA 9230 C (2017)
	Pseudomonas aeruginosa	APHA 9213 F (2017)
	Identification of Escherichia coli	In-house Method GPS/QA/TM/001
	Identification of Shiga-toxigenic	In-house Method GPS/QA/TM/004
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	Ammonia	ASTM D1293
	None	None
	None	None
	None	None
	and Escherichia coli	None
	None	filtration)
	Clostridium perfringens	ISO 14189: 2013 (E)
	None	None
	None	None

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	None	None
	None	(2005)
	None	21% Edition (2005)
	Colour	APHA 2120 C 2005
	Determination of Volatile	Method EPA 524.2 By Purge & Trap
	Oxygen Demand (COD) for High	APHA Method 5220D
	None	In-house Method JKM W 0502,
	None	on APHA 4110 B-”lon
	Colony Count at 36°C	JKM M 2038, ISO 6222:1999 (E)
	Intestinal Enterococci	i) WI 16 -” Sample Preparation for
	Enumeration of Clostridium	JKM M 2035
	Detection of pathogenic	JKM B 0201 Detection of pathogenic
	Identification and Quantification	JKM B 0406
	pH	APHA - 4500-H B
	None	None
	None	None
	None	None
	None	None
	Boron	HACH METHOD 8015
	None	None
	E. coli	APHA 9221 F (MPN Method)
	None	None
	Total Organic Carbon	APHA 5310 C
	Heterotropic plate count	APHA 9215 B, 22"4 Edition (2012)
	None	(Membrane Filtration Technique)
	None	None
	Metals by ICP	None
	None	None
	None	None
	None	None
	None	None
	None	None
	pH	ASTM D 1293-2005 (Method B) APHA 4500 H* B 2005/2017
	pH	ASTM D1293-2005 (Method B) APHA 4500 H* B 2005/2017
	None	None
	Turbidity	APHA 2130B
	On-site Sampling & Testing (pH Temperature, Turbidity)	In-house Method SOP-0222-2001 & SOP-0222-2003
	Coliform	APHA 9221 B, Edition, 2005
	Heterotrophic plate count in	APHA Method 9215 D, Edition,
	None	None
	None	None
	pH Value	BS 1377-3 : 2018 Clause 12
	pH Value	BS 1377-3 : 2018 Clause 12

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	None	None
	Calcium Hardness as CaCO3,	APHA 3500-Ca B, 2017
	Magnesium (by Calculation Method)	APHA 3500-Mg B, 2017
	Nitrate	APHA E, 2017
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	None	None
	Aluminium	None
	None	None
	Organochlorine Pesticide	APHA 6630 B, Edition
	Ammoniacal Nitrogen	APHA F, 24" Edition
	Arsenic	APHA 3125 B, Edition
	Mercury	In-house method, SGS-TM-ENVI-003, based on APHA 3125 B
	2,4-dichlorophenoxyacetic acid (2,4-D)	In-house method, SGS-TM-02-045, based on Agilent Application Note 5991-5731 EN (LCMSMS)
	Heavy Metals by ICP-MS	None
	Endotoxin	Test for Bacterial Endotoxin, BP 2022
	pH	APHA 4500 H*B
	Oil & Grease	APHA 5520 B
	Color	APHA 2120 B
	Color	APHA 2120 F
	pH	APHA 4500 H* B
	Turbidity	APHA 2130 B
	Conductivity	APHA 2510 B
	None	None
	None	None
	None	None
	Escherichia coli and coliform	ISO 9308-1: 2014 (E) / Enumeration
	Pseudomonas aeruginosa	ISO 16266:2006 (E) / Detection and
	Ammonium nitrogen	BS 6068: Section 2.7:1984 ISO 5664:1984
	Chemical Oxygen Demand	BS 6068: Section 2.34:1988
	Suspended solids	BS 2690-Part 120:1981

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Dissolved solids	BS 2690-Part 121:1981
	None	ASTM D 523-82
	COD	APHA 5220 D
	None	None
	Free Chlorine	APHA' 4500 -" CI G
	Count	(Pour Plate, Spread Plate and
	Anaerobes (Clostridia)	BS 6068-4:9: 1993
	Gross Alpha & Gross Beta	None
	Arsenic as As	None
	Antimony as Sb	None
	Aluminium as Al	None
	Beryllium as Be	None
	Cadmium as Cd	None
	Chromium as Cr	None
	Lead as Pb	None
	Silver as Ag	None
	Selenium as Se	None
	Thallium as TI	None
	Mercury as Hg	In-house Method LWI-MWE 037 based on APHA 3112 B by
	Mercury as Hg	Mercury Analyser
	Nitrate	In-house Method LWI-MWE 032 based on HACH Nitrate
	Nitrate	Test Comparator
	Sulfide	HACH Method 8131
	Chlorine, Free Residual	In-house Method LWI-MWE
	Chlorine, Free Residual	034 based on DPD-Palintest
	Chlorine, Free Residual	Test Comparator
	Total Chlorine	In-house Method LWI-MWE
	Total Chlorine	035 based on DPD-Palintest
	Total Chlorine	Test Comparator
	Colour (ADMI)	APHA 2120 F
	Heterotrophic Plate Count	None
	Pseudomonas aeruginosa	In-house Method LWI-MME (APHA) 007
	Pseudomonas aeruginosa	based on APHA 9213 E, 2020
	Escherichia coli and Coliform	Escherichia coli and Coliform Bacteria. Part 1: Membrane filtration
	Escherichia coli and Coliform	method
	Escherichia coli and Coliform	Method No: MOH (1)
	Escherichia coli and Coliform	ISO 29981 : 2010 (E), IDF 220 :
	Escherichia coli and Coliform	2010 (E) Milk Products -
	None	None
	None	None
	None	None
	None	None

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SCOPE OF TESTING : MECHANICAL

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
Conductive And Non-	Surface morphology imaging/	Field Emission-Scanning Electron
Conductive Materials	Qualitative structure	Microscope with reference to ISO/TS
Hardened Concrete	Compressive Strength of	BS EN 12390-1: 2019
	Compressive Strength of Concrete Cube/Cylinder	BS EN 12390-3: 2019
	Compressive Strength of Concrete Core	BS EN 12504-1: 2019
	Flexural strength	BS EN 12390-5:2019
	Tensile splitting strength	BS EN 12390-6:2009
	Density	BS EN 12390-7:2019
	Depth of penetration of water under pressure	BS EN 12390-8:2019
	Determination of secant modulus of elasticity in compression	BS EN 12390-13:2013
	Electrical indication of concrete-™s ability to resist chloride ion penetration (RCPT)	ASTM C1202:2019
	Initial Surface Absorption Test (ISAT)	BS 1881: Part 208:1996
	Determination of Chloride	Clause 12.1
	Compressive Strength (Up to 3000kN)	BS EN 12390-3:2019
	Compressive Strength (Up to 3000kN)	MS EN 12390-3:2012
	Density	BS EN 12390-7:2019
	Compressive Strength of Cubes	BS EN 12390-3:2019
	Compressive Strength of Concrete	BS EN 12390-3: 2019
	Compressive strength of	MS EN 12390-3:2012
	Compressive Strength of	MS EN 12390-3:2012
	Compressive Strength of	BS EN 12504-1:2019
	Compressive Strength of	MS EN 12390-3:2012
	Compressive Strength of Concrete	MS EN 12504 : Part 1 : 2013
	Compressive Strength of Test	BS EN 12390-3: 2019
	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

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	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
Reinforcement Bar	Tensile Properties (Yield	MS 146: 2014, Clause 7.3.3 BS EN
	Tensile Strength And Yield	MS 146 : 2014
	Tensile Test (Yield strength, Ratio of tensile strength/ yield strength, Percentage of total elongation at maximum force)	Based on MS 146:2014 (Cl. 7.3.3) BS 4449:2005+A3:2016 (Clause 7.2.3) ISO 6892- 1:2019
	Tensile Test	MS 146:2014 (Clause 7.3.3)
	Tensile Test	MS 146:2014 (Clause 7.3.3)
	None	BS 4449:2005+A3:2016
Soils	Moisture content	BS 1377-2:1990 Clause 3.2
	Liquid limit (cone penetrometer)	BS 1377-2:1990 Clause 4.3
	Determination of moisture	BS 1377:2016, Part 1
	Determination of dry density/	BS 1377:2016, Part 1
	Determination of the unconfined	BS 1377:2016, Part 1
	Determination of particle size	BS 1377:2016, Part 1

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Determination of Emerson class	AS 1289.3.8.1, 2017
	Determination of water content	BS EN ISO 17892-1:2014
	Determination of bulk density: Linear measurement method	BS EN ISO 17892-2:2014
	Determination of particle size distribution: Sieving method and hydrometer method	BS EN ISO 17892-4:2016
	Determination of liquid and plastic limits	BS EN ISO 17892-12:2018
	JKM E0420: Determination of	US EPA 3051A & EPA Method 6010D
	Cadmium Chromium	None
	Determination of moisture content	ASTM D2216-19
	Determination of MoistureBS 1377-2:1990, Clause 3 Determination of Moisture	Determination of Moisture
	In-situ density tests: SandBS 1377-9:1990: Clause 2.1 In-situ density tests: Sand	In-situ density tests: Sand