CURRENT DEVELOPMENT & NEW SERVICES IN TESTING

AMINUDIN ABD AZIZ
SALES AND BUSINESS DEVELOPMENT
TESTING SERVICES DEPARTMENT
CONTENT OF PRESENTATION

☑ ROLES OF TESTING SERVICES
  DEPARTMENT
☑ RECOGNITIONS
☑ TESTING CAPABILITIES
☑ NEW SERVICES
Testing Services Department 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.
Recognitions

IECEE CB Scheme

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

Test Reports and Test Certificate recognized by almost 43 member countries of the IECEE CB Scheme

Electrical & Electronic Test Lab

Recognised by CSA (Canada) as Qualified Testing Facilities.

Recognised by SASO (Saudi Arabia) as an approved laboratory under ICCP
Recognitions

Packaging Laboratory

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

- Test Report issued by SIRIM QAS Intl. is accepted by ISTA / US market.
SIRIM QAS INTERNATIONAL
Branch Office & Off Campus Testing Facilities

Penang Branch
- Electrical appliances testing
- Luminaires testing
- COA (iron&steel)
- Import permits for telecommunication equipment
- Issuance of SIRIM labels (electrical products)

Pahang Office
- Engineering inspection

Johor Branch
- Material testing (steel&rope)
- Consignment testing (electrical products)
- COA (iron&steel)
- Import permits for telecommunication equipment
- Issuance of SIRIM labels (electrical products)

Sabah Branch
- Consignment testing (electrical products)
- COA (iron&steel)
- Import permits for telecommunication equipment
- Issuance of SIRIM labels (electrical products)

Sarawak Branch
- Consignment testing (electrical products)
- COA (iron&steel)
- Import permits for telecommunication equipment
- Issuance of SIRIM labels (electrical products)

Energy Efficiency Laboratory
Sec 16, Shah Alam
- Lamp and Photometry
- Refrigerator
- Air-Conditioner
- Domestic Electric Fan

Photovoltaic Module Testing Laboratory
Sec 16, Shah Alam
- Crystalline silicon and thin-film terrestrial PV module designs
Provide wide range of testing services and categorized into the following sectors

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

TYPE OF PRODUCTS TESTED

- Cements, Ready-mixed concrete' pavers, natural stones
- Ceramic tiles, sanitary wares, clay pipes
- Mineral Rockwool
- Thermal insulation materials, acoustic panels, energy efficiency glazing
- Playground equipment
- COA verification and approval for Iron and Steel / COA exemption
MECHANICAL AND AUTOMOTIVE

Type of Products Tested

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

- Audio Video
- Domestic Appliances
- Lamp Accessories
- Cables and Wires
- Wiring Accessories
- Photovoltaic Modules
- Energy Efficiency
- Consignment for Imported EE Products
ENERGY EFFICIENCY FOR ELECTRICAL APPLIANCES

- Television
- Refrigerator
- Air conditioner
- Washing Machine
- Domestic electric fan
- Lamp and photometry
- Ballast for fluorescent lamp
CHEMICAL AND CONSUMER PRODUCTS

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
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
  - Automotive Sub Assemblies
  - Electric Motor Bike
PLASTIC AND COMPOSITE MATERIALS

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)
MATERIALS INTEGRITY

MATERIAL SCIENCE
- Tensile test for metal products
- Dynamic test for metal products
- Charpy
- 3 point bend test
- Chemical
- Hardness
- Salt Spray

MATERIAL ANALYSIS
- Failure Investigation
  - On-site assessment – Replica, Creep damage
  - Laboratory test

LIFTING DEVICES
- Breaking Load Test
- Proof load test
- Ladder Test
- PC Strand Test

COA FOR IRON AND STEEL
- Mechanical test
  - Chemical Composition test
  - Coating mass test
NEW TESTING FACILITIES AND SERVICES

1. Battery
2. Photovoltaic Module Testing
3. Ventilation Duct Testing & Load Bearing Fire Resistant Test
4. Tint film for Road Vehicle
5. Gas Appliances - Domestic Gas Cooker
6. Playground Surfacing Test
7. IGU Test
8. Fire Performance of External Cladding System
9. Material Integrity and Analysis
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 such as - torch light, remote control etc...
- Regulation: KPDNKK’s Consumer Protection (Safety Standards For Primary Batteries) Regulations 2013
BATTERY TESTING
Secondary Battery
Kanak-kanak nyaris cedera pengecas bateri meletup 07 Julai 2015
 Nyaris buta vape meletup depan muka
BOLEHKAH bateri sebuah komputer riba meletup? Kenapa perkara ini berlaku dan bagaimana untuk mengelakanya?
- ABDULLAH, Serdang Lama.
JAWAPANNYA adalah ya. Terenas mengihin bateri berlaku kerana sesuatu bateri komputer riba itu mempunyai sel-sel
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
**A battery supplier which includes importer, manufacturer and trader**

**APPLICATION FOR CERTIFICATION**

- **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

**APPLIATION FOR CERTIFICATION**

**Secondary Battery**
NEW TESTING FACILITIES AND SERVICES

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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 MODULE TESTING

2017

Solar Simulator
Wet Leakage Current Tester
Cut Susceptibility Tester

2018

UV Chamber
Temperature Humidity Cyclic Chamber
Robustness of Termination Testers
EL Camera System
PHOTOVOLTAIC MODULE TESTING

2019

Bypass Diode Thermal Test

Mechanical Load

Full Facility Complete

Hail Tester

Pulse simulator

Outdoor Exposure Test System
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VENTILATION DUCTS TEST AND LOAD BERING FIRE RESISTANCE TEST

Fire Resistance Test On Ventilation Duct
HYDRAULIC TILTING TYPE FIRE RESISTANCE TEST FURNACE

Vertical Fire Resistance Test Furnace

Horizontal Fire Resistance Test Furnace
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**

- 4 side rectangular
- Circular

**Testing Standards:**
- BSEN 1366-1:2014 Fire resistance tests for service installations. Ventilation ducts
- ISO 6944 :20018 Fire containment - Elements of building construction -- Part 1: Ventilation ducts
VENTILATION DUCTS TEST

SIRIM QAS INTL. IS THE ONLY 3RD PARTY TESTING BODY IN SOUTH EAST ASIA
VENTILATION DUCTS TEST

Test set-up for Fire Resistance Test on Ventilation Duct
NEW TESTING FACILITIES AND SERVICES

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TINT FILM FOR ROAD VEHICLES

Implementation of “GARIS PANDUAN PEMATUHAN STANDARD FILEM PENGGHADANG HABA KENDERAAN” by KPDNHEP on 1st July 2020
This MS specifies methods and requirements of visible light, energy transmittance of solar radiation and other related factors for tint film on the glazing in road vehicles.
## Test Requirements

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<th>Test Requirement</th>
<th>Details</th>
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<tbody>
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<td>WEATHERING TEST (DURABILITY)</td>
<td>- 1000 HOURS ULTRAVIOLET RAY EXPOSURE</td>
</tr>
<tr>
<td>THERMAL TEST (ADHESIVE QUALITY)</td>
<td>- BOIL TEST, or - BAKE TEST</td>
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<tr>
<td>SOLAR PERFORMANCE</td>
<td>- UV TRANSMITTANCE - VL TRASMITTANCE - SOLAR FACTOR</td>
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GUIDE ON ISSUANCE OF CERTIFICATE OF APPROVALS AND LABELLING OF DOMESTIC GAS COOKING APPLIANCES
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

BY SIRIM LINK

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

MANUFACTURERS (Manufacturers)

Certification Scheme

- Certificate of Approval from ST
- SIRIM-ST Label
- Surveillance Program

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.
1. Battery
2. Photovoltaic Module Testing
3. Ventilation Duct Testing & Load Bearing Fire Resistant Test
4. Tint film for Road Vehicle
5. Gas Appliances - Domestic Gas Cooker

6. **Playground Surfacing Test**

7. IGU Test
8. Fire Performance of External Cladding System
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STANDARDS:


MS 2665-1:2017, Playground Surfacing – Part 1:- Standard Guide

Types of Playground Surface and Standards

- Engineered Wood Fiber – ASTM F 2075
- Loose-Fill Rubber – ASTM F 3012
- Poured-In-Place Surface Systems – ASTM F 2479
PLAYGROUND SURFACING TEST

Drop height, fall height for swing on pivot point

Impact Test system together with recording devise

Drop Height, fall height on top climbers
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INSULATED GLASS UNIT

STANDARD: MS 2666: 2016
Glass in buildings - Insulating glass unit (IGU) - Performance and evaluation
## Accelerated Weathering Test Equipment

### SIMULATE WEATHERING CONDITIONS:
- UV
- COLD
- HIGH TEMPERATURE
- HUMIDITY

<table>
<thead>
<tr>
<th>Condition</th>
<th>Max Parameter</th>
<th>Standard’s Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>UV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cold</td>
<td>- 40 ºC</td>
<td>-20 ºC</td>
</tr>
<tr>
<td>High Temp</td>
<td>100 ºC</td>
<td>60 ºC</td>
</tr>
<tr>
<td>Humidity</td>
<td>95%</td>
<td>90%</td>
</tr>
</tbody>
</table>
INSULATED GLASS UNIT

Solar Factor Test Equipment

Thermal Conductivity Test Equipment

Emissivity Test Equipment
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FIRE PERFORMANCE OF EXTERNAL CLADDING SYSTEM


BS8414-1:2015 + A1:2017


FIRE PERFORMANCE OF EXTERNAL CLADDING SYSTEM

Performance Criteria:

- External Fire Spread
- Internal Fire Spread
- Visible Flaming
- Mechanical Performance
- Burning Debris and Pool Fires
- System Burn Through

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MATERIAL INVESTIGATION AND ANALYSIS

Failure Investigation

- Failure investigation on Metallic Materials i.e. Iron base e.g. Cast Iron, Carbon Steel, low alloy steel, stainless steel, Copper Base, Aluminium

On-Site Jobs

- Plant Condition Assessment, Fire and Creep Damage Assessment of High Temperature, Plant Component Hardness Test, Hardness Test, On-site Analysis

Laboratory Test

- Material Analysis, Metallurgy, Coating and Corrosion Test
MATERIAL INVESTIGATION AND ANALYSIS

TESTING FACILITIES

Optical Microscope

Hardness Tester

Scanning Electron Microscope

Precision Cutter

Portable Arc Spark Analyser
THANK YOU

FOR INFORMATION
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