**Issue date: 31 March 2023**
**Valid until: 6 December 2025**

**NO: SAMM 489**
(Issue 2, 31 March 2023 replacement
of SAMM 489 dated 7 November 2022)



**LABORATORY LOCATION**:
(PERMANENT LABORATORY)

**GT INSTRUMENTS SDN BHD**
**2A, JALAN PTP 1/4,**
**TAMAN PERINDUSTRIAN TASIK PERDANA**
**47100 PUCHONG, SELANGOR**
**MALAYSIA**

**FIELDS OF CALIBRATION:** **FORCE AND DIMENSIONAL**

**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).

*** 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.**

**FIELD OF CALIBRATION: FORCE**

**SITE CALIBRATION: CATEGORY III**

**SCOPE OF ACCREDITATION:**

| Instrument Calibrated/ Measurement Parameter | Range | Calibration and Measurement Capability Expressed as an Uncertainty (±)* | Remarks |
|---|---|---|---|
| Tension / Compression Testing Machine<br><br>(a) Compression mode | 0 N to 500 N<br>0.5 kN to 5 kN<br>5 kN to 50 kN<br>10 kN to 100 kN<br>50 kN to 500 kN<br>100 kN to 1000 kN<br>300 kN to 3000 kN | 0.13 N<br>4.6 N<br>9.4 N<br>75 N<br>0.47 kN<br>1.9 kN<br>1.9 kN | With reference to ISO 7500 - 1:2018<br><br>ASTM E4:2021 |

**Signatories:**

1. **Ng Phooi Sang**
2. **Chen Weng Hong**
3. **Pang Ka Voon**

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**FIELD OF CALIBRATION: FORCE**

**SITE CALIBRATION: CATEGORY III**

**SCOPE OF ACCREDITATION:**

| Instrument Calibrated/ Measurement Parameter | Range | Calibration and Measurement Capability Expressed as an Uncertainty (±)* | Remarks |
|---|---|---|---|
| Tension / Compression Testing Machine<br><br>(b) Tension load<br>(Standard Weight)<br><br>(Load Cell) | 0 kg to 20 kg<br><br>0 N to 500 N<br>0.5 kN to 5 kN<br>5 kN to 50 kN<br>10 kN to 100 kN | 0.0016 kgf<br><br>0.4 N<br>1.8 N<br>20 N<br>75 N | With reference to ISO 7500 - 1:2018<br><br>ASTM E4:2021 |

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**FIELD OF CALIBRATION: FORCE**

**SITE CALIBRATION: CATEGORY III**

**SCOPE OF ACCREDITATION:**

| Instrument Calibrated/ Measurement Parameter | Range | Calibration and Measurement Capability Expressed as an Uncertainty (±)* | Remarks |
|---|---|---|---|
| Charpy Impact Tester | 1 Jule to 500 Joule | 1 % of reading | With reference to<br><br>ASTM E23-18<br>ISO 148-2:2016 |

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## FIELD OF CALIBRATION: DIMENSIONAL

## SCOPE OF ACCREDITATION:

| Instrument Calibrated/ Measurement Parameter | Range | Calibration and Measurement Capability Expressed as an Uncertainty(±)* | Remarks |
|---|---|---|---|
| **Linear Dimension** | | | Calibration using Profile Projector with reference to ISO 16012:2015 IEC 60811-1:2001 |
| **Length** | 0 mm to 180 mm | 0.003 mm | |
| **Width** | 0 mm to 75 mm | 0.003 mm | |
| **Angular Dimension** | | | |
| **Angle** | 0° - 90° | 0.09° | |
| **Circular Dimension** | | | |
| **Diameter** | 0 mm to 75 mm | 0.013 mm | |
| **Radius** | 0 mm to 75 mm | 0.029 mm | |

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**FIELD OF CALIBRATION: DIMENSIONAL**

**SITE CALIBRATION: CATEGORY III**

**SCOPE OF ACCREDITATION:**

| Instrument Calibrated/ Measurement Parameter | Range | Calibration and Measurement Capability Expressed as an Uncertainty(±)* | Remarks |
|---|---|---|---|
| Extensometer<br>(Contact type only) | 0 mm to 5 mm<br>5 mm to 25 mm<br>25 mm to 50 mm | 0.003 mm<br>0.021 mm<br>0.044 mm | With reference to<br>ASTM E83-16<br>(Type 1)<br>ISO 9513: 2012(E)<br>(Type A) |
| Long Travel Extensometer<br>(Contact Type Only) | 0 mm to 500mm | 0.08mm | With reference to<br>ASTM E83-16<br>(Type 2)<br>ISO 9513: 2012(E)<br>(Type B) |
| Displacement<br>(for Universal Testing Machine Only) | 0 mm to 500 mm | 0.08 mm | With reference to<br>ASTM E2309:2020 |
| Speed<br>(for Universal Testing Machine Only | Up to<br>500 mm/min | 0.1 mm /min | With reference to<br>ASTM E2658:2015 |



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## FIELD OF TESTING: MECHANICAL

## SCOPE OF TESTING:

| Materials/ Products Tested | Type of Test/ Properties Measured/ Range of Measurement | Standard Test Methods/ Equipment/Techniques |
|---|---|---|
| **Rubber and Rubber Products and Gloves** | Tensile Properties (Test Method) | ISO 37:2017<br>ASTM D412-16 (2021) |
| | | EN 455-2:2015<br>ISO 11193-1:2020<br>ISO 10282:2014<br>ASTM D3578-19<br>ASTM D6319-19<br>ASTM D4679:02(2015)<br>ASTM D3577-19 |
| | Accelerated Aging and Heat Resistance Test | ISO 188:2011 |
| **Plastics and Plastics Composite** | Tensile Strength, Yield Strength and Elongation at Break | ISO 527-1:2019<br>ASTM D638:2014 |
| | | ISO 527-2:2012 |
| | Flexural Strength, Flexural Modulus | ASTM D790:2017<br>ISO 178:2019<br>Property Type I, II |



## Signatories:

1. **Ng Phooi Sang**
2. **Pang Ka Voon**
3. **Hairi Bin Hamidun**