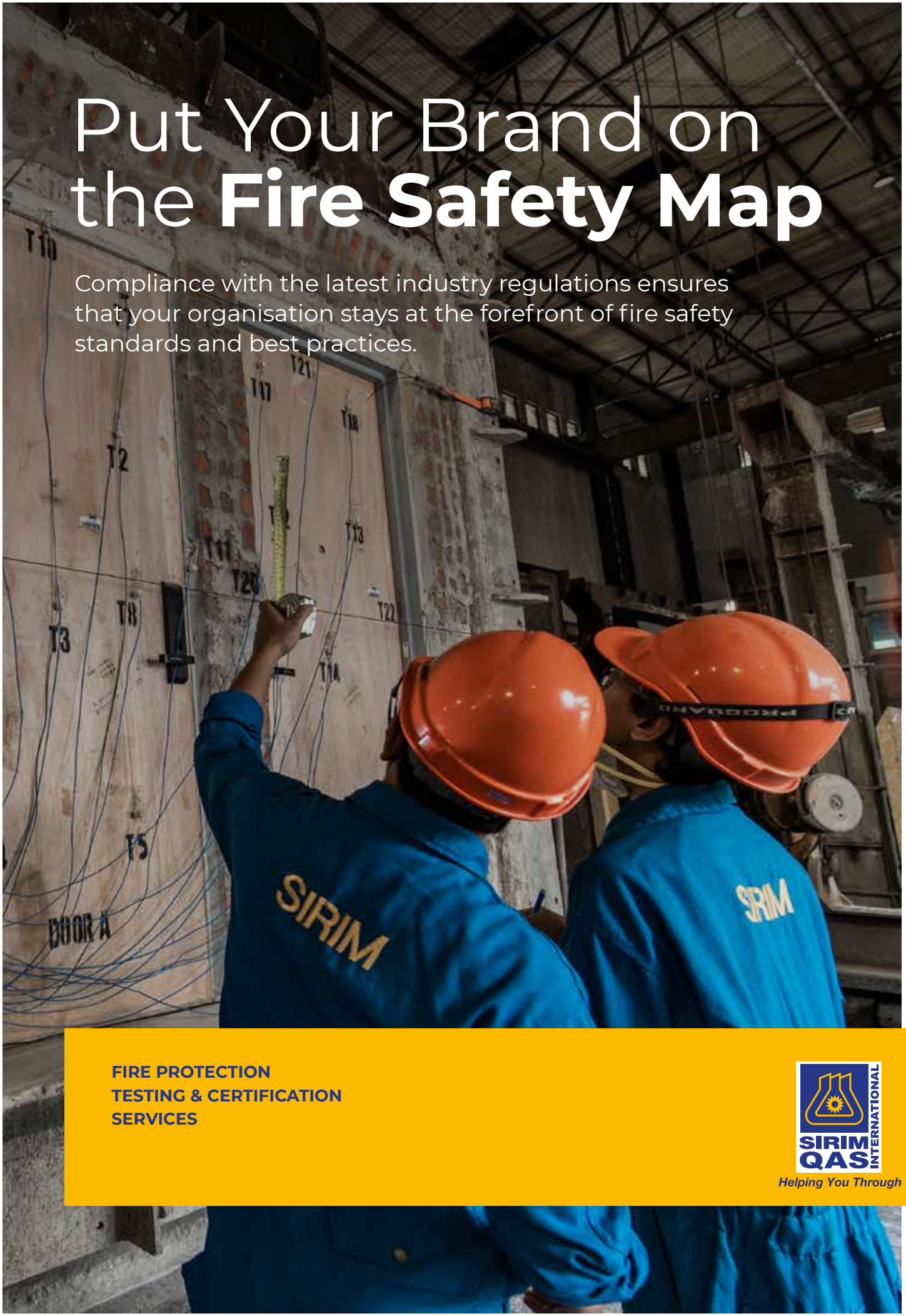


Put Your Brand on the **Fire Safety Map**

Compliance with the latest industry regulations ensures that your organisation stays at the forefront of fire safety standards and best practices.

FIRE PROTECTION
TESTING & CERTIFICATION
SERVICES

SIRIM QAS INTERNATIONAL
Helping You Through

The Primary Fire Testing Hub in Southeast Asia

With over 20 years of experience and a stellar service record in providing a comprehensive range of fire testing and certification services, SIRIM QAS International is well-positioned as the **primary fire testing hub in Southeast Asia**. International clients include organisations and businesses from Thailand, Indonesia, the Philippines, India, and the UAE.

Our collaborations with regional and international industry regulators and partners further allow us to better serve customers with our global network of resources. They include Building Research Establishment (BRE) UK, Intertek UK, International Accreditation New Zealand (IANZ), Singapore Test Service Pte Ltd, SETSCO Services Pte Ltd Singapore, The Fire and Rescue Department of Malaysia (BOMBA), Forest Research Institute Malaysia (FRIM), and University of Technology Malaysia (UTM).

Our laboratories are accredited to ISO/IEC 17025 by the Department of Standards Malaysia (STANDARDS MALAYSIA) under the National Laboratory Accreditation Scheme (SAMM) while our test reports are recognised by the Singapore Civil Defense Force and the Fire and Rescue Department of Malaysia (BOMBA).

In addition to extensive testing facilities in a modern laboratory with the latest equipment and technical know-how, our professionally-trained and highly experienced personnel are committed to providing the highest standards of service. Our fire testing and certification services are developed with clients' specific needs in mind to better meet their requirements.

Our Collaborators

bre

intertek
Total Quality. Assured.

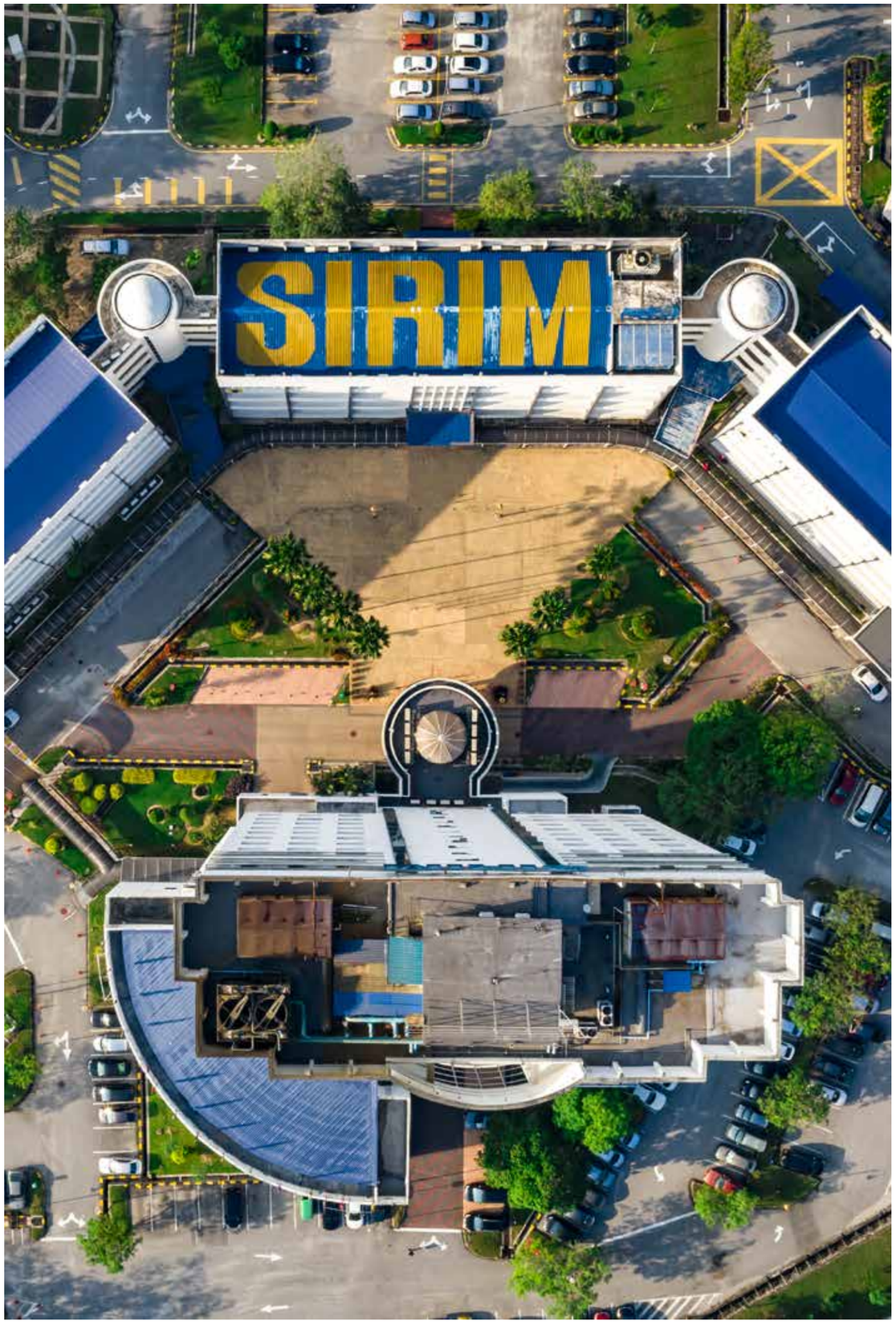
IANZ

Singapore Test Services
A member of ST Engineering

SETSCO

FRIM

UTM



Catering to the Growing Industry in Southeast Asia

SIRIM QAS International is **strategically positioned to cater to the growing industry in Southeast Asia** with an established presence and impeccable reputation in the region.

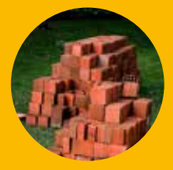
In parallel with the region's vibrant growth in infrastructure and economy, we are seeing a heightened awareness of the importance of fire safety, which highlights the growing need for greater regional fire testing facilities.

Recognising the vital importance of fire safety best practices, SIRIM QAS International aspires to establish its fire testing and certification capabilities and services as the benchmark for ASEAN countries, paving the way towards breakthrough innovations in product design with enhanced fire resistance and fire protection features.

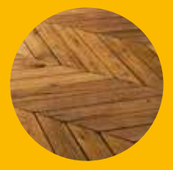
Does Your Organisation Need This?

Our Fire Protection Testing & Certification Services are designed for manufacturers, engineers, agents, suppliers, property developers, building owners, regulators, and professional bodies dealing with fire safety.

If your organisation deals with any of the following materials and products, we are happy to assist you with your testing and certification needs.



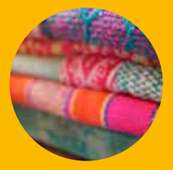
Construction Materials



Flooring

Electrical Cables

Plastic and Rubber Materials



Textile Materials

Ship Materials

How This Benefits Your Organisation

Damage from fire incidents can range from minor to catastrophic, with extreme cases resulting in lives lost, costing hundreds of millions of ringgit a year besides opening the door to potential lawsuits.

With our Fire Protection Testing & Certification Services, your organisation will benefit from the following:

Independent assurance that your products and materials are tested in ISO/IEC 17025 accredited laboratories and certified by regional and international regulatory bodies

Enhanced user confidence and trust in the quality, safety and reliability of your products

Instant brand credibility due to our renowned reputation for quality assurance

Reduced business risks by meeting regional and international regulatory requirements and industry standards

Shorter time-to-market and ease of access to international markets due to our global accreditations and established presence in the ASEAN region

Our Services

Our wide range of fire testing and certification services includes large-scale laboratory tests to evaluate a material's **fire resistance** – its ability to resist the passage of fire, its **reaction to fire** testing, which looks at the material's combustibility and ignitability, the **performance of fire protection systems and external cladding systems** in preventing and containing the spread of fire, and **certification of relevant products** that meet the stipulated standards.

Testing Services

Fire Resistance

FIRE RESISTANCE TESTS FOR NON-LOADBEARING AND LOADBEARING HORIZONTAL ELEMENTS OF CONSTRUCTION

- Flooring Systems
- Roofing Systems
- Suspended Ceiling Systems
- Beams
- Roller Shutter Assemblies (Horizontal)
- Ducting Systems

FIRE RESISTANCE TESTS FOR NON-LOADBEARING AND LOADBEARING VERTICAL ELEMENTS OF CONSTRUCTION

- Timber Doorsets
- Composite Doorsets
- Steel Doorsets
- Glazed Doorsets
- Fire Dampers
- Roller Shutter Assemblies (Vertical and Sliding)
- Drywall Partitions/ Panel Systems
- Precast Wall Panels
- Penetration Seals
- Brick/ Block Walls
- Glazing

CYCLIC MOVEMENT ENDURANCE TEST (SIDE-HUNG DOORSETS)

- Doorset Fire Resistance Testing

DUCT TESTING

This test measures the fire resistance of vertical and horizontal ventilation ducts used in Heating Ventilation and Air Conditioning (HVAC) Systems including access panels, specifically examining the behaviour of ducts when exposed to fire from outside and inside the ducts.

This test is not applicable to:

- Ducts located in cavities enclosed by fire-resistant shafts or ceilings,
- Ducts containing fire dampers at points where they pass through fire separations,
- One, two, or three-sided ducts,
- Fixing of suspension devices (e.g. anchors) to floors or walls.

INDICATIVE FIRE RESISTANCE TESTS ON PRODUCTS/SYSTEMS

- Ironmongeries
- Horizontal Building Elements
- Vertical Building Elements
- Penetration Seals

Reaction to Fire

REACTION TO FIRE TESTS

Reaction to fire testing examines the combustibility and ignitability of a material, i.e. its contribution to fire development and spread.

- Non-combustibility Test
- Surface Spread of Flame Test
- Fire Propagation Test
- Effective Heat Combustion
- Carbon Monoxide/Carbon Dioxide Yield
- Total Oxygen Consumption
- Total Smoke Release
- Heat Flux
- Exhaust Duct Flow Rate
- Ignition Time/Extinguishment Time
- Mass Loss Rate

Performance Testing

ACTIVE FIRE PROTECTION SYSTEMS PERFORMANCE TESTS

- Portable Fire Extinguishers (Water, Foam, Dry Powder, and CO2)
- Fire Hose Reels
- Landing Valves
- CO2 Valves
- Fire Suppression Test for Clean Agent
- Fire Detection and Fire Alarm System: Control and Indicating Equipment
- Fire Detection and Fire Alarm System: Fire Alarm Devices – Sounders
- Fire Detection and Fire Alarm System: Manual Call Points

FIRE PERFORMANCE OF EXTERNAL CLADDING SYSTEMS

Cladding systems for façades are a potential fire hazard, as they have been found to aid the spread of fire through multi-storey buildings. Our Fire Performance of External Cladding Systems test has been developed in accordance with the BS 8414 test methods by the BRE.

This comprehensive testing service assesses the behaviour of an overall external cladding system in a realistic setting, rather than just its individual components. A two-part standard, BS 8414 consists of:

i) BS 8414-1: A method for assessing the fire performance of non-loadbearing external cladding systems applied to the stonework façade of a building when exposed to an external fire under controlled conditions. The test evaluates whether a cladding system subject to fire breaking out of an open window or external wall, will result in excessive fire spread up the façade or into the building at a higher level.

ii) BS 8414-2: Similar to BS 8414-1, but in relation to fire performance of curtain-wall systems or systems incorporating glass panels, etc fixed to and supported by a structural steel frame.

This test meets BOMBA's regulatory criteria for the following:

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

FIRE TEST REPORT ASSESSMENTS

Our team of experts will provide customised fire test report assessments for specified materials, products, and building structures with in-depth insights into its behaviour and performance against industry standards.

Certification Services

Upon completion of the relevant fire tests and factory audit, products that meet the stipulated standards will receive the appropriate SIRIM QAS Certification Mark. These products include the following:

- Fire Resistant Doorsets
- Roller Shutters
- Masonry Bricks/Blocks
- Fire Extinguishers
- Select Building Materials

Market Access Services

We are constantly working to simplify the testing and certification process to provide a seamless and user-friendly experience to customers. To that end, we provide the following value-added services to ease clients' market access:

1. Interpretation of standards and regulatory requirements
2. Step-by-step guidance on certification requirements and processes
3. Explanation of test methods and procedures
4. Compliance evaluation
5. Interpretation of test reports
6. Liaison assistance with testing authorities and approval agencies
7. Assistance in the preparation and submission of testing approval applications
8. Assistance in the preparation and submission of application for Product Certification Scheme

Testing Facilities

Our testing facilities for Fire Protection Testing Services include the following:

- Horizontal Fire Resistance Test Furnace
- Vertical Fire Resistance Test Furnace
- Indicative Fire Resistance Test Furnace
- Non-combustibility Test Apparatus
- Fire Propagation Test Apparatus
- Surface Spread of Flame Test Apparatus
- Cyclic Movement Endurance Test Apparatus
- Facilities for Performance Testing of Portable Fire Extinguishers
- Hydrostatic Test Apparatus
- Hydrostatic Test Facility at Pusat Penyelidikan Kebombaan (PUSPEK)
- Room Corner Test (PUSPEK)
- Dual Cone Calorimeter (PUSPEK)
- Fire Suppression Room (PUSPEK)
- Flammability Test (PCST / CEST)
- Ignitability Test (CEST)

Industry Standards

Fire Resistance Tests

1. **AS 1530: Part 4** – Fire Resistance Tests of Elements of Construction
2. **ASTM E119** – Fire Tests of Building Construction and Materials
3. **BS 476: Part 20** – Methods for Determination of the Fire Resistance of Elements of Construction (General Principles)
4. **BS 476: Part 21** – Methods for Determination of the Fire Resistance of Loadbearing Elements of Construction
5. **BS 476: Part 22** – Methods for Determination of the Fire Resistance of Non-loadbearing Elements of Construction
6. **BS 476: Part 23** – Methods for Determination of the Contribution of Components to the Fire Resistance of Structure
7. **BS 476: Part 24** – Methods for Determination of the Fire Resistance of Ventilation Ducts
8. **BS EN 1363-1** – Fire Resistance Tests – Part 1: General Requirements
9. **BS EN 1363-2** – Alternative and Additional Procedures (Hydrocarbon Test)
10. **BS EN 1364-1** – Fire Resistance Test for Non-loadbearing Elements – Part 1: Walls
11. **BS EN 1365-1** – Fire Resistance Tests for Loadbearing Elements – Part 1: Walls
12. **BS EN 1366-1** – Service Ducts and Shafts
13. **BS EN 1634-1** – Fire Resistance Tests for Door and Shutter Assemblies – Part 1: Fire Doors and Shutters
14. **IMO A 18/Res. 754** – Fire Resistance Tests for 'A', 'B' and 'F' Class Divisions
15. **ISO 834-1** – Fire Resistance Tests – Elements of Building Construction – Part 1: General Requirements
16. **ISO 834-4** – Specific Requirements for Loadbearing Vertical Separating Elements
17. **ISO 834-5** – Specific Requirements for Loadbearing Horizontal Separating Elements
18. **ISO 834-6** – Specific Requirements for Beams
19. **ISO 834-8** – Specific Requirements for Non-Loadbearing Vertical Separating Elements
20. **ISO 834-9** – Specific Requirements for Non-Loadbearing Ceiling Elements
21. **MS 1073: Part 2** – Methods for Determination of Fire Resistance (General Principles)
22. **MS 1073: Part 3 (Amd. 1)** – Methods for Determination of Fire Resistance (Type of Doorsets)
23. **SS 489** – Specification for Fire Shutters
24. **Testing at the Factory:** Partial test of 600/1000V Fire Resistant Cables according to following standards:
    i. **IEC 60331-21** (Circuit Integrity)
    ii. **IEC 60332-3-22, BS EN 60332-3-22** (Category A)
    iii. **BS 6387** Category CWZ
25. **UL 10B** – Fire Tests of Door Assemblies
26. **UL 10C** – Positive Pressure Fire Tests of Door Assemblies

Cyclic Movement Endurance Test

1. **MS 1073: Part 3 (Amd. 1)** – Cyclic Movement Endurance Test (Appendix B) (Side-Hung Doorsets Only)

Reaction to Fire Tests

1. **ASTM D635** – Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position
2. **ASTM E1354-17** – Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Product Using an Oxygen Consumption Calorimeter
3. **ASTM E1537-16** – Standard Test Method for Fire Testing of Upholstered Furniture
4. **ASTM E659-15** – Standard Test Method for Autoignition Temperature of Chemicals
5. **BS 476: Part 4 (84)** – Non-combustibility Test
6. **BS 476: Part 6 + A1** – Fire Propagation Test
7. **BS 476: Part 7** – Surface Spread of Flame Test
8. **BS 5438** – Methods of test for flammability of textile fabrics when subjected to a small igniting flame applied to the face or bottom edge of vertically oriented specimens
9. **BS 5852-1** – Fire tests for furniture. Methods of test for the ignitability by smokers' materials of upholstered composites for seating
10. **ISO 5660-1** – Reaction to Fire Tests – Heat Release, Smoke Production and Mass Loss Rate - Part 1: Heat Release Rate (Cone Calorimeter Method) and Smoke Production Rate (Dynamic Measurement)
11. **ISO 9705-1** – Reaction to Fire Tests – Room Corner Test for Wall and Ceiling Products – Part 1: Test Method for a Small Room Configuration
12. **UL 94** – Standard for Tests for Flammability of Plastic Materials for Parts in Devices and Appliances

Active Fire Protection Systems Performance Tests

1. **BS 341** – CO2 Valves
2. **BS 5041** – Landing Valves
3. **BS EN 671** – Fire Hose Reels
4. **BS EN 694** – Fire Reel Hoses
5. **MS 1539** – Specification for Portable Fire Extinguisher – Part 1: Construction and Testing Methodology
6. **MS 1745: Part 2, EN 54-2 & BS EN 54-2** – Full type test except clauses 15.11 to 15.12 for Fire Detection and Fire Alarm Systems: Control and Indicating Equipment
7. **MS 1745: Part 3, EN 54-3 & BS EN 54-3** – Full type test except clauses 5.11 and 5.16 for Fire Detection and Fire Alarm Systems: Fire Alarm Devices – Sounders
8. **MS 1745: Part 11 & EN 54-11** – Full type test except clauses 5.13, 5.15 and 5.18 for Fire Detection and Fire Alarm Systems: Manual Call Points

The Certification Process

Scan for a Preview of Our Services

Fire Performance of External Cladding Systems

Fire Resistance Test

SIRIM QAS International:
Your Trusted Testing & Certification Partner

We are accredited by the Department of Standards Malaysia (STANDARDS MALAYSIA) as an International Testing House for our Fire Protection Section under the National Laboratory Accreditation Scheme (SAMM) in accordance with ISO/IEC 17025. Our test reports carry both the SAMM and ILAC MRA (International Laboratory Accreditation Cooperation Mutual Recognition Arrangement) logos, and are recognised by the Singapore Civil Defense Force and the Fire and Rescue Department of Malaysia (BOMBA).

A regional leader in fire protection testing for over 20 years, SIRIM QAS International is renowned for its fully integrated state-of-the-art testing facilities, immaculate track record, stellar service standards, as well as professional expertise. Having established close rapport with local and international organisations in the industry over the years, we are uniquely positioned as the primary fire testing hub in Southeast Asia, giving our customers an international passport to global recognition and worldwide market access.

For more information, contact us at:

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