CURRENT DEVELOPMENT AND NEW SERVICES IN TESTING

Presented By:
NUR FADHILLAH BT MUHAMMAD
SENIOR GENERAL MANAGER
TESTING SERVICES DEPARTMENT
1 NOVEMBER 2018
INTRODUCTION
OUR ROLES

Government

• Assist Regulatory Bodies (ST, BOMBA, SKMM, JPJ, CIDB, DOSH, SPAN, Local Authorities) in implementing regulations / legislations.

Industry

• Support companies’ Research and Development activities
• Test for compliance to company, association, national and international standards.
• Assist exporters meeting importing country’s regulatory requirements.
Accredited Laboratory

Accredited by Standards Malaysia to MS ISO/IEC 17025

ASEAN EE MRA

Appointed as Designated Testing Laboratory and Certification Body by Energy Commission of Malaysia

Test Report for E&E issued by SIRIM QAS Intl. is recognized and accepted by regulators of member countries of ASEAN
OUR RECOGNITION

IECEE CB Scheme

• Accepted as an Issuing and Recognizing National Certification Body (NCB) and Certification Body Testing Laboratory (CBTL) in the IECEE CB Scheme.

• Test Reports and Test Certificate issued by SIRIM QAS Intl. is recognized by almost 43 member countries of the IECEE CB Scheme.

Electrical & Electronic Test Lab

• Recognised by CSA (Canada) under its Qualified Testing Facilities.

• Recognised by SASO (Saudi Arabia) approved laboratory under ICCP.
Packaging Laboratory

• Certified by the world renowned International Safe Transit Association (ISTA).

• Test Report issued by SIRIM QAS Intl. is accepted byISTA / US market.
TESTING SERVICES
OUR CAPABILITIES

Provide wide range of testing services and categorized into the following sectors:

1. Civil & Construction
2. Mechanical & Automotive
3. Electrical & Electronic
4. Chemical & Consumer
5. Fire Protection
6. Radio Frequency and Electromagnetic Compatibility (RFEMC)
7. Plastics & Composite Material
8. Energy Efficiency for Electrical Appliances
9. Materials Investigation and Analysis
CIVIL & CONSTRUCTION

TYPE OF PRODUCTS TESTED

- Reinforce steel, fasteners, pipes and fittings, steel water tanks
- Cements, pavers, natural stones, playground equipment
- Ceramic tiles, sanitary wares, clay pipes
- Thermal insulation materials, acoustic panels, energy efficiency glazing
- Wire rope slings, chain slings, lever hoists, wire ropes and cables
MECHANICAL & AUTOMOTIVE

Type of Products Tested

- Helmets, Safety Shoes
- Packaging test - Jerrican, Palette, Plastic Containers, Boxes
- Automotive Test - NGV, Side Mirror, Light, Brake Pad
- Kerosene Stove, LPG Regulator, Cooker
- Reliability test – Electronics Components, Automotive Components

Testing Services Department
ELECTRICAL & ELECTRONIC

Lamp & Accessories

Audio - Video

Domestic Appliances

Cables & Wires

Photovoltaic Modules

Wiring Accessories

Consignment for imported EE

Energy Efficiency Test Lab (Sect. 16)

Testing Services Department
CHEMICAL & CONSUMER

Type of Products Tested

- Industrial Chemicals, Cement
- Detergents, Herbal product, Cosmetics
- Food products - Spices, Sugar
- Varnish, Road marking paints, paints
- Fabrics, Carpets
- Lubricant - Fuel Oil, Gear
- Lubricant
FIRE PROTECTION

Type of Products Tested

- Door sets
- Lift Landing Door
- Brick / Block Walls
- Drywall Partition / Panel System
- Penetration Seals
- Roller Shutter Assemblies
- Fire Extinguishers
- Landing Valves
- Ducting
RADIO FREQUENCY & ELECTROMAGNETIC COMPATIBILITY (RF & EMC)

Type of Products Tested

✓ Telecommunication Product
  - Wireless Product
  - Telephony Product

✓ Electrical Electronic Product
  - Information Technologies Equipment
  - Industrial, Scientific and Medical Equipment
  - Audio Video Product
  - Household appliances
  - Lighting apparatus
  - Automotive Sub Assemblies
  - Electric Motor Bike

Testing Services Department
Type of Products Tested

- Plastic Resin, Plastic Products, Tanks, Pipes and Fittings, Aerospace Composite Materials
- Plastics Material Analysis Services via various Characterization Tools (DMA, TMA, DSC, TGA)
NEW TESTING FACILITIES and SERVICES

1. Battery
2. Photovoltaic Module Testing
3. Ventilation Duct Testing & Load Bearing Fire Resistant Test
4. Brake Pad Testing for Automotive
5. Playground Surfacing Test
6. Gas Appliances - Domestic Gas Cooker
7. Material Integrity and Analysis
8. Market Access
NEW TESTING FACILITIES and SERVICES

1. Battery
2. Photovoltaic Module Testing
3. Ventilation Duct Testing & Load Bearing Fire Resistant Test
4. Brake Pad Testing for Automotive
5. Playground Surfacing Test
6. Gas Appliances - Domestic Gas Cooker
7. Material Integrity and Analysis
8. Market Access
Primary Battery:

- **Standard:** MS IEC 60086

- **Type of battery:** Size-AA, AAA, AA, AAAA, C, D and 9V

- **Application:** Primary batteries designed or intended for consumer and household such as torch light, remote control etc...

- **Regulation:** KPDNKK’s Consumer Protection (Safety Standards For Primary Batteries) Regulations 2013
Primary Battery:
- Standard: MS IEC 60086
- Type of battery: Size AA, AAA, AAAA, C, D, and 9V
- Application: Primary batteries designed or intended for consumer and household appliances, such as torch light, remote controls, etc.
- Regulation: KPDNKK’s Consumer Protection (Safety Standards For Primary Batteries) Regulations 2013

**FEE** | Rm 9,500 (Per model)
---|---
**DURATION FULL TYPE TEST** | 2 Months
BATTERY – SECONDARY BATTERY

- **Standard**: IEC 62133: Secondary cells and batteries containing alkaline or other non-acid electrolytes

- **Type of battery**: Lithium-ion, Nickel cadmium

- **Application**: Batteries for laptop, hand-phone, vape, etc…

- **Regulation**: To be regulated by KPDNHEP **Next Year**
**Application for Certification**

**Application by a SUPPLIER**

**Local Manufacturer**

Apply Product Certification Scheme (Type 5)

**Foreign Manufacturer / Importer (Trader)**

Apply Product Certification Scheme (Type 5)

Apply Batch Certification Scheme (Type 1b) (Consignment)

- a) Applicant submits test report to SIRIM QAS (certification body) for application of labels or certification mark
- b) SIRIM QAS will conduct scheme Type 5 or Type 1b certification process
- c) SIRIM QAS will issue label

**Notes:**
- a battery supplier which includes importer, manufacturer and trader

Testing Services Department
# BATTERY – SECONDARY BATTERY

<table>
<thead>
<tr>
<th>FULL TYPE TEST</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FEE</td>
<td>RM 9000</td>
</tr>
<tr>
<td>DURATION</td>
<td>2 MONTHS</td>
</tr>
</tbody>
</table>
NEW TESTING FACILITIES and SERVICES

1. Battery

2. Photovoltaic Module Testing

3. Ventilation Duct Testing & Load Bearing Fire Resistant Test

4. Brake Pad Testing for Automotive

5. Playground Surfacing Test

6. Gas Appliances - Domestic Gas Cooker

7. Material Integrity and Analysis

8. Market Access
PV is the process of converting light to electricity using semiconducting materials e.g. PV module.

Testing according to standard IEC 61215 (Part 1 and Part 2) and IEC 61730 (Part 1 and Part 2) covers both crystalline silicon and thin-film terrestrial PV module designs.
PHOTOVOLTAIC (PV) MODULE TESTING

- Steady State Solar Simulator

- I-V Measurement unit
PHOTOVOLTAIC (PV) MODULE TESTING

Environmental Chamber System

✓ Temperature range -70°C to 120°C
✓ PV module size up to 1.5 m x 2.0 m
✓ Complete with test current supply unit

UV Conditioning Chamber

✓ Wet Leakage Current Tester
Fire Resistance Test On Ventilation Duct
FIRE RESISTANCE TEST ON VENTILATION DUCT

Ducts are used in Heating Ventilation and Air Conditioning (HVAC) to deliver and remove air. The needed airflows include, for example, supply air, return air, and exhaust air.

Types of Duct

Testing Standards:

- BSEN 1366-1:2014 Fire resistance tests for service installations. Ventilation ducts
FIRE RESISTANCE TEST ON VENTILATION DUCT

SIRIM QAS INTL. IS THE ONLY 3RD PARTY TESTING BODY IN SOUTH EAST ASIA
FIRE RESISTANCE TEST ON VENTILATION DUCT

TEST SET-UP (FRONT VIEW)  
TEST SET-UP (SIDE VIEW)

<table>
<thead>
<tr>
<th>Fire Rating</th>
<th>2 hrs – 4 hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testing Fee</td>
<td>RM75,000 - RM110,000</td>
</tr>
<tr>
<td></td>
<td>Depending on orientation of test and fire rating</td>
</tr>
</tbody>
</table>
HYDRAULIC TILTING TYPE FIRE RESISTANCE TEST FURNACE
HYDRAULIC TILTING TYPE FIRE RESISTANCE TEST FURNACE
HYDRAULIC TILTING TYPE FIRE RESISTANCE TEST FURNACE

- Horizontal Fire Resistance Test Furnace
- Vertical Fire Resistance Test Furnace

<table>
<thead>
<tr>
<th>Fire Rating</th>
<th>2hrs - 4hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fee</td>
<td>RM12,000 – RM 40,000</td>
</tr>
</tbody>
</table>
NEW TESTING FACILITIES and SERVICES

1. Battery
2. Photovoltaic Module Testing
3. Ventilation Duct Testing & Load Bearing Fire Resistant Test
4. Brake Pad Testing for Automotive
5. Playground Surfacing Test
6. Gas Appliances - Domestic Gas Cooker
7. Material Integrity and Analysis
8. Market Access
NEW TESTING FACILITIES and SERVICES

1. Battery
2. Photovoltaic Module Testing
3. Ventilation Duct Testing & Load Bearing Fire Resistant Test
4. Brake Pad Testing for Automotive
5. Playground Surfacing Test
6. Gas Appliances - Domestic Gas Cooker
7. Material Integrity and Analysis
8. Market Access
Objective:

To perform Performance test, material test and determine the friction value on the Brake Pad and shoe assemblies and Brake disc/drum test.
BRAKE LINING SYSTEM TEST

Testing Services Department
BRAKE LINING SYSTEM TEST

MS Mark on Brake Pads
Inertia Brake Dynamometer:

- Inertia mass: 10 ~ 245 kgm²
- Parking brake: 2K N
- Torque: 6000 Nm
- RPM: 2500
- Cylinder stroke: 40 mm
- Hydraulic braking: 30 Mpa
- Deceleration control: 9.8 m/s²

Performance test, wear test, friction test
BRAKE TESTING LABORATORY

Compressibility Test M/C

Hydraulic Temperature Compressibility
Compressibility Test
Temperature: 600ºC

Shear Machine
Shear strength between pad/lining and disc
Force: 10 tonne max

Rockwell Hardness tester
Materials Hardness
<table>
<thead>
<tr>
<th>TYPE OF TEST</th>
<th>FEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>INNERTIA BRAKE DYNAMOMETER (Friction Test/Wear Test)</td>
<td>RM 3500</td>
</tr>
<tr>
<td>MATERIAL TEST (Compressibility Test/Shear Test)</td>
<td>RM 1400</td>
</tr>
</tbody>
</table>
NEW TESTING FACILITIES and SERVICES

1. Battery
2. Photovoltaic Module Testing
3. Ventilation Duct Testing & Load Bearing Fire Resistant Test
4. Brake Pad Testing for Automotive
5. Playground Surfacing Test
6. Gas Appliances - Domestic Gas Cooker
7. Material Integrity and Analysis
8. Market Access
Standards:


PLAYGROUND SURFACING TEST

Types of Surfacing and Standards

Loose-Fill Rubber
– ASTM F 3012

Engineered Wood Fiber
– ASTM F 2075

Poured-In-Place Surface Systems
– ASTM F 2479
PLAYGROUND SURFACING TEST

Drop height, fall height for swing on pivot point

Drop Height, fall height on top climbers

Impact Test system together with recording devise

Testing Services Department
Set-up apparatus on Impact test at Laboratory & Field Test
NEW TESTING FACILITIES and SERVICES

1. Battery
2. Photovoltaic Module Testing
3. Ventilation Duct Testing & Load Bearing Fire Resistant Test
4. Brake Pad Testing for Automotive
5. Playground Surfacing Test
6. **Gas Appliances** - Domestic Gas Cooker
7. Material Integrity and Analysis
8. Market Access
GUIDE ON ISSUANCE OF CERTIFICATE OF APPROVALS AND LABELLING OF DOMESTIC GAS COOKING APPLIANCES
GAS APPLIANCES – DOMESTIC GAS COOKER

MANUFACTURERS (Local)

Product Certification Type 5 (long-term)
- Apply from SIRIM Product Certification Scheme (TYPE 5)
- TYPE 5 Assessment
- Award of License
- Apply Certificate of Approval from ST
- SIRIM-ST Label
- Surveillance Program

MANUFACTURERS (Foreign/Importer)

Batch Certification Type 1b (short-term)
- Apply from SIRIM Type Test Report Evaluation
- Apply Certificate of Approval from ST
- Apply from SIRIM Product Certification Scheme (TYPE 1b)
- TYPE 1B Assessment
- Award of Batch Certificate
- SIRIM-ST Label

Register at Online Application System (OAS) website http://oas.st.gov.my/

BY SIRIM LINK

Testing Services Department

MANUFACTURERS (Local)

Product Certification Type 5 (long-term)
- Apply from SIRIM Product Certification Scheme (TYPE 5)
- TYPE 5 Assessment
- Award of License
- Apply Certificate of Approval from ST
- SIRIM-ST Label
- Surveillance Program

MANUFACTURERS (Foreign/Importer)

Batch Certification Type 1b (short-term)
- Apply from SIRIM Type Test Report Evaluation
- Apply Certificate of Approval from ST
- Apply from SIRIM Product Certification Scheme (TYPE 1b)
- TYPE 1B Assessment
- Award of Batch Certificate
- SIRIM-ST Label

Register at Online Application System (OAS) website http://oas.st.gov.my/

BY SIRIM LINK

Testing Services Department
GAS APPLIANCES – DOMESTIC GAS COOKER

Testing Equipment


Salt Spray/Corrosion Tester, Soap-Film Leak Tester, CO Analyzer, Sound Level Meter, Rubber Hardness Tester (Shore A and IRHD), Wooden Temperature Panel.
## GAS APPLIANCES – DOMESTIC GAS COOKER

| Full Type Test to MS 1535 | RM 6000 per model (standard price) |

Implementation on Issuance of Certificate of Approval and Labelling for Domestic Gas Cooker will be made Mandatory starting from 1st April 2019 by Suruhanjaya Tenaga (ST)

**Early Bird Discount!**
15% Discount on Testing Fee Offer Ends 31st December 2018

*Terms and conditions apply*
NEW TESTING FACILITIES and SERVICES

1. Battery
2. Photovoltaic Module Testing
3. Ventilation Duct Testing & Load Bearing Fire Resistant Test
4. Brake Pad Testing for Automotive
5. Playground Surfacing Test
6. Gas Appliances - Domestic Gas Cooker

7. Material Integrity and Analysis
8. Market Access

Watch Our Video
NEW TESTING FACILITIES and SERVICES

1. Battery
2. Photovoltaic Module Testing
3. Ventilation Duct Testing & Load Bearing Fire Resistant Test
4. Brake Pad Testing for Automotive
5. Playground Surfacing Test
6. Gas Appliances - Domestic Gas Cooker

7. Material Integrity and Analysis
8. Market Access
1. FAILURE INVESTIGATION

- METALLIC MATERIALS
  i.e. Iron Base (cast iron, carbon steels, low alloy steels, stainless steel), copper base, light metals (Aluminium, Magnesium, Titanium), nickel alloys, cobalt alloys.

- CONDITIONS/REASONS FOR FAILURE
  i.e. Fire Damages, High Temperatures, High Pressures, Creep, Cyclic Loads, Microbial Attack, General Corrosion, Corrosion Fatigue, Stress Corrosion Cracking, Hydrogen Attack, Friction, Fretting, Low and Freezing Temperatures, Combination of Factors.

- WHY INVESTIGATE?
  i.e. Material Failures, Component Failures, Product Liability, Property Loss, Litigation

2. ON-SITE JOBS

  i.e. Plant Condition Assessment, Fire and Creep Damage Assessment of High Temperature Plant Components, Hardness Test, On-site Material Analysis.

3. LABORATORY TESTS

  i.e. Material Analysis, Metallurgy, Coating and Corrosion Tests.
MATERIALS INVESTIGATION AND ANALYSIS

Testing Facilities

Optical Microscope

Hardness Tester

Scanning Electron Microscope

Precision Cutter

Portable Arc Spark Analyser
NEW TESTING FACILITIES and SERVICES

1. Battery
2. Photovoltaic Module Testing
3. Ventilation Duct Testing & Load Bearing Fire Resistant Test
4. Brake Pad Testing for Automotive
5. Playground Surfacing Test
6. Gas Appliances - Domestic Gas Cooker
7. Material Integrity and Analysis
8. Market Access
The market access service, together with testing and product certification services provide a one-stop solution for companies.

Companies will be guided to comply with the necessary legal requirements, relevant product safety and performance requirements.
MARKET ACCESS SERVICES

- For import consignment – assist company to apply for import consignment until the issuance of SIRIM labels

- For Product Certification – advise companies on Product Certification requirements, assist companies in application procedures for Product Certification

- Apply CoA from Regulatory Agencies such as ST, KPDNHEP, SPAN, CIDB on behalf of the companies
THANK YOU

FOR INFORMATION
CONTACT US

603 5544 6400 603 5544 6810 cserviceqas@sirim.my sirim-qas.com.my