S/N: 0973

STANDARDS MALAYSIA

Certificate of Accreditation

No: SAMM 347

Accredited since: 5 September 2006

This is to certify that

MATERIAL TESTING LABORATORY
IKRAM QA SERVICES SDN. BHD.
KAJANG, SELANGOR
MALAYSIA

Scan this QR Code or visit
www.jsm.gov.my/cab-directories
for the current scope of accreditation

has been granted accreditation in respect of the scope of accreditation described in the schedule, subject to the terms and conditions governing the *Skim Akreditasi Makmal Malaysia* (SAMM), the Laboratory Accreditation Scheme of Malaysia.

Laboratories accredited under SAMM meet the requirements of MS ISO/IEC 17025. This Malaysian Standard is identical with ISO/IEC 17025 published by the International Organization for Standardization (ISO).

(DATUK FADILAH BAHARIN)
Director General
Department of Standards Malaysia

Date of issue: 2 October 2018

Issuance of this Certificate is governed by Section 16 Subsections (2) and (3) of Standards of Malaysia Act, 1996 (Act 549)

Issue date: 15 December 2021
Valid until: 5 September 2024

NO: SAMM 347

LABORATORY LOCATION:
(PERMANENT LABORATORY)

MATERIAL TESTING LABORATORY
IKRAM QA SERVICES SDN. BHD.
BLOK 7, UNIPARK SURIA
JALAN IKRAM-UNITEN
43000 KAJANG
SELANGOR, MALAYSIA

FIELD 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).

SCOPE OF TESTING: MECHANICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Hardened concrete	Density based on weight determination of specimen in air	MS EN 12390-7:2012
	Compressive strength of concrete cubes	MS EN 12390-3:2012
	Compressive strength of concrete core	MS EN 12504-1:2013
Steel for the reinforcement of concrete	Determination of sizes, cross-sectional area and mass	MS 146: 2014 Clause 7.4.1
	Tensile properties (yield, tensile strength and elongation at maximum force)	Clause 7.3.3
	Bend Performance	Clause 7.3.5
Metallic Materials	Tensile testing for metallic material to measure tensile strength, yield stress and elongation for the force range 0 – 2000 kN	BS EN ISO 6892-1: 2019 (Method B) ASTM A370- 19

SCOPE OF TESTING: MECHANICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Steel Fabric For The Reinforcement Of Concrete	Tensile Test	BS EN ISO 6892-1: 2019 (Method B) MS ISO 15630-2:2012 BS EN ISO 15630-2:2010
	Tensile properties (yield strength, tensile strength and elongation at maximum force)	MS 145:2014
		Clause 7.2.3
	Sheer force of welded joint	Clause 7.2.4
	Bend performance	Clause 7.2.5
Steel Wire For The Reinforcement Of ConcreteProducts	Tensile Test	BS EN ISO 6892-1: 2019 (Method B) MS ISO 15630-1:2012 BS EN ISO 15630-1:2010
	Tensile properties (yield strength, tensile strength and elongation at maximum force)	MS 144:2014
		Clause 7.2.3
	Bend Performance	Clause 7.2.4
Coupler Bar	Tensile Test	BS EN ISO 6892-1: 2019 (Method B)

SCOPE OF TESTING: MECHANICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Clay bricks	Determination of compressive strength Water absorption	MS 76: 1972 (Only for clause 39 and 40)
	Determination of compressive strength	MS 1933: Part 1: 2007
	Determination of water absorption (HD Units)	BS EN 772-21: 2011 (External element (HD Units) MS 1933: Part 7: 2007 Damp proof courses (HD Units)
Aggregate	Determination of elongation index	MS 30: Part 5: 1995 Section 2
	Determination of particles densities and water absorption	BS 812 Part 2:1995 MS EN 1097-6: 2011
	Soundness test of aggregates (Sodium sulfate & magnesium sulfate)	ASTM C88 /C88M-18 MS EN 1367-2: 2011 (Magnesium Sulfate only)
	Moisture content of aggregates (oven drying method)	MS 30 Part 7: 1995
	Determination of clay, silt and dust	MS 30: 1971
	Ten percent fines	MS 30: Part 9: 1995
	Determination of crushing value	MS 30: Part 8: 1995
	Determination of flakiness index	MS 30: Part 5: 1995 MS EN: 933-3: 2011
	Aggregates impact value	MS 30: Part 10: 1995

SCOPE OF TESTING: MECHANICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Quality of Vitreous China Sanitary Appliances	Quality of Glazing	MS 147: 2001
	Tolerances	
	Visual Examination	
	Water Absorption	
	Crazing	
	Chemical Resistance	
	Resistance to Staining	
	Warpage	
Ceramic Tiles – Definitions, classification, Characteristics and marking	Requirements	MS ISO 13006::2014 Clause 7
	i. Determination of water absorption ceramic tiles (Vacuum & Boiling Method)	MS ISO 10545-3: 2018
	ii. Determination of chemical resistance for ceramic tiles	MS ISO 10545-13: 2001
	iii. Determination of resistance to stains for ceramic tiles	MS ISO 10545-14: 2001
	iv. Determination of crazing resistance for glazed tiles	MS ISO 10545-11: 2001
	v. Determination of Modulus of Rupture and Breaking Strength	MS ISO 10545-4: 2003
	Marking	MS ISO 13006: 2014 Clause 8.1

SCOPE OF TESTING: MECHANICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Water Closet Flushing Cisterns - Part 1:Specification	Materials	MS 795-1: 2019 All clauses except clauses 4.2.2.2
	Ceramic ware cisterns	
	Plastic Cistern - Appearance - Opacity - Shell thickness - Distortion resistance - Front thrust test - Impact test	
	Shell	
	Covers	
	Water line	
	Water Inlet Valve	
	Flushing Device	
	Overflow	
	Air separation distance	
	Flush pipe	
	Flush pipe connection	
	Workmanship	
	Marking	

SCOPE OF TESTING: MECHANICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Water Closet Flushing Cisterns -Part 2: Inlet Valves	Materials	MS 795-2: 2019 Clause 4
	Physical Endurance	Clause 5.1
	Chemical Endurance	Clause 5.2
	Back Siphonage	Clause 5.3
	Valve Mechanism	Clause 5.4
	Inlet Connection	Clause 5.5
	Workmanship	Clause 6
	Marking	Clause 8
Water Closet Flushing Cisterns - Part 3: Flushing Device	Materials	MS 795-3: 2019 Clause 4
	General	Clause 5.1
	Watertight joint	Clause 5.2
	Discharge volume	Clause 5.3
	Rate of Discharge	Clause 5.4
	Physical Endurance	Clause 5.5
	Chemical Endurance	Clause 5.6
	Valve Mechanism	Clause 5.7
	Workmanship	Clause 6
	Marking	Clause 8

SCOPE OF TESTING: MECHANICAL

Materials/ Products Tested	Type of Test/ Properties Measured/ Range of Measurement	Standard Test Methods/ Equipment/Techniques
Sanitary Tapware	Marking	BS EN 200:2008- Cl. 4.1
	Leak tightness characteristics	BS EN 200:2008- Cl. 8
	Pressure resistance characteristics	BS EN 200:2008-Cl. 9
	Hydraulic characteristics	BS EN 200:2008-Cl. 10
Ceramic Wash Basin	Quality	MS 2578: 2014, Amd. 1: 2017 Clause 4.1
	Dimension	Clause 4.2
	Strength and support test	Clause 4.3
	Draining of water	Clause 4.4
	Marking	Clause 5
Vitreous China Water Closet Pans - Specification	Quality	MS 1522: 2015 Clause 4.1
	Water Seal	Clause 4.2
	Construction	Clause 4.3
	Dimension	Clause 4.4
	Grouping	Clause 4.5
	Colour	Clause 4.6
	Flushing volume	Clause 4.7
	Flushing Test	Clause 4.8
	Loading Test	Clause 4.9
	Additional requirements for one-piece WC pan	Clause 4.10
	Additional requirements forHybrid WC pan	Clause 4.11
	Marking	Clause 6

Signatories:

1. **Mohamad Akhir bin Abdullah**

2. Mohd Hafizy bin Mat Zain
3. Nik Mohamad Nasarudin bin Nik Hasan