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 appliaces testing
- Luminaires testing
- COA (iron&steel)
- Import permits for telecomunication equipment
- Issuance of SIRIM labels (electricasl products)



Pahang Office
- Engineering inspection



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

Johor Branch
- Material testing (steel&rope)
- Consigment testing (eletrical products)
- COA (iron&steel)
- Import permits for telecomunication equipment
- Issuance of SIRIM labels (electricasl 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





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

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. 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 COSTRUCTION

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



✓ Packaging test - Jerrican, Palette, Plastic Containers, Boxes



✓ Automotive Test - NGV, Side Mirror, Light, Brake Pad



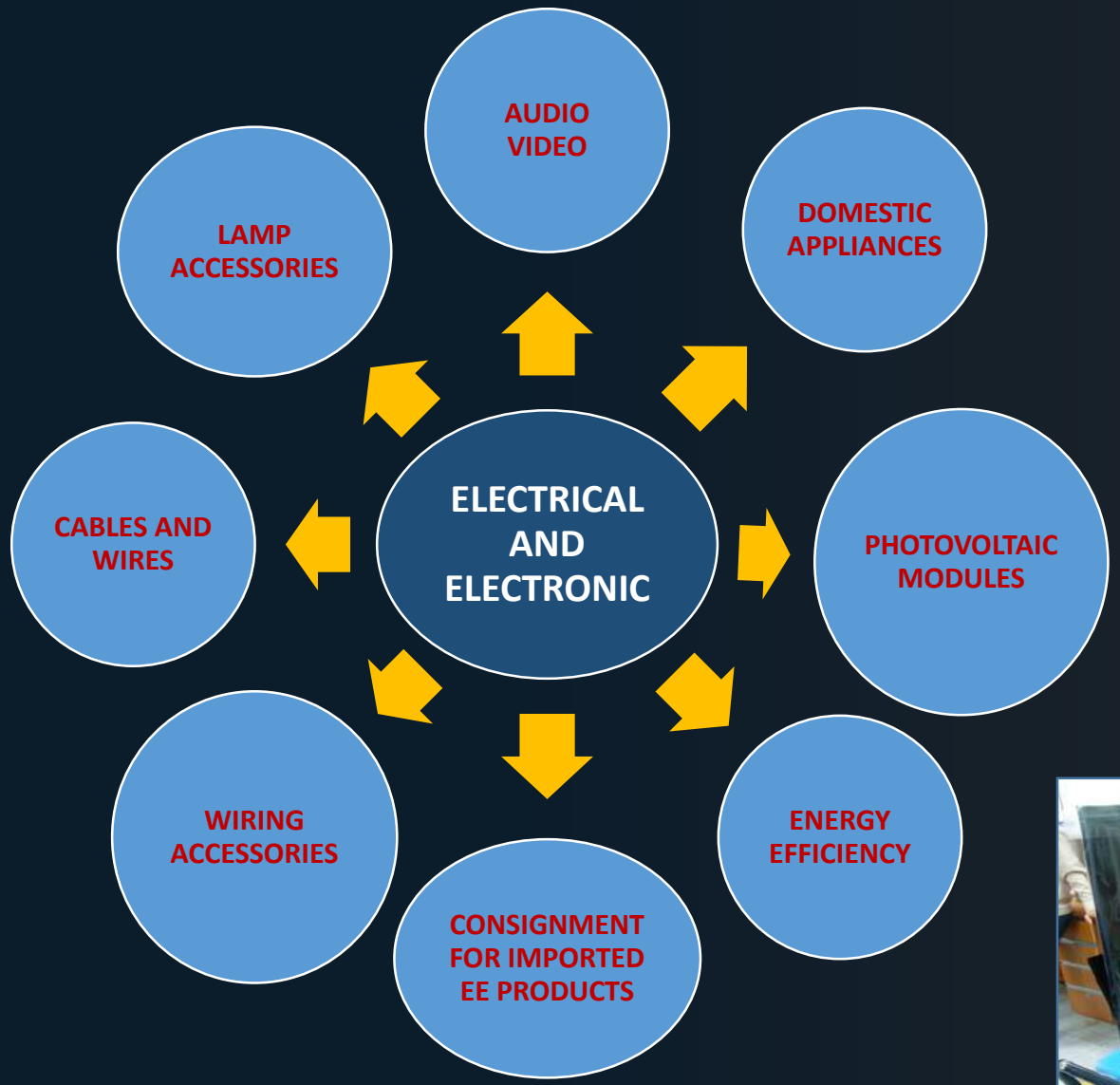
✓ Kerosene Stove, LPG Regulator, Cooker



✓ Reliability test – Electronics Components, Automotive Components



ELECTRICAL AND ELECTRONIC











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

SIRIM QAS INTERNATIONAL

Type of Products Tested

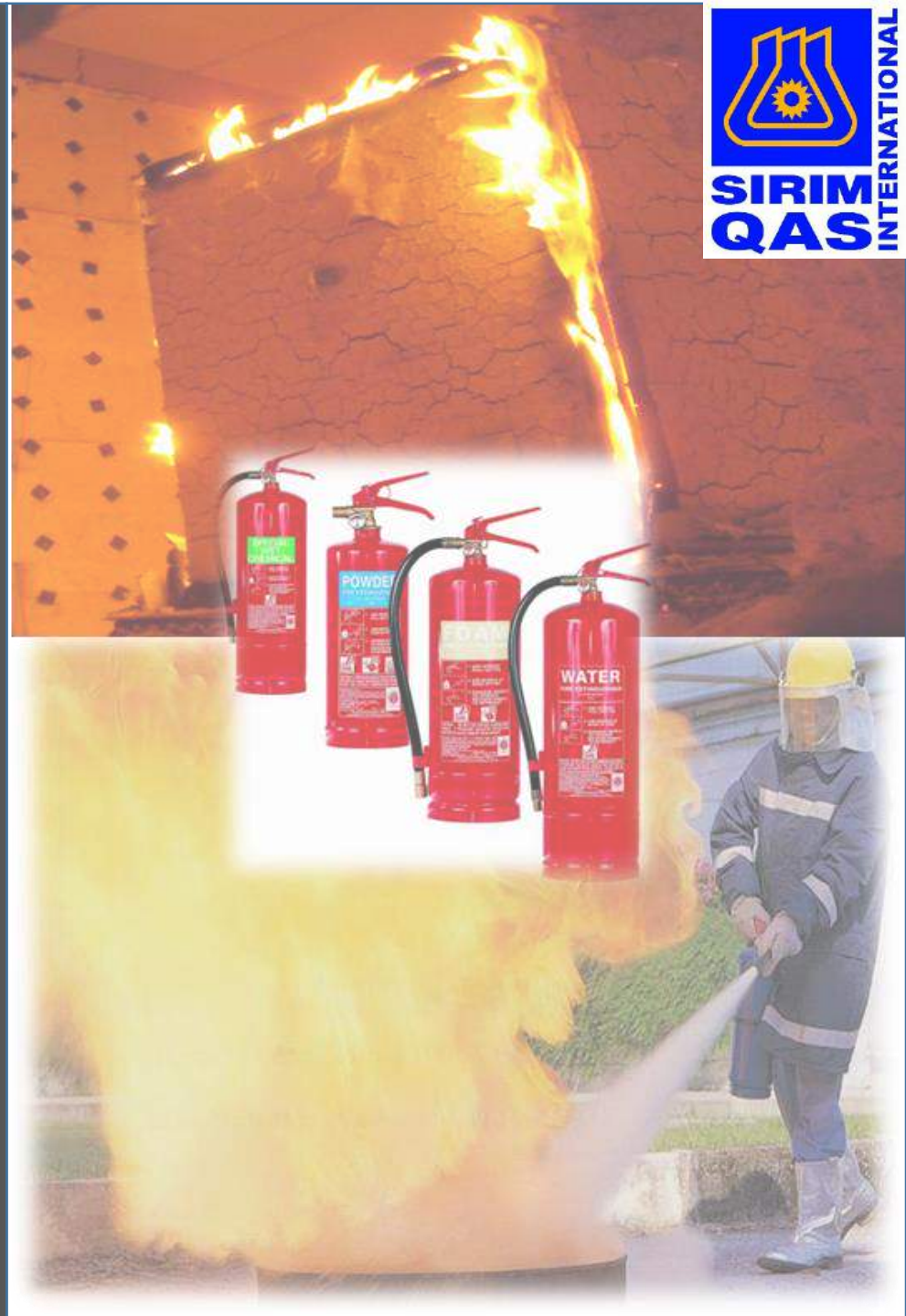
- ❑ Industrial Chemicals, Cement
- ❑ Detergents, Herbal product, Cosmetics
- ❑ Food products -Spices, Sugar
- ❑ Varnish, Road marking paints, Paints
- ❑ Fabrics, Carpets
- ❑ Lubricant - Fuel Oil, Gear Lubricant



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 AND ELECTROMAGNETIC COMPATIBILITY

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



SIRIM QAS INTERNATIONAL

NEW TESTING FACILITIES AND SERVICES

1. Battery
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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

BATTERY TESTING

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 UTUSAN ONLINE



UTUSAN MALAYSIA
11 OGOS 2014

Bateri komputer riba meletup

BOLEHKAH bateri sebuah komputer riba meletup? Kenapa perkara ini berlaku dan bagaimana untuk mengelaknya?

– ABDULLAH, Serdang Lama.

JAWAPANNYA adalah ya. Ia berkemungkinan boleh berlaku kerana sesebuah bateri komputer riba itu mempunyai sel-sel

SEMBANG ICT

Nyaris buta vape meletup depan muka

November 11, 2015 Berita Utama, Utama 0

BAHANA VAPE

LEBIH 3JUTA

SEORANG PENIAGA, SALLEH AWANG HAT MENERIMA ENAM JAHITAN SELEPAS BAHAGIAN mukanya melecur apabila 'mod vape' yang digunakannya meletup



BERITA MUKA 13

BATTERY TESTING

Secondary Battery



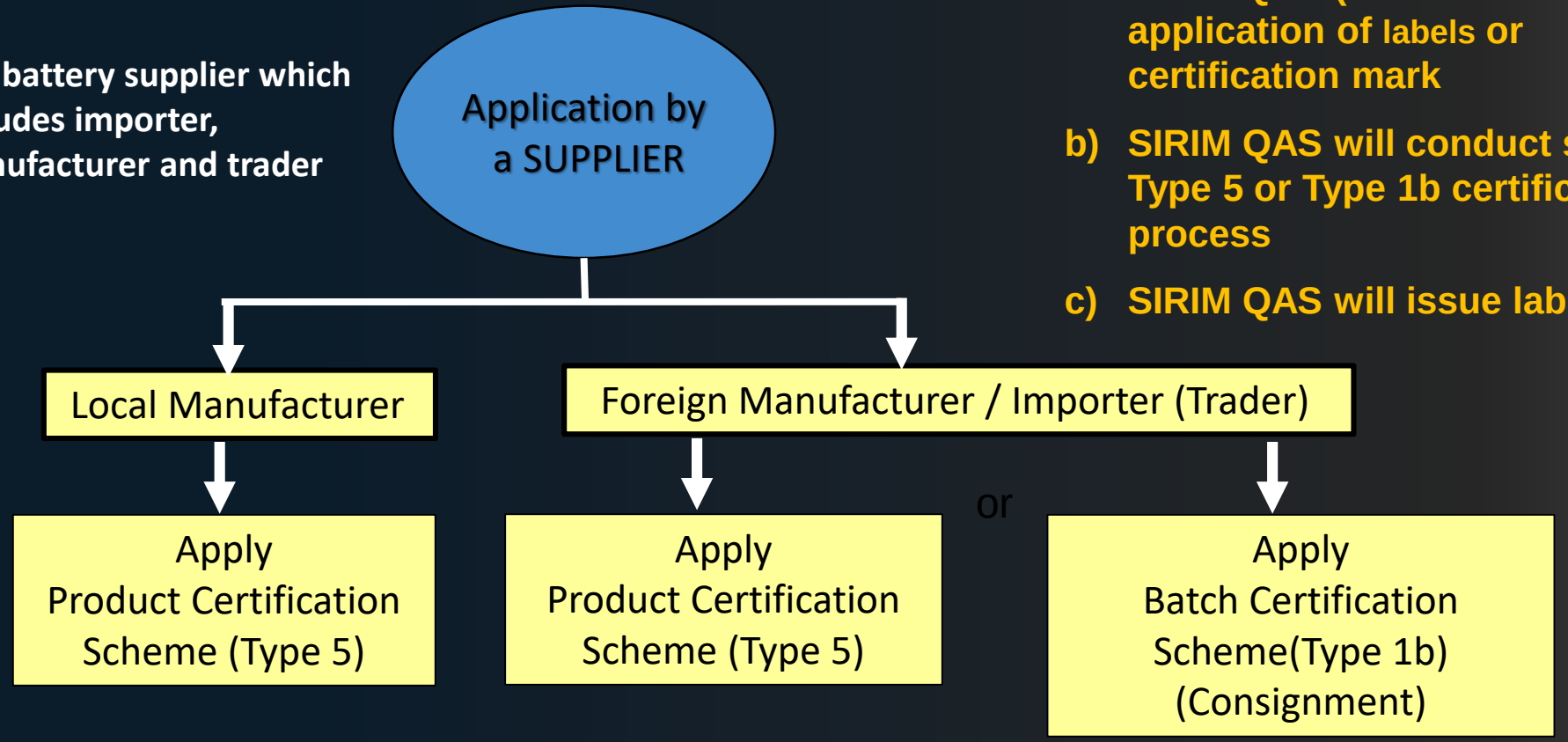
- Standard : IEC 62133: Secondary cells and batteries containing alkaline or other non-acid electrolytes
- Type of battery: Lithium-ion, Nickel cadmium
- Application: Batteries for laptop, hand-phone, vape, etc…
- Regulation: To be regulated by KPDNHEP



BATTERY TESTING Secondary Battery

APPLIATION FOR CERTIFICATION

**a battery supplier which includes importer, manufacturer and trader



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

NEW TESTING FACILITIES AND SERVICES

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PHOTOVOLTAIC MODULE TESTING

- 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

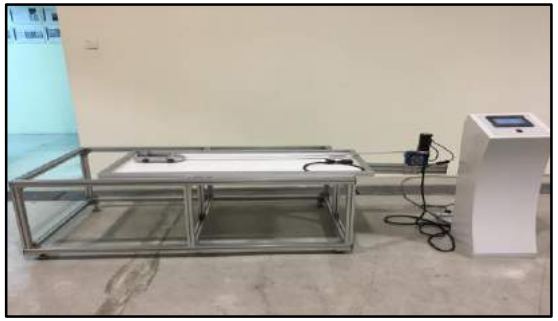
2018



UV Chamber



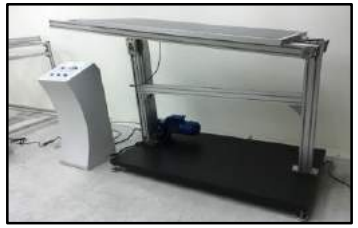
Temperature Humidity Cyclic Chamber



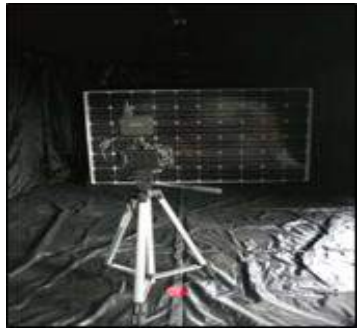
Cut Susceptibility Tester







Robustness of Termination Testers



EL Camera System

PHOTOVOLTAIC MODULE TESTING

2019



Bypass Diode
Thermal Test



Mechanical Load

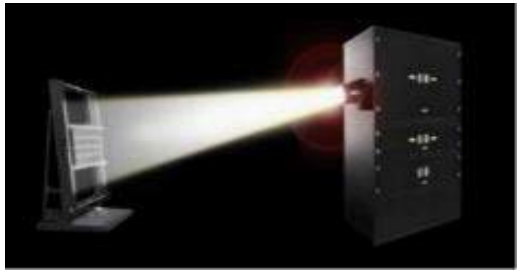
Full Facility
Complete



Outdoor Exposure Test System



Hail Tester



Pulse simulator

NEW TESTING FACILITIES AND SERVICES

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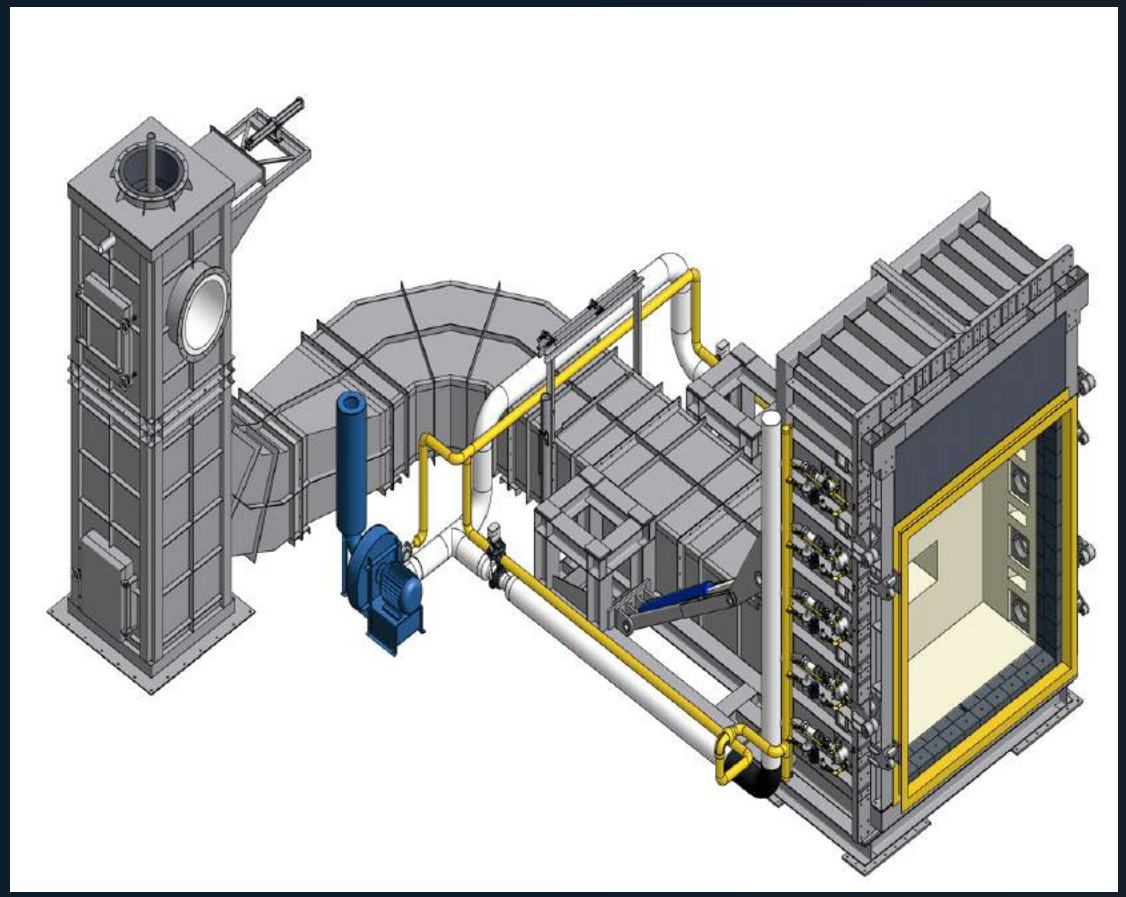
VENTILATION DUCTS TEST AND LOAD BERING FIRE RESISTANCE TEST

SIRIM QAS INTERNATIONAL

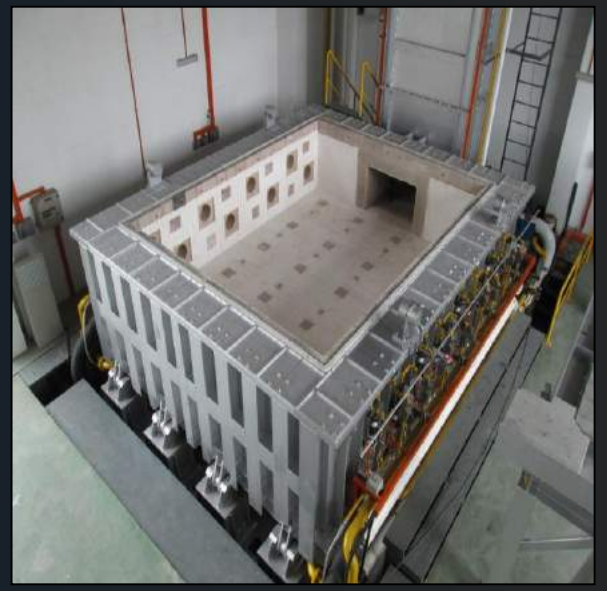
Fire Resistance Test On Ventilation Duct



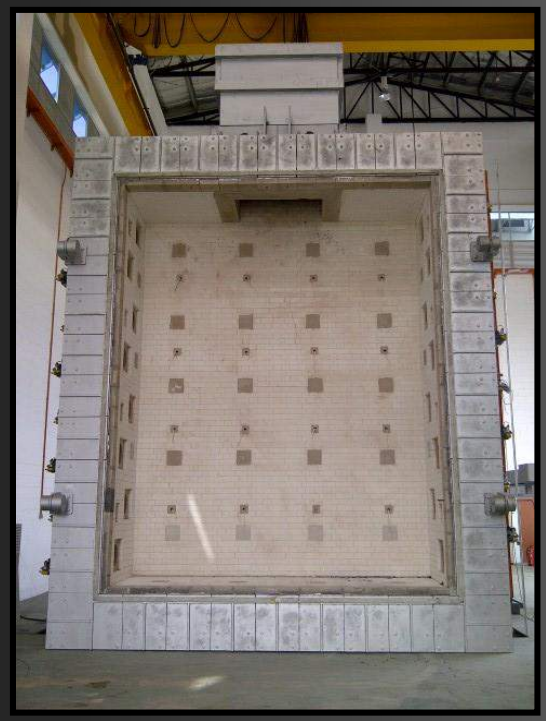
HYDRAULIC TILTING TYPE FIRE RESISTANCE TEST FURNACE



Horizontal Fire Resistance Test Furnace



Vertical Fire Resistance Test Furnace



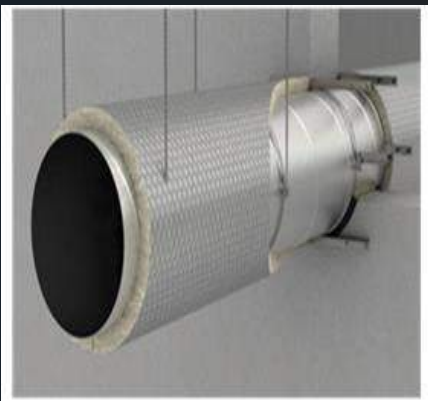
VENTILATION DUCTS TEST AND LOAD BERING FIRE RESISTANCE TEST

- 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.



4 side rectanggular

- Types of Duct



Circular

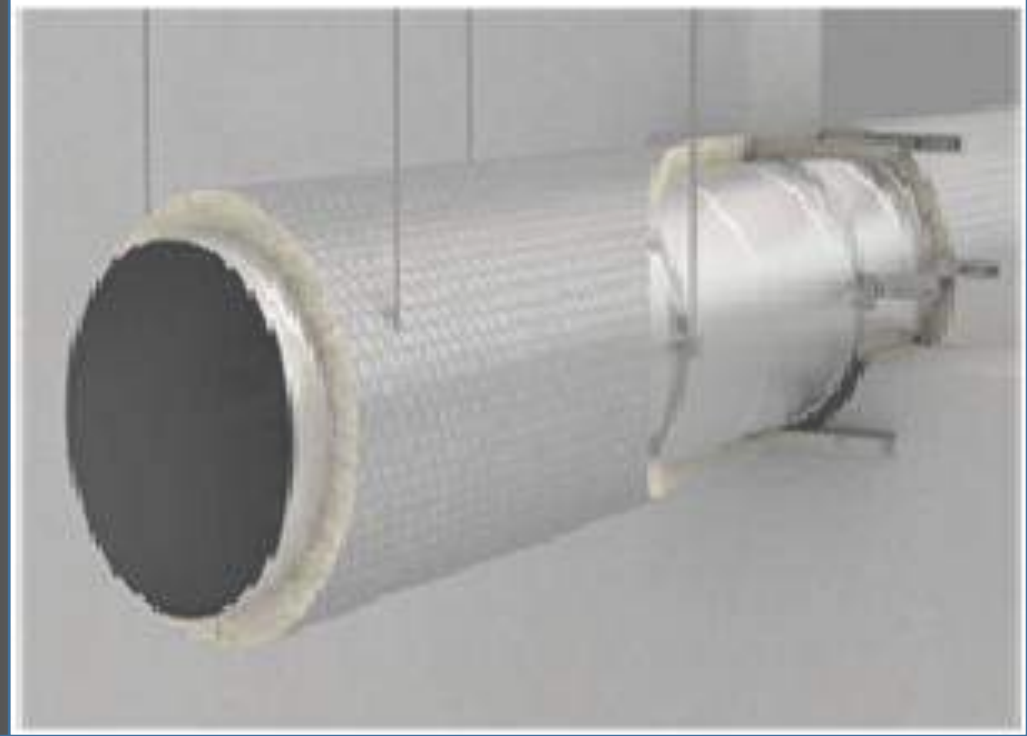
Testing Standards:

- **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 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

✔ TEST SET-UP (FRONT VIEW)



✔ **TEST SET-UP (SIDE VIEW)**



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Harian Metro

20/6/2019



SAIFUDDIN (kiri) menunjukkan aplikasi kod SIRIM QAS pada Majlis Pelancaran Garis Panduan Pematuhan Standard Filem Penghadang Haba Kenderaan 2019, semalam.

Putrajaya

Kuat kuasa garis panduan 1 Julai 2020

Garis Panduan Pematuhan Standard Filem Penghadang Haba Kenderaan dikuat-kuasakan kepada semua penggiat industri itu bermula 1 Julai tahun depan.

Menteri Perdagangan Dalam Negeri dan Hal Ehwal Pengguna, Datuk Seri Saifuddin Nasution Ismail berkata, bermula hari ini pihak industri diminta mematuhi garis panduan itu secara sukarela sebelum dikuat kuasa.

"Sepanjang tempoh setahun bermula esok (hari ini), garis panduan dilancarkan sebagai panduan dan langkah didikan kepada pihak industri sebelum peraturan mandatori berkenaan filem penghadang haba kenderaan dikeluarkan.

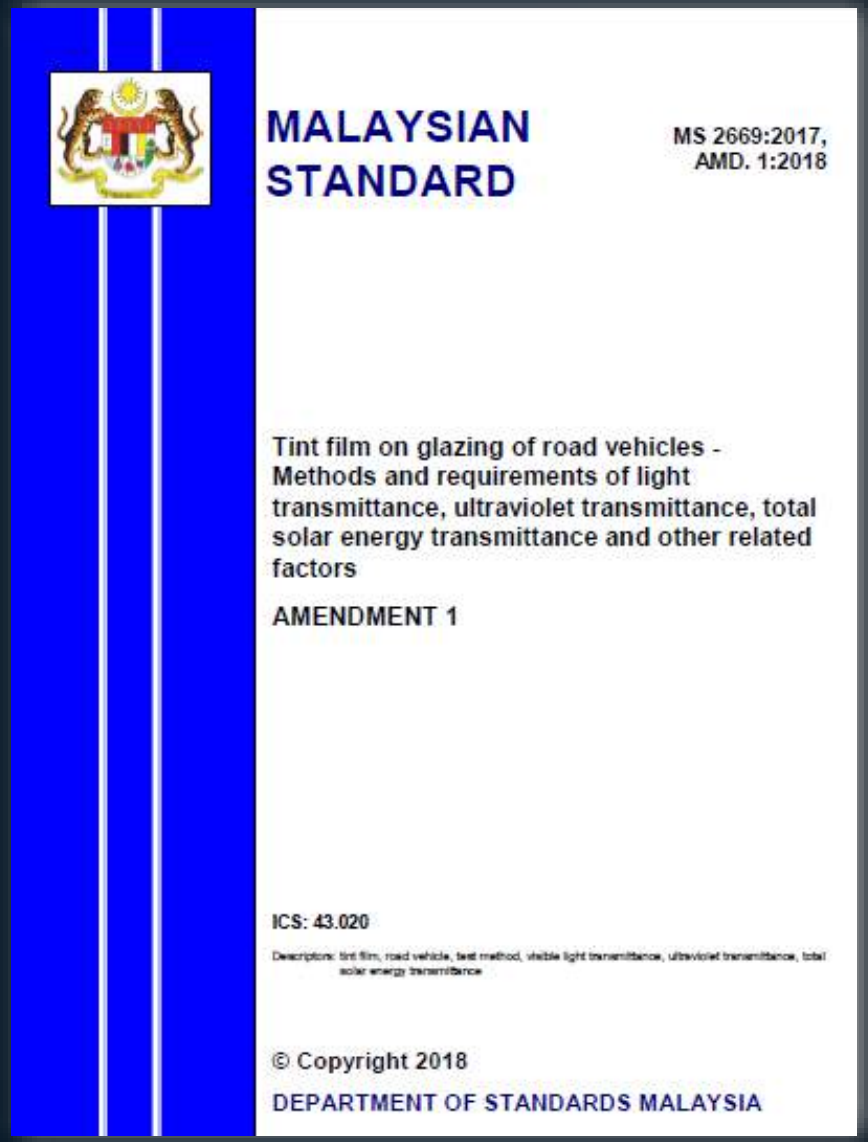
"Keputusan penyediaan garis panduan dibuat selepas mengambil kira impak positif apabila pengguna membuat pilihan membeli filem penghadang haba kenderaan berkualiti dan ada pelabelan logo SIRIM Berhad (SIRIM)," katanya selepas majlis pelancaran Garis Panduan Pematuhan Standard Filem Penghadang Haba Kenderaan di sini, semalam.

TINT FILM FOR ROAD VEHICLES

SIRIM QAS INTERNATIONAL

Implementation of "GARIS PANDUAN PEMATUHAN STANDARD FILEM PENGHADANG HABA KENDERAAN" by KPDNHEP on 1st July 2020

TINT FILM FOR ROAD VEHICLES



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.

TINT FILM FOR ROAD VEHICLES





Test Requirements
WEATHERING TEST (DURABILITY) - 1000 HOURS ULTRAVIOLET RAY EXPOSURE
THERMAL TEST (ADHESIVE QUALITY) - BOIL TEST, or - BAKE TEST
SOLAR PERFORMANCE - UV TRANSMITTANCE - VL TRASMITTANCE - SOLAR FACTOR

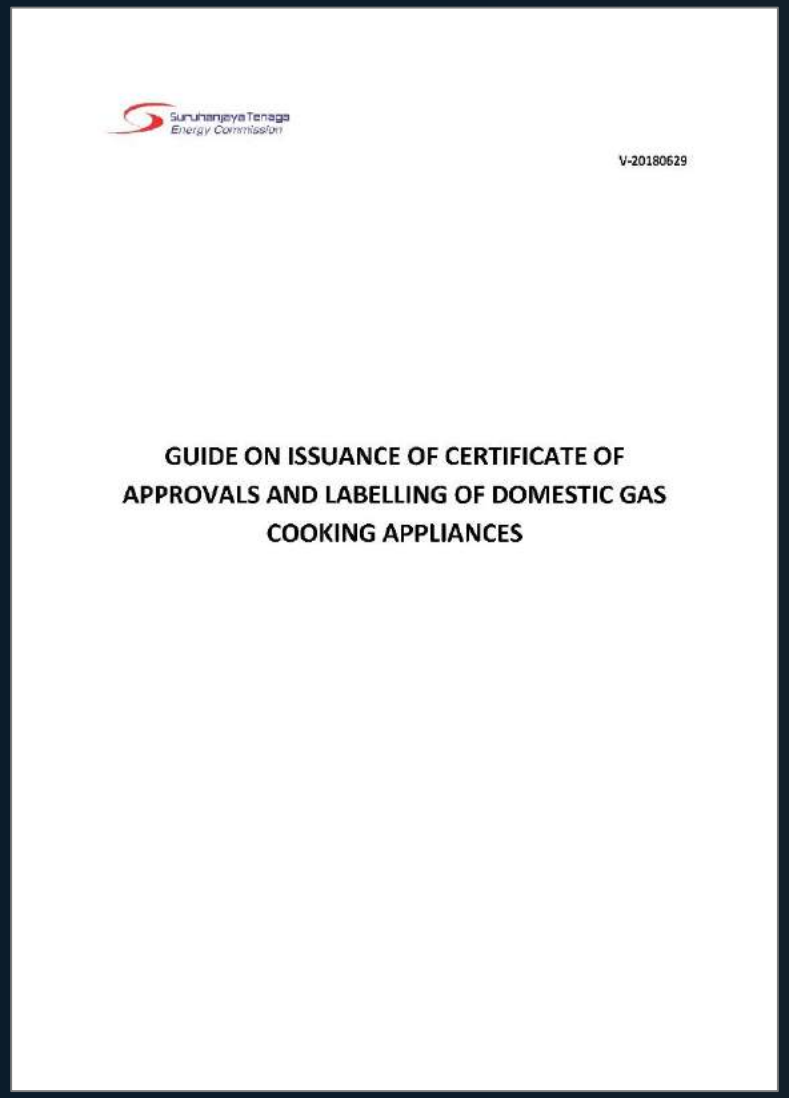




NEW TESTING FACILITIES AND SERVICES

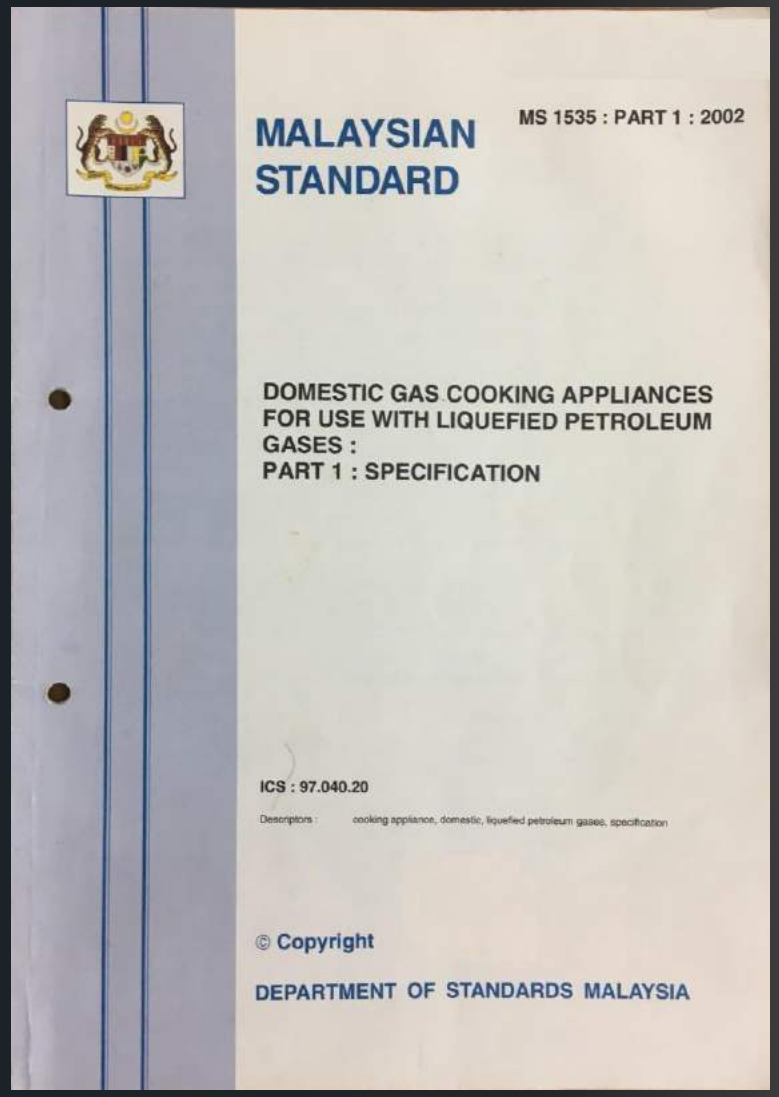
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GAS APPLIANCES – DOMESTIC GAS COOKER


Suruhanjaya Tenaga
Energy Commission

V-20180629

GUIDE ON ISSUANCE OF CERTIFICATE OF APPROVALS AND LABELLING OF DOMESTIC GAS COOKING APPLIANCES


MALAYSIAN STANDARD

MS 1535 : PART 1 : 2002

DOMESTIC GAS COOKING APPLIANCES FOR USE WITH LIQUEFIED PETROLEUM GASES :
PART 1 : SPECIFICATION

ICS : 97.040.20

Descriptors : cooking appliance, domestic, liquefied petroleum gases, specification

© Copyright

DEPARTMENT OF STANDARDS MALAYSIA

GAS APPLIANCES – DOMESTIC GAS COOKER

MANUFACTURERS (Local)

MANUFACTURERS (Foreign/Importer)

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

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



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



GAS APPLIANCES – DOMESTIC GAS COOKER

Optical Ultra Dynascope, Weathering Chamber, Pressure Tester, Flow Meter. Endurance / Duty Cycle Tester, Vibration Machine, Gas Wet Meter.

Testing Equipment

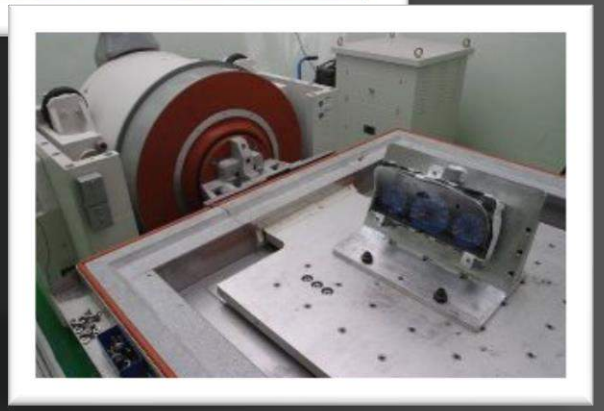
Salt Spray/Corrosion Tester, Soap-Film Leak Tester, CO Analyzer, Sound Level Meter, Rubber Hardness Tester (Shore A and IRHD), Wooden Temperature Panel.











NEW TESTING FACILITIES AND SERVICES

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PLAYGROUND SURFACING TEST

STANDARDS:

MS 966: 2017, Playground Equipment – Safety performance for Public use – Specification (Second Revision

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

MS 2665-2: 2017, Playground Surfacing-Part 2: Impact Attenuation Of Surfacing Materials Within The Use Zone Of Playground Equipment – Specification



PLAYGROUND SURFACING TEST

Types of Playground Surface 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

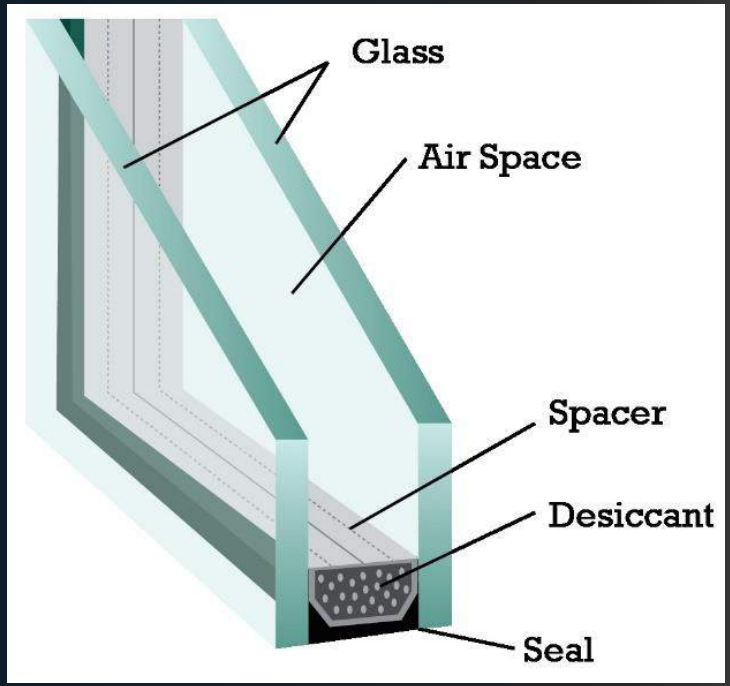
NEW TESTING FACILITIES AND SERVICES

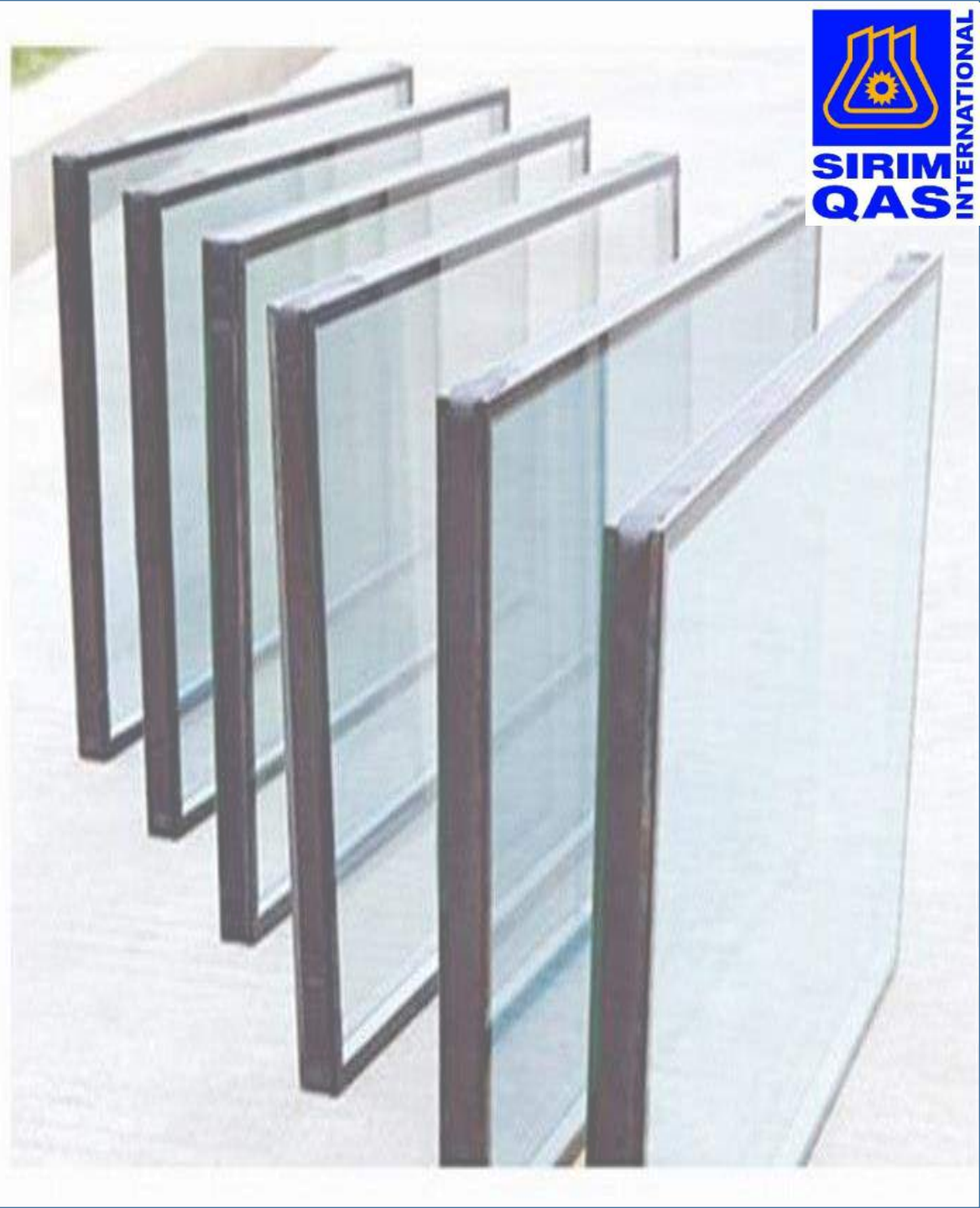
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INSULATED GLASS UNIT

STANDARD : MS 2666 : 2016

Glass in buildings - Insulating glass unit (IGU) - Performance and evaluation





INSULATED GLASS UNIT

Accelerated Weathering Test Equipment

SIMULATE WEATHERING CONDITIONS:

- ❑ UV
- ❑ COLD
- ❑ HIGH TEMPERATURE
- ❑ HUMIDITY

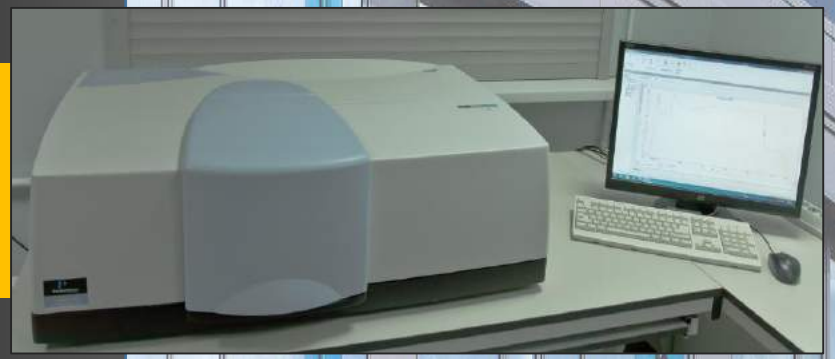
Condition	Max Parameter	Standard's Requirement
UV		
Cold	- 40 ºC	-20 ºC
High Temp	100 ºC	60 ºC
Humidity	95%	90%



SIRIM QAS INTERNATIONAL

INSULATED GLASS UNIT

Solar Factor Test Equipment



Thermal Conductivity Test Equipment



Emissivity Test Equipment



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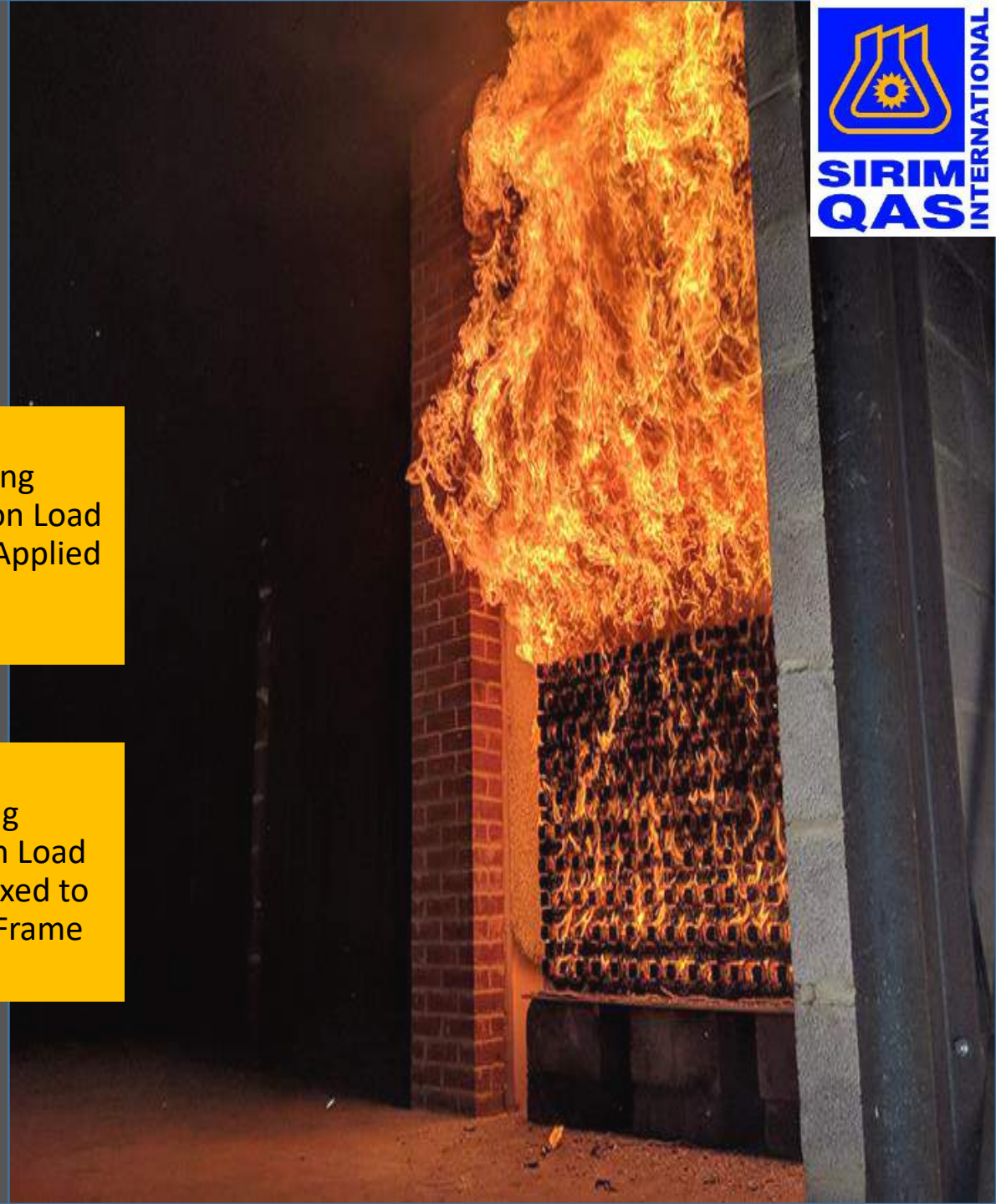
FIRE PERFORMANCE OF EXTERNAL CLADDING SYSTEM

BS8414-1:2015 + A1:2017

Fire Performance of External Cladding Systems. Part 1: Test Method for Non Load Bearing External Cladding Systems Applied to the Masonry Face of a Building.

BS8414-2:2015 + A1:2017

Fire Performance of External Cladding Systems. Part 1: Test Method for Non Load Bearing External Cladding Systems Fixed to and Supported by a Structural Steel Frame



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



Scanning Electron Microscope



Hardness Tester



Precision Cutter



Portable Arc Spark Analyser

THANK YOU

FOR INFORMATION
CONTACT US



603 5544 6400



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