Issue date: 14 October 2022
Valid Until: 08 March 2025

NO: SAMM 585
(Issue 1, 14 October 2022 replacement
of SAMM 585 dated 14 October 2022)

LABORATORY LOCATION/ CENTRAL OFFICE:	SCIENCE AND TECHNOLOGY RESEARCH INSTITUTE FOR DEFENCE (STRIDE) Kompleks Makmal Induk, Taman Bukit Mewah, Fasa 9 , 43000, SELANGOR MALAYSIA
ACCREDITED SINCE :	08 MARCH 2013
FIELD(S) OF TESTING:	CHEMICAL MECHANICAL
FIELD(S) OF CALIBRATION:	MASS TORQUE HEAT & TEMPERATURE
SITE:	
1 . SITE LABORATORY(HQ) :	MARITIME TECHNOLOGY DIVISION SCIENCE AND TECHNOLOGY RESEARCH INSTITUTE FOR DEFENCE (STRIDE), MINISTRY OF DEFENCE MALAYSIA RMN NAVAL BASE , MALAYSIA
FIELD(S) OF TESTING :	MECHANICAL
2 . SITE LABORATORY(HQ) :	CATEGORY I
FIELD(S) OF TESTING :	MECHANICAL
FIELD(S) OF CALIBRATION:	HEAT & TEMPERATURE,MASS

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:	SCIENCE AND TECHNOLOGY RESEARCH INSTITUTE FOR DEFENCE (STRIDE) Kompleks Makmal Induk, Taman Bukit Mewah, Fasa 9 , 43000, Selangor
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**
Textiles And Related Products	Quantitative Chemical Analysis on Mixtures of Cellulose and Polyester Fibres	ISO 1833-11:2017
	Qualitative Analysis of Textile Fibres 1. Solubility Test	Based on Identification of textile materials, 7th edition 1985 (The Textile Institute) In house method (STRIDE/WI/STSB/STSL/01)
	2. Burning Test	In house method (STRIDE/WI/STSB/STSL/02)
	3. Microscopic Examination	In house method (STRIDE/WI/STSB/STSL/03)
Petroleum Products / Aviation Fuels / Lubricants	Distillation at Atmospheric Pressure	ASTM D 86 – 20b
	Flash Point by Pensky Martens Closed Cup Tester	ASTM D 93 – 20
	Corrosiveness to Copper from Petroleum Products by Copper Strip Test	ASTM D 130 – 19
	Density of Liquids by Digital Density Meter	ASTM D 4052 – 18a
	Dynamic Viscosity and Density of Liquids by Stabinger Viscometer (and Calculation of Kinematic Viscosity)	ASTM D 7042 – 21
	Flash Point by Abel Closed Cup	IP 170 – 2021 ISO 13736 – 2021
Aviation Fuels/ Distillate Fuels	Water Reaction	ASTM D1094 – 07 (2019)
	Electrical Conductivity	ASTM D2624 – 15
	Measurement of Fuel System Icing Inhibitors (Ether Type)	ASTM D5006 – 11 (2016)

SCOPE OF TESTING : MECHANICAL

Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**
Textiles And Related Products	Breaking load	ISO 13934-1:2013
	Tearing strength (double tear method /tongue tear)	ISO 13937-4:2000
	Mass per unit area	ISO 3801:1977 Method 5
	Thread Count	ISO 7211-2:1984 Method A
Personal Protective Equipment (ppe) - Footwear	Thickness of the upper	BS EN ISO 2589:2002
	Height of the upper	BS EN ISO 20344:2011- Clause 6.2

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques
	Insole thickness	BS EN ISO 20344:2011- Clause 7.1
	Outsole thickness	BS EN ISO 20344:2011- Clause 8.1
	Upper flexing resistance-Bally flex	BS EN ISO 5402-1:2011 **SATRA TM55:1999
	Tensile strength of upper material	BS EN ISO 20344:2011-Clause 6.4
	Breaking strength of shoe lace	BS 5131Part 3.7:1991 **SATRA TM94:1999
	Sole adhesion test	BS 5131Part 5:1990 **SATRA TM404:1992
	Tensile strength of outsole	BS ISO 37:2011
Materials	Vickers Hardness 1 gf to 30 kgf	***ASTM E384-2017
Metallic Materials	Tensile Testing - Ultimate tensile strength - Yield strength - % elongation	***ASTM E8/E8M-2021

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SITE LOCATION (HQ)	1. CATEGORY I
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**
Noise	Measurement of noise inside stationary motor vehicles	ISO 5128:1980
	Measurement of sound pressure level emitted by stationary road vehicles	ISO 5130:2019

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SITE LOCATION (HQ)	2. MARITIME TECHNOLOGY DIVISION SCIENCE AND TECHNOLOGY RESEARCH INSTITUTE FOR DEFENCE (STRIDE), MINISTRY OF DEFENCE MALAYSIA RMN NAVAL BASE , MALAYSIA
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

CENTRAL LOCATION	SCIENCE AND TECHNOLOGY RESEARCH INSTITUTE FOR DEFENCE (STRIDE) Kompleks Makmal Induk, Taman Bukit Mewah, Fasa 9 , 43000, Selangor
FIELD(S) OF CALIBRATION :	MASS, TORQUE, HEAT & TEMPERATURE

SCOPE OF CALIBRATION : MASS

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty (±)*	Remarks
Standard Weight	10 mg 20 mg 50 mg 100 mg 200 mg 500 mg 1 g 2 g 5 g 10 g 20 g 50 g 100 g 200 g 500 g 1 kg 2 kg 5 kg	0.007 mg 0.007 mg 0.008 mg 0.008 mg 0.010 mg 0.012 mg 0.014 mg 0.018 mg 0.022 mg 0.029 mg 0.041 mg 0.08 mg 0.14 mg 0.27 mg 0.7 mg 1.3 mg 3 mg 7 mg	Comparison with standard weight sets using Mass Comparator based on OIML R111-1

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SCOPE OF CALIBRATION : TORQUE

Instrument Calibrated/Measurement Parameter	**Range**	**Calibration and Measurement Capability Expressed as an Uncertainty (±)***	**Remarks**
Torque Tools Device (torque Wrench)	1 N.m to 25 N.m 25 N.m to 400 N.m	0.4 % of reading 0.3 % of reading	Calibrated using Torque Transducer based on ISO 6789:2017

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SCOPE OF CALIBRATION : HEAT & TEMPERATURE

Instrument Calibrated/Measurement Parameter	**Range**	**Calibration and Measurement Capability Expressed as an Uncertainty (±)***	**Remarks**
Liquid-in-glass Thermometer (total Immersion)	0 ËšC to 120 ËšC	0.7 ËšC	Comparison with PRT in Liquid Bath according to in house method (STRIDE/WI/I ESB/TPLL/0 1) with reference to ASTM E77-2014
Temperature & Humidity Indicator Or Recorder	10 ËšC to 50 ËšC 40 %R.H to 90 %R.H	0.3 ËšC 2.5 % R.H	Comparison with reference Thermohygrometer in humidity chamber according to in house method (STRIDE/WI/I ESB/TPLL/0 3) with reference to BS 1339-3:2004

SITE LOCATION (HQ)	1. CATEGORY I
FIELD(S) OF CALIBRATION :	HEAT & TEMPERATURE,MASS

SCOPE OF CALIBRATION : MASS

Material / Product Tested	**Type Of Test / Properties Measured / Range Of Measurement**	**Standard Test Methods / Equipment / Techniques**	**Remarks**

SCOPE OF CALIBRATION : HEAT & TEMPERATURE

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Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques	Remarks
Temperature Controlled Enclosures	0 ËšC to 150 ËšC	1.0 ËšC	Using Thermocouple and temperature recorder according to in house method (STR IDE/WI/IESB/TPLL/02) with reference to AS 2853 – 1986
	151 ËšC to 300 ËšC	1.3 ËšC	Using Thermocouple and temperature recorder according to in house method (STR IDE/WI/IESB/TPLL/02) with reference to AS 2853 – 1986