



PLASTIC AND COMPOSITE MATERIALS TESTING

Offering Comprehensive Plastic Testing and Analytical Capabilities



BEST PARTNER FOR INNOVATION



The Plastic and Composite Materials Section provides comprehensive testing services, as well as consultancy services. Accredited in accordance with the guidelines of ISO 17025, our laboratories have the capabilities to ensure that your plastic materials and products comply with the National and International standards. Conforming with our vision, we ensure you the provision of our globally accepted professional services.

We are delighted to offer our services in the following core areas:

Testing and Quality Assurance

- Our comprehensive facilities enable evaluation of physical, mechanical, thermal, electrical, optical and spectroscopic properties to be carried out in accordance with various national and international as well as company standards.

Material and Failure Analysis

- Using various analytical methods, our team of experienced technical personnel has been proven its expertise in carrying out analysis on polymeric materials as well as identifying possible causes for failure of plastic products.

Accelerated Ageing and Weathering

- Exposure to various environmental conditions as well as accelerated ageing and weathering predicts the

durability of products in projected service conditions.

LABORATORY FACILITIES

Thermal and Spectroscopic Analysis

- Material, contamination and failure analysis
- Thermal profile, glass transition (Tg) heat of fusion, crystallinity, specific heat capacity (Cp), Oxidative Induction Time (OIT) and curing analysis
- Material composition, filler content, carbon black content, onset of decomposition
- Coefficient of thermal expansion and softening temperature

Physical and Mechanical Properties

- Tensile, flexural, compressive and tear properties
- Izod, Charpy and tensile impact at both ambient and sub-ambient temperatures, dart-drop impact
- Shore A and D, Rockwell and IRHD hardness
- Fatigue and dynamic mechanical evaluation
- Density of solids, foam and powder
- Rheology and melt flow
- Haze, light transmittance, opacity and colour change
- Carbon black dispersion (Carbon Black Content)

Environmental Conditioning

- Heat ageing, heat cycle, heat reversion, shrinkage
- Temperature and humidity conditioning
- Accelerated weathering

- Environmental stress cracking resistance

Pipe Testing

- Hydrostatic pressure test
- Cyclic test
- Dimensions
- Heat Reversion, etc.

Water Tank Testing

- Construction
- Deflection test
- Deformation test
- Leakage test, etc.

Card Testing

- Dynamic Torsion
- Dynamic Bending
- Material Verification and Construction
- Fading Resistance
- Temperature and Humidity Test
- Chemical Test
- Abrasion, etc.

Others

- Surface and volume resistivity
- Flammability (UL94), smoke density and Limiting Oxygen Index (LOI)
- Heat Deflection Temperature (HDT) and Vicat softening temperature
- Moldflow simulation analysis for injection moulding (flow, cool, warp and shrink)

+ The Benefits

- Provide an independent assurance that tests are done in accordance with the stated specification, test method and, the specified environmental conditions.
- Provide an independent assurance of product compliance with standards and requirements, thus facilities customers' acceptance.

WHY SIRIM QAS?

The competency of **SIRIM QAS** International's personnel to perform product testing is demonstrated through the maintenance of its accreditation under the National Laboratory Accreditation Scheme (SAMM) based on the requirements of ISO/IEC 17025.

Together with our long years of experience, professional expertise, and excellent facilities, SIRIM QAS International is committed to furnish the necessary support to ensure the industry has a leading business edge.

SIRIM QAS International is uniquely placed to offer the best service and support packages to meet clients best interests both nationally and/or internationally.

The Plastic and Composite Materials Section has been recognised as an approved Test House for BAE System, Airbus UK, CASA (Spain) and CTRMAC for aerospace composite materials testing services for more than a decade.

Testing Process:

- 1 Enquiry/Application
- 2 Issue of Quotation
- 3 Submission of Test Items
- 4 Product Testing
- 5 Issuance of Test Report



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YOUR NEXT STEP

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QS 02121999 CB 01 ISMS 17025:2015 CB 01
ENB 11122002 CB 02 EMS 03172014 CB 01
PC 15102004 CB 01 MEDMS 30062015 CB 04
CSH 09122005 CB 01 QSP 09102015 CB 04
HACCP 05052008 CB 03 MSPD 29072017 CB 05
FSMS 23122008 CB 01 FS 09052017 CB 03
FMC 10122009 CB 02

MS ISO/IEC 17025
CALIBRATION/TESTING
SAMM NO.285 SAMM NO.096
SAMM NO.087 SAMM NO.239
SAMM NO.231 SAMM NO.240
SAMM NO.299 SAMM NO.377
SAMM NO.474 SAMM NO.734
SAMM NO.735

MS ISO/IEC 17025
MIBAS NO. 003