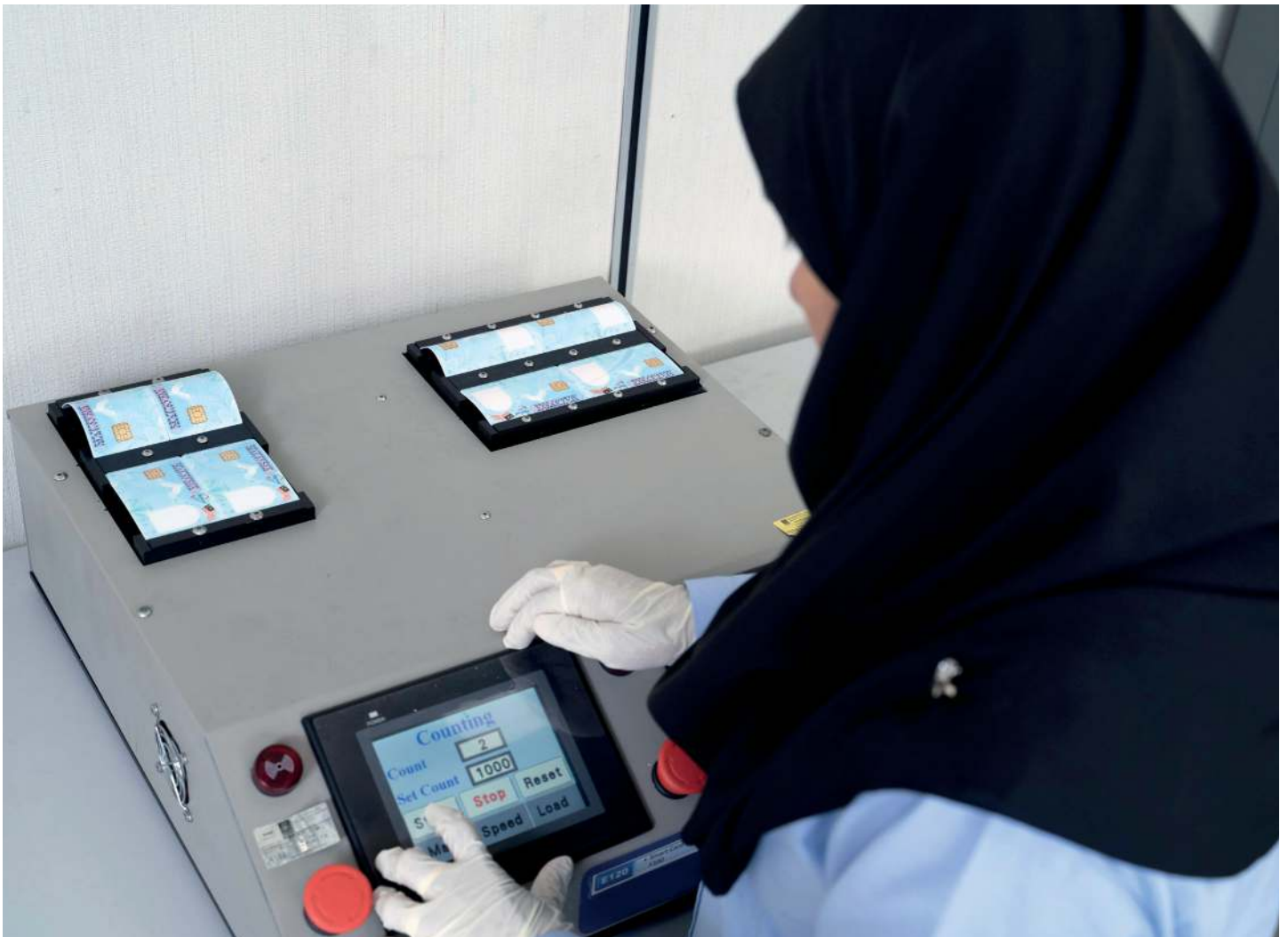




PLASTIC AND COMPOSITE MATERIALS/ PRODUCTS

TESTING

Quality Assurance of the Sustainability of
Properties and Integrity of Principles



SIRIM QAS provides globally accepted and professional testing services for plastics and composite materials and products. Our accredited laboratories carry out reliable tests to verify the quality of samples, allowing manufacturers to demonstrate compliance with national and international standards and secure the trust of customers.

Testing for Perfection - Plastics and Composite Materials/ Products Testing



The use of plastics and composite materials and products has expanded into various sectors. As the performance and properties of plastics and composites are time-dependent, it is crucial to ensure they meet technical specifications and are able to withstand stress during the materials selection and product development process.

Testing provides quality assurance and helps to identify significant properties and performance characteristics to facilitate a wider range of sustainable plastics and composites applications.

SIRIM QAS, an accredited testing body, is equipped with extensive facilities and experienced personnel, operating competently to deliver reliable test results. We are committed to assist manufacturers in ensuring that plastics and composite materials and products comply with national or international standards.

We offer comprehensive testing services of plastics and composites materials and products in these core areas:

- Testing and Quality Assurance
- Material and Failure Analysis
- Accelerated Ageing and Weathering



Material, Contamination and Failure Analysis

Analysis on polymeric materials and using high magnification microscope to analyse the mode of failure, origin and potential causes for cracking in plastic products.



- Fourier Transform Infra-Red (FTIR)
- Differential Scanning Calorimetry (DSC)
- Thermogravimetry (TGA)
- Fractography – Using Compound and Stereo Microscope

Accelerated Ageing and Weathering

Develop the durability of products in projected service conditions through exposure to various environmental conditions.

- Xenon Tester
- UV Fluorescent Lamp Tester
- Temperature and Humidity Chambers

Thermal and Spectroscopic Analysis	Physical and Mechanical Properties	Environmental Conditioning
<ul style="list-style-type: none"> ● Material, Contamination and Failure Analysis ● Thermal Profile, Glass Transition Temperature (T_g), Heat of Fusion, Crystallinity, Specific Heat Capacity (C_p), Oxidation Induction Time (OIT) and Curing Analysis ● Material Composition, Filler Content, Carbon Black Content and Onset of Degradation ● Coefficient of Thermal Expansion, Stiffness and Damping, Softening Temperature ● Microsection Analysis 	<ul style="list-style-type: none"> ● Tensile, Flexural, Compressive and Tear Properties ● Izod, Charpy and Tensile Impact at both Ambient and Sub-Ambient Temperatures, and Dart Drop Impact ● Shore A & D, Rockwell, IRHD Hardness and Barcol 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 ● Coefficient of Friction ● Dynamic Bending and Torsion Tests ● Flammability (UL94), Smoke Density and Limiting Oxygen Index (LOI) ● Heat Deflection Temperature (HDT) and Vicat Softening Temperature 	<ul style="list-style-type: none"> ● Heat Ageing, Heat Cycle, Heat Reversion and Shrinkage ● Temperature and Humidity Conditioning ● Accelerated Weathering: Xenon and QUV ● Environmental Stress Cracking Resistance (ESCR)
Pipe Testing	Water Tank Test	Card Testing
<ul style="list-style-type: none"> ● Hydrostatic Pressure Test ● Cyclic Test ● Dimension ● Heat Revision 	<ul style="list-style-type: none"> ● Construction ● Deflection Test ● Deformation Test ● Leakage Test 	<ul style="list-style-type: none"> ● Dynamic Torsion ● Dynamic Bending ● Material Verification and Construction ● Fading Resistance ● Temperature and Humidity Test ● Chemical Test ● Abrasion

Others

- Surface and Volume Resistivity, and Breakdown Voltage
- 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)

Why Get Tested

- Independent assurance of product compliance to national and international standards.
- Reduce rejection during production, which will reduce unnecessary cost and increase profit margin.
- Improved performance in quality, safety and productivity.
- Gain a competitive edge by demonstrating compliance with relevant standards.
- Increase customer trust and acceptance of your product.

Certification Process



SIRIM QAS - Enhancing Confidence in Product Quality



SIRIM QAS has decades of experience and international recognition under our belt, providing testing, inspection and certification services to both local and international clients. Our highly credible Plastics & Composite Materials sector can help authenticate your products and build your reputation as a competent and capable industry leader.

Our extensive testing technology and established services have led to our accreditation as an International Test House by the Department of Standards Malaysia (STANDARDS MALAYSIA), based on the National Laboratory Accreditation Scheme (SAMM) ISO/IEC 17025 standard requirements. Therefore, SIRIM QAS is uniquely placed to offer service and support packages that meet the best interests of our clients.

For more information, contact us at:



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