

# ENSURING QUALITY & COMPLIANCE : SIRIM PRODUCT CERTIFICATION SCHEME, APPRAISAL SCHEME & COMPLIANCE APPROVAL

Presented by:

**FAUZIAH FADZIL**

Product Certification and Inspection Department  
SIRIM QAS International Sdn Bhd

# **AGENDA**

- **ABOUT SIRIM & SIRIM QAS**
- **SIRIM PRODUCT CERTIFICATION SCHEME**
- **SIRIM COMPLIANCE APPROVAL**
- **SIRIM PRODUCT APPRAISAL SCHEME**
- **LATEST UPDATES**

ENSURING QUALITY & COMPLIANCE  
SIRIM PRODUCT CERTIFICATION SCHEME, APPRAISAL SCHEME & COMPLIANCE APPROVAL



# ABOUT SIRIM & SIRIM QAS



# THE MANDATES FROM GOVERNMENT

CORPORATISATION OF SIRIM IN 1996

## POWERS

- Undertake **certification** of commodities, processes, practices and services and **issue licences** or certificates, as the case may be, to evidence conformity of the commodity, process, practice and service to any specification or requirement approved by the COMPANY as it deems fit or necessary
- **Provide for a quality assurance scheme** for commodities, processes, practices and services
- Make provision for the **registration of standard marks** owned by the COMPANY and regulate their use

## DUTIES – act as a development arm for the GOVERNMENT

- **Running testing and quality assurance schemes relating to the GOVERNMENT procurement and enforcement of regulations and directives**

Note : The above mandate on the powers and duties of SIRIM Berhad is related to conformity assessment activities.

# SIRIM ROLES

Wholly-owned  
by MOF Inc.

Under purview  
of MITI



## COMMERCIAL



**SIRIM QAS** • Conformity Assessment

**SIRIM Academy** • Industry Standards, Training & Consulting

**SIRIM Calibration** • Calibration on Electrical, Mass & Volumetric, Radio Frequency, Temperature, Force & Pressure and Dimensional

**SIRIM STV** • Technology Transfer & Commercialisation

**SIRIM NPT** • Special Vehicle for Bumiputera TDM industry

**SIRIM PSDC** • Packaging and Security Design

## DEVELOPMENTAL



**SIRIM INDUSTRIAL RESEARCH**

**SIRIM IR**

- Industrial Research
- SME & Industry Development
- Product Development & Enhancement
- Process Improvement
- National Technical Service Infrastructure
- Technology-based Enterprises Development



**MAJLIS REKABENTUK MALAYSIA**

**MRM**

- Design Advisory & Policy
- Good Design Mark
- New Product Design Development & Commercialisation

## STATUTORY



**NATIONAL METROLOGY INSTITUTE OF MALAYSIA**

**NMIM**

- International and National Measurement & Traceability Infrastructure
- Certified Reference Materials
- Legal Metrology (Weight & Measures Act)
- Industrial Metrology
- R&D in Measurement Technology & Measurement Standard
- Pattern Approval

# OVERVIEW OF SIRIM QAS INTERNATIONAL



Established in <b>1996</b>	Conformity assessment since <b>1970</b>	Total Manpower <b>888</b>
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## PENANG BRANCH

- Electrical Appliances Testing
- Luminaires Testing
- COA (Iron & Steel)
- Import permits for telecommunication equipment
- Issuance of SIRIM Label (Electrical products)



Block 8, SIRIM HQ



Energy Efficiency Laboratory

### Sec. 16, Shah Alam

- Lamp & Photometry
- Refrigerator
- Air-Conditioner
- Domestic Electric Fan

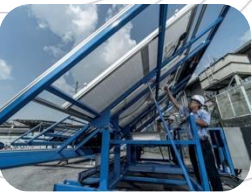


Photo Voltaic Module Testing Laboratory

### Sec. 16, Shah Alam

- Crystalline silicon & thin-film terrestrial PV module designs



Wiring Accessories Laboratory

### Sec. 15, Shah Alam



## SARAWAK BRANCH

- Consignment Testing (Electrical products)
- COA (Iron & Steel)
- Import permits for telecommunication equipment
- Issuance of SIRIM Label (Electrical products)

## SIRIM RASA

### Hulu Selangor

- Fire Protection Laboratory with Rectangular Type Fire Resistance Furnace



## JOHOR BRANCH

- Material Testing (Steel & Rope)
- Consignment Testing (Electrical products)
- COA (Iron & Steel)
- Import permits for telecommunication equipment
- Issuance of SIRIM Label (Electrical products)

## SABAH BRANCH

- Consignment Testing (Electrical products)
- COA (Iron & Steel)
- Import permits for telecommunication equipment
- Issuance of SIRIM Label (Electrical products)



## SIRIM QAS INTERNATIONAL

### SIRIM HUASHENG BRANCH OFFICE



REPUBLIC OF CHINA

HUNAN PROVINCE

Hunan SIRIM Huasheng Certification and Inspection Co. Ltd., SQAS new subsidiary in China

- Branch Office with testing facilities
- Off-campus testing facilities

# SIRIM'S ACCREDITATION, APPOINTMENT & RECOGNITION

## TESTING



### Testing Laboratory - MS ISO/IEC 17025:2017

Product compliance testing to standards, regulatory requirements and specifications



MINISTRY OF INVESTMENT, TRADE AND INDUSTRY (MITI)



MINISTRY OF DOMESTIC TRADE AND COSTS OF LIVING (KPDN)



DEPARTMENT OF OCCUPATIONAL SAFETY AND HEALTH MALAYSIA (DOSH)

## INSPECTION



### Inspection Body - MS ISO/IEC 17020:2012

Engineering Inspection, Inspection on behalf of other Foreign Inspection Bodies & Other 3rd Party Inspections



ROYAL MALAYSIAN CUSTOMS DEPARTMENT (JKDM)



ROAD TRANSPORT DEPARTMENT MALAYSIA (JPJ)



MALAYSIAN COMMUNICATIONS AND MULTIMEDIA COMMISSION (MCMC)

## CERTIFICATION



### Certification Body - MS ISO/IEC 17065:2012 & MS ISO/IEC 17024:2012

Management System Certification, Product Certification, Personnel Certification, IECEx Certification



FIRE AND RESCUE DEPARTMENT MALAYSIA (BOMBA)



ENERGY COMMISSION OF MALAYSIA (ST)



MEDICAL DEVICE AUTHORITY, MINISTRY OF HEALTH (MDA)



CONSTRUCTION INDUSTRY DEVELOPMENT BOARD (CIDB)



NATIONAL WATER SERVICE COMMISSION (SPAN)



MALAYSIAN TIMBER CERTIFICATION COUNCIL (MTCC)

ENSURING QUALITY & COMPLIANCE  
SIRIM PRODUCT CERTIFICATION SCHEME, APPRAISAL SCHEME & COMPLIANCE APPROVAL



# SIRIM PRODUCT CERTIFICATION SCHEME





# INTRODUCTION OF PRODUCT CERTIFICATION

A procedure by which **a third party(SIRIM QAS) gives written assurance** that a product has passed performance tests and quality assurance tests, and **meets qualification criteria** stipulated in standards, regulations, or specifications.

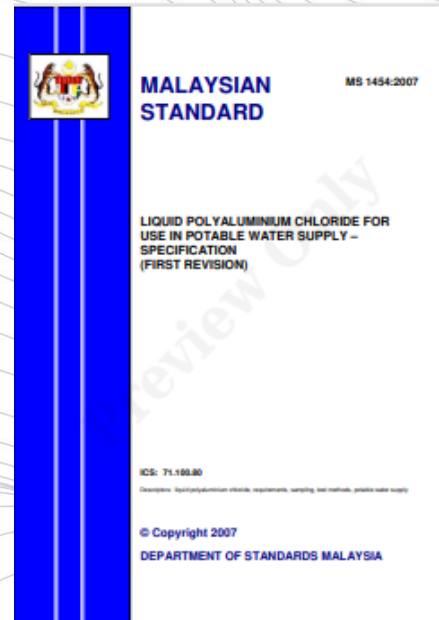
SIRIM QAS is accredited according to **ISO/IEC 17065 for Product Certification Scheme since 2004**



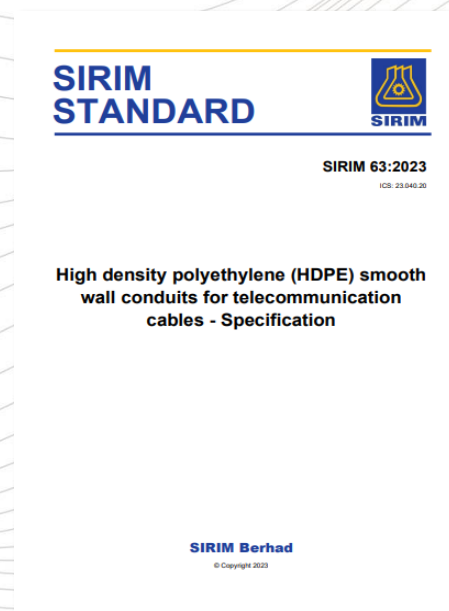
# PRODUCT STANDARD / TECHNICAL SPECIFICATIONS



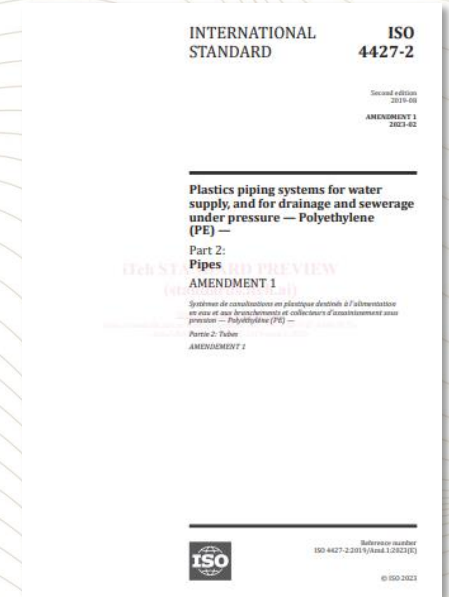
Suruhanjaya Perkhidmatan  
Air Negara (SPAN)  
<https://www.span.gov.my>



Jabatan Standard Malaysia  
<http://www.jsm.gov.my>

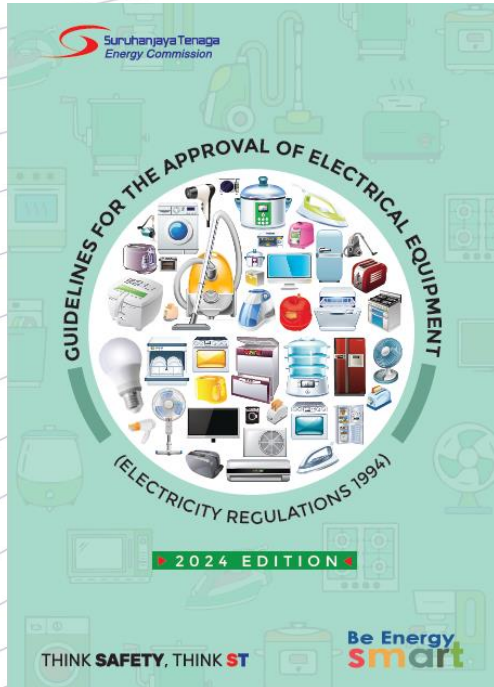


SIRIM Standards Store  
<https://standards.sirimacademy.my/>

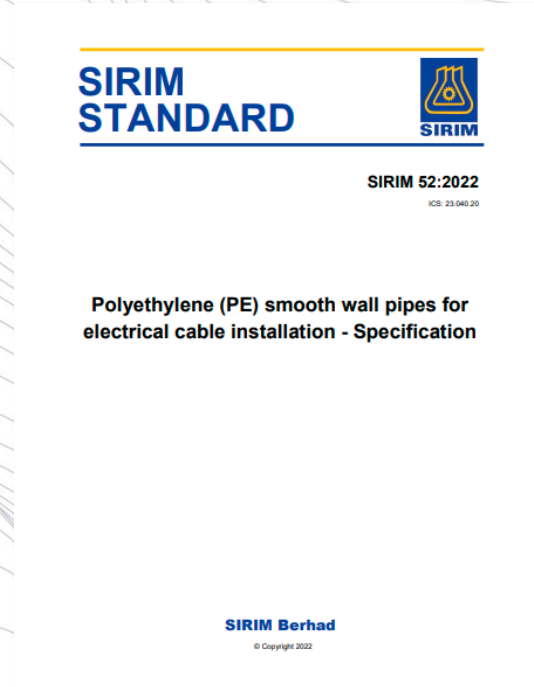


Standards or any publicly  
available document  
established by consensus  
and approved by a  
recognized body.

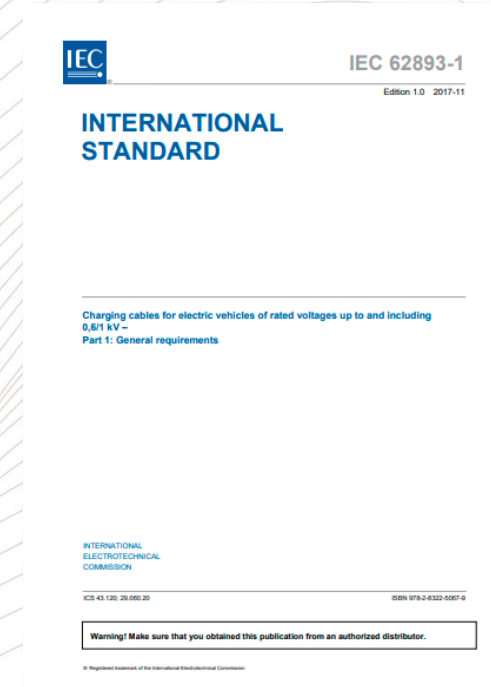
# PRODUCT STANDARD / TECHNICAL SPECIFICATIONS



Suruhanjaya Tenaga  
(Energy Commission)  
<https://www.st.gov.my/>



SIRIM Standards Store  
<https://standards.sirimacademy.my/>



Standards or any publicly  
available document  
established by consensus  
and approved by a  
recognized body.

ELECTRICAL PRODUCTS

# WHY CERTIFY?



Assure customers of products' **quality, safety & reliability.**



Provide **independent assurance** for products manufactured to **conform consistently** with standards or specifications.



Grant manufacturers the right to affix **SIRIM's "Top Mark"** on their products and to use the **SIRIM label for unique traceability.**



Provide **basis and means** for the regulatory agencies in **making decisions** on approval and market surveillance of products under its purview.

# MARKING & LABELLING

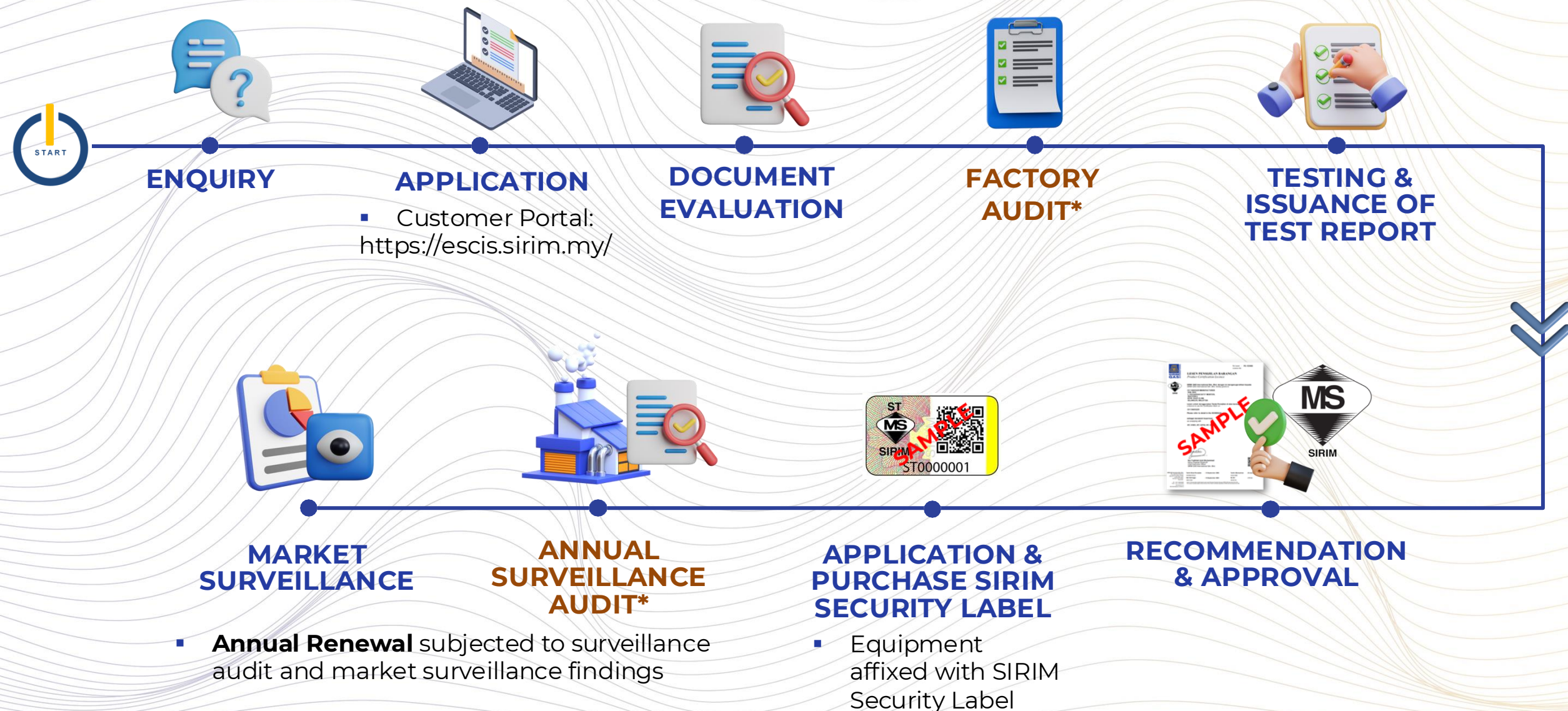


**MARKING SIRIM TOP MARK on certified product**



**LABELLING with SIRIM label featuring a unique serial number and an embedded QR code.**

# OVERALL CERTIFICATION PROCESS



**\*Note : Applicable for Certification Type 5 only**

# EXAMPLES OF PRODUCTS CERTIFIED



MS 2045:2007

**Water pipes**  
Chlorinated Poly(Vinyl Chloride)(PVC-C) Pipes



MS ISO 4064-1: 2006

**Water meter**



ISO 9906:2012

**Water pump**



SPAN TS 3007: 2022  
BS EN 12255-15:2003

**Water treatment system**



MS 1225-1:2014

**Storage cistern**  
Storage Polyethylene (PE) Tanks



WATER PRODUCTS

SEWERAGE PRODUCTS



**Pipe & fittings**

BS EN 14636-1: 2009



**Individual septic tank**

MS 2441-1:2012



**Electric actuator**

BS EN 15714-2:2009  
SPAN TS 1701:2015



**Sewage treatment system**

SPAN TS 1401:2010(A1:2013) Part 1  
SPAN TS 3008: 2022



**Sewer liner**  
Cured-in-place pipes (CIPP)

BS EN ISO 11296:2018  
BS EN ISO 11296-4:2018+A1:2021

# EXAMPLES OF PRODUCTS CERTIFIED



MS IEC 60598-1: 2021  
MS IEC 60598-2-4: 2003

## Portable luminaire lamp



MS IEC 60669-1: 2017

## Switch & dimmer



MS IEC 60335-1: 2015  
MS 1597:Part 2-7: 2017

## Washing machine



## Circuit breaker

MS IEC 61009-1: 2012  
MS IEC 61009-2-1: 2003



## Power track system

MS 1144:2017  
IEC 61534-1:2011+A1:2014  
IEC 61534-21:2014



**ELECTRICAL PRODUCTS**




# MALAYSIAN CERTIFIED



DATABASE FOR ALL CERTIFIED PRODUCTS UNDER THE PRODUCT CERTIFICATION SCHEME BY SIRIM QAS

**LEVERAGE ON OUR MARKS OF EXCELLENCE**



*Enabling Businesses. Enhancing Lives*  
CERTIFICATION. INSPECTION. TESTING

ABOUT PRODUCT BRAND & MODEL TERMINATION LISTING TREASURY LISTING

PRODUCT CERTIFICATION

Company Name	Country	License No.	Product Name	Standard
A CERAMICS HOLDINGS SDN. BHD.	MALAYSIA	PC011326	CERAMIC TILES	MS ISO 13006 : 2020
ACEON MANUFACTURING (M) SDN. BHD.	MALAYSIA	PC002406	GLASS-FIBRE REINFORCED POLYESTER (GRP) SECTIONAL WATER TANKS	MS 1390 : 2010
ACONLAND HOLDINGS SDN. BHD.	MALAYSIA	PC000558	SEAMLESS PLAIN COPPER TUBE	JIS H 3300 : 2009
ALAM TIMUR INDUSTRIES SDN. BHD.	MALAYSIA	PA001801	PRESSED STEEL SECTIONAL RECTANGULAR TANK PANEL	BS 1564 : 1975
ALPHA PIPE INDUSTRIES SDN BHD	MALAYSIA	PC001140	POLYETHYLENE (PE) PIPES FOR WATER SUPPLY	MS 1058 : PART 2 : 2005
ALPHA TANKS SOLUTIONS SDN. BHD.	MALAYSIA	PC002932	GLASS-FIBRE REINFORCED POLYESTER (GRP) SECTIONAL WATER TANKS	MS 1390 : 2010
ALPHA TANKS SOLUTIONS SDN. BHD.	MALAYSIA	PC002803	GLASS-FIBRE REINFORCED POLYESTER (GRP) SECTIONAL WATER TANKS	SS 245 : 2014
ALPHA TANKS SOLUTIONS SDN. BHD.	MALAYSIA	PC002843	FIBREGLASS REINFORCED POLYESTER (FRP) SECTIONAL WATER TANKS	BS EN 13280 : 2001
ALPINE PIPE MANUFACTURING SDN. BHD.	MALAYSIA	PC000342	NON-ALLOY STEEL TUBES SUITABLE FOR WELDING AND THREADING	BS EN 10255 : 2004



Malaysian Certified directory:  
[www.malaysiancertified.com.my](http://www.malaysiancertified.com.my)

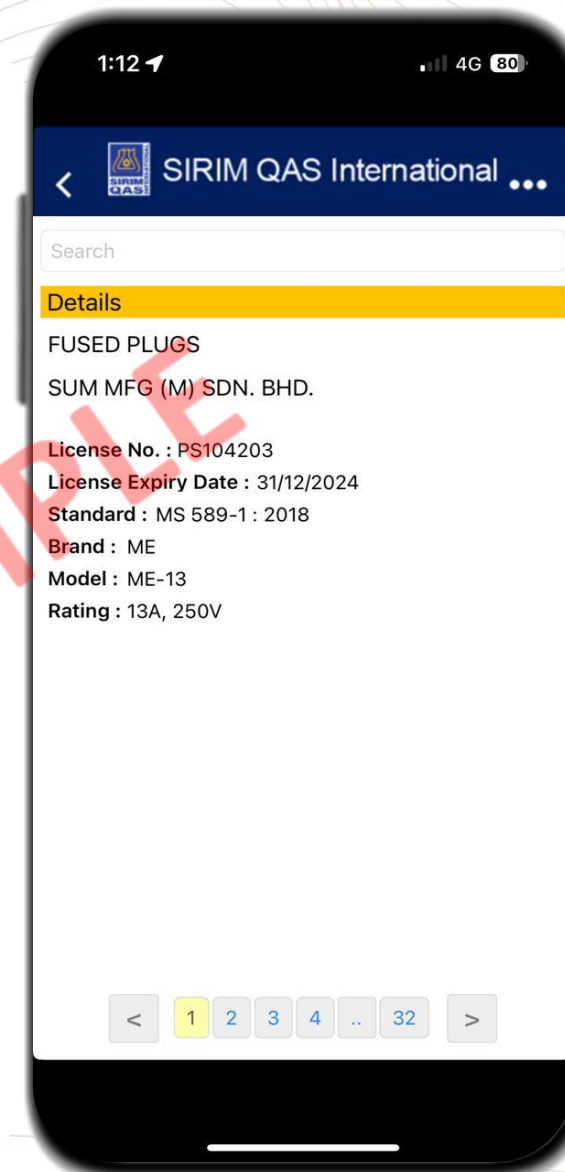
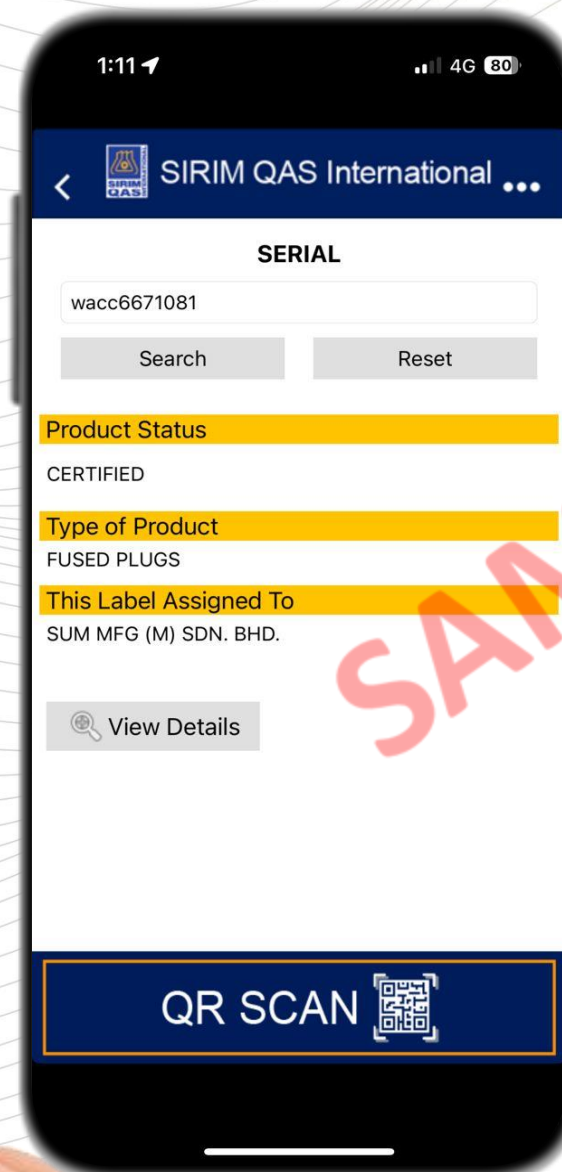
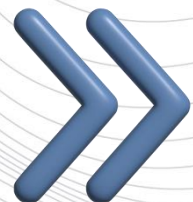
# MOBILE APPS – SIRIM QAS INTL.



SIRIM QAS Intl.  
SIRIM QAS International

★★★★☆ 20

SIRIM QAS Interna



ENSURING QUALITY & COMPLIANCE  
SIRIM PRODUCT CERTIFICATION SCHEME, APPRAISAL SCHEME & COMPLIANCE APPROVAL

# SIRIM COMPLIANCE APPROVAL



# INTRODUCTION OF COMPLIANCE APPROVAL

A procedure by which a **specific model of communications equipment\*** is certified as **complying with the specified standards, technical specifications, technical checklist, and/or technical declaration**, in accordance with the **Communications and Multimedia (Technical Standards) Regulations 2000**.

**SIRIM QAS is registered as certifying agency with Malaysian Communications and Multimedia Commission (MCMC) since 1999**

The image shows a certificate of registration from the Malaysian Communications and Multimedia Commission (MCMC). The certificate is titled "PERAKUAN PENDAFTARAN SEBAGAI AGENSI PEMERAKUAN" (CERTIFICATE OF REGISTRATION AS A CERTIFYING AGENCY). It states that SIRIM QAS INTERNATIONAL SDN BHD is registered as a certifying agency pursuant to Regulation 11 of the Communications and Multimedia (Technical Standards) Regulations 2000. The registration is valid from 3 September 2023 to 2 September 2028. The certificate lists six categories of equipment for which the agency is certified: (a) Keselamatan Elektrik (Electrical Safety), (b) Kekebalan dan keserasian Elektromagnetik (Electromagnetic Immunity and Compatibility), (c) Kesalingbolehkendalian Rangkaian (Network Interoperability), (d) Wayarles (Wireless), (e) Radas Gelombang Cahaya (Lightwave Apparatus), and (f) Pengkabelan dan Aksesori (Cable and Accessories). The certificate is signed by Tan Sri Mohamad Salim Bin Fateh Din, Chairman, on 1/9/2023. The MCMC logo and SIRIM QAS INTERNATIONAL logo are visible in the top right corner.

No. Siri/Serial No.: CE-005/2023  
No. Siri/Certificate No.: CA-111111

**MCMC** Suruhanjaya Komunikasi dan Multimedia Malaysia  
Malaysian Communications and Multimedia Commission

**PERAKUAN PENDAFTARAN SEBAGAI AGENSI PEMERAKUAN**  
*CERTIFICATE OF REGISTRATION AS A CERTIFYING AGENCY*

Adalah dengan ini disahkan bahawa  
*This is to certify that*

**SIRIM QAS INTERNATIONAL SDN BHD**

didaftarkan sebagai Agensi Pemerakuan menurut Peraturan 11 Peraturan-peraturan Komunikasi dan Multimedia (Standard Teknik) 2000  
*is registered as a certifying agency pursuant to Regulation 11 of the Communications and Multimedia (Technical Standards) Regulations 2000*

dari / from **3 September 2023** hingga / to **2 September 2028**

bagi kategori yang berikut  
*for the following categories*

Pemerakuan Kelengkapan Komunikasi (Certification of Communications Equipment):

- (a) Keselamatan Elektrik (Electrical Safety)
- (b) Kekebalan dan keserasian Elektromagnetik (Electromagnetic Immunity and Compatibility)
- (c) Kesalingbolehkendalian Rangkaian (Network Interoperability)
- (d) Wayarles (Wireless)
- (e) Radas Gelombang Cahaya (Lightwave Apparatus)
- (f) Pengkabelan dan Aksesori (Cable and Accessories)

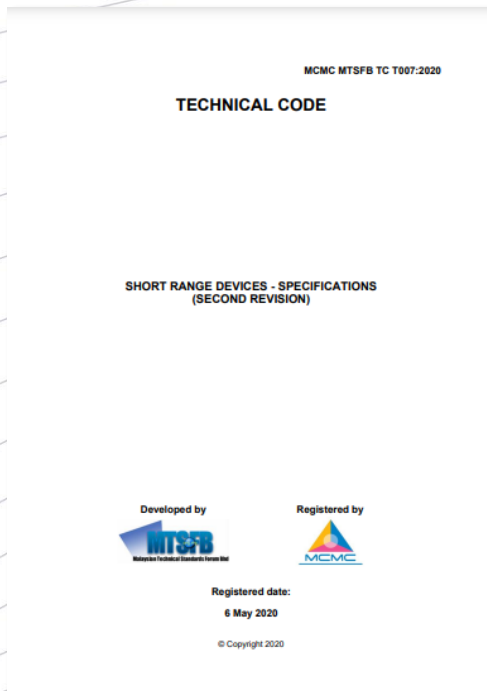
Pendaftaran ini adalah tertakluk kepada syarat-syarat agensi pemerakuan berdaftar sebagaimana yang dinyatakan dalam lampiran 1/CE-005, pada surat perantukan pendaftaran (This registration is subject to conditions for registered certifying agency as stated in the attachment 1/CE-005 of the appointment letter).

 1/9/2023  
DATE

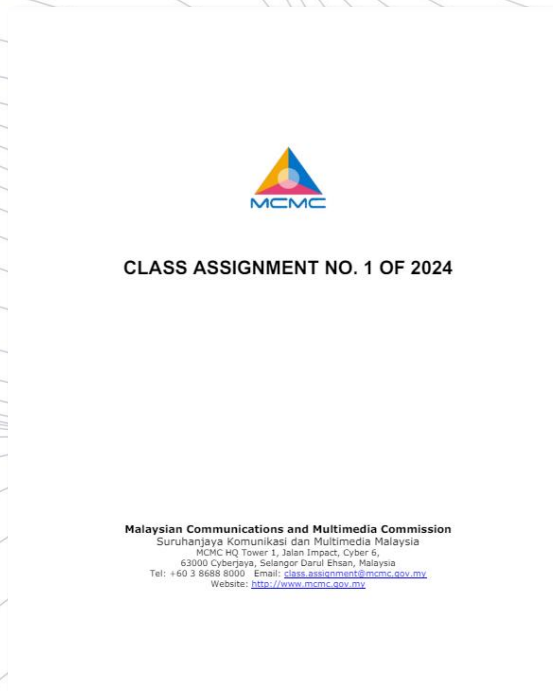
  
TAN SRI MOHAMAD SALIM BIN FATEH DIN  
CHAIRMAN

\*Communications equipment refers to network facilities or customer equipment used for the purposes of communications under the Communications and Multimedia Act 1998.

# PRODUCT STANDARD / TECHNICAL SPECIFICATIONS



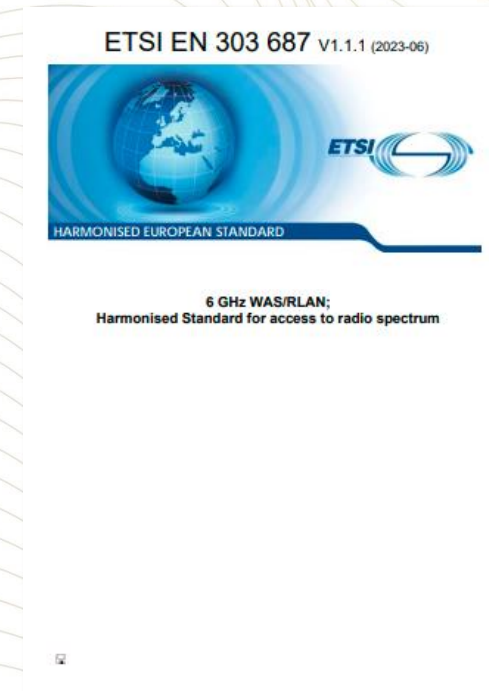
MCMC Technical Code  
<https://www.mcmc.gov.my/en/legal/registers/cma-registers>



MCMC Class Assignment  
<https://www.mcmc.gov.my/en/legal/registers/cma-registers>



SIRIM Certification  
Requirements  
<https://www.sirim-qas.com.my/our-services/product-certification/communication-and-multimedia-product-certification/>



Standards or any publicly available document established by consensus and approved by a recognized body.

# WHY CERTIFY?



Assure customers of products' **quality, safety & reliability.**



Assure the quality of service provided by communication networks is **not degraded by faulty or substandard** devices.



Help customers to **verify the authenticity** of the product, **reducing the risk of purchasing counterfeit or cloned devices.**



Certified products are tested to **prevent interference** with communication services, ensuring they **operate within approved frequency bands.**

# EXAMPLES OF PRODUCTS CERTIFIED

ETSI EN 301 893  
ETSI EN 300 328

**Access point**



ETSI EN 301 551  
ETSI EN 301 908-13  
ETSI EN 301 893  
ETSI EN 300 328  
ETSI EN 300 330

**Mobile phone**



ETSI EN 301 893  
ETSI EN 300 328

**Notebook**



EN 300 086-1 EN 300 113-1  
EN 300 086-2 EN 300 113-2

**Walkie talkie**



ETSI EN 300 328

**Wireless earphone**



**Smart watch**

ETSI EN 301 908-13  
ETSI EN 300 328



**Unmanned Aerial Vehicle (UAV)**

ETSI EN 300 328



**Pacemaker**

ETSI EN 302 195-1



**Bicycle Suspension**

ETSI EN 300 328



**Food delivery robot**

ETSI EN 301 908-1  
ETSI EN 300 440



## COMMUNICATION, MULTIMEDIA & HYBRID PRODUCTS

ENSURING QUALITY & COMPLIANCE  
SIRIM PRODUCT CERTIFICATION SCHEME, APPRAISAL SCHEME & COMPLIANCE APPROVAL



# SIRIM PRODUCT APPRAISAL SCHEME



SIRIM



# INTRODUCTION OF PRODUCT APPRAISAL SCHEME

## WHAT?

Provides robust verification for **innovative products that have no existing standards**, offering additional reassurance on their performance.

## HOW?

Evaluates a product's design, performance, and acceptability.

## WHY?

Helps organizations to assess the **risk of a new idea** and **identify any faults** before committing substantial resources.

## CATEGORY

- 1. System Appraisal**  
Use small scale pilot project to test product's theoretical or conceptual design
- 2. Focused Product Appraisal**  
Focus on individual product instead of system

ENSURING QUALITY & COMPLIANCE  
SIRIM PRODUCT CERTIFICATION SCHEME, APPRAISAL SCHEME & COMPLIANCE APPROVAL

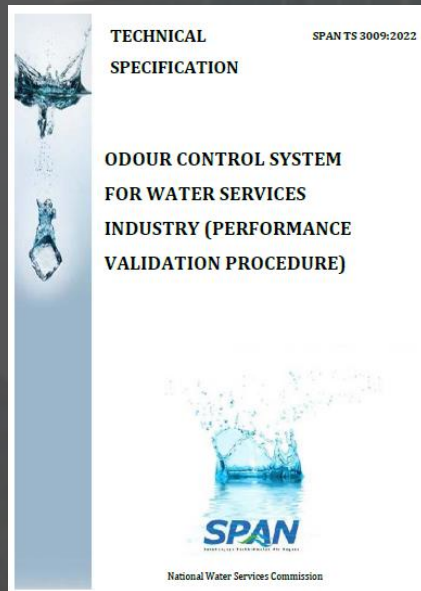


# LATEST UPDATES



# LATEST UPDATES

## ➤ Update on Water & Sewerage Conformity Assessment Activity



## Odour Control Systems For Water Services Industry:

Effective July 2022, compliance with SPAN TS 3009:2022 is mandatory for odour control systems. This Technical Specification (SPAN TS) is established for the listing and registration of products and suppliers used in the water services industry.

# LATEST UPDATES

➤ Update on Water & Sewerage Conformity Assessment Activity

## Verification of Test Reports for Category B Products:

SIRIM can facilitate the authority body in **verifying product conformity based on test report evaluations.**

For example, based on SPAN Guidelines, suppliers must complete this verification before registering their products with SPAN. Compliance with this requirement is mandatory and failure to register standard products as specified is an offense under Section 129 of the Water Services Industry Act 2006 [Act 655].



**VERIFICATION OF  
TEST REPORT FOR PRODUCT UNDER  
CATEGORY B IN SPAN GUIDELINES**



SPAN  
Suruhanjaya Perkhidmatan Air Negara

Suruhanjaya Perkhidmatan Air Negara

### **GUIDELINES FOR REGISTRATION OF SUPPLIERS**

REVISION 16

**Category B** : *Products without any standards/specifications or products with standards/specifications but full compliance to the standards/specification cannot be met. Products under this category are assessed based on recognised manufacturer specifications/standards or recognised performance testing or through a pilot project assessment.*

Industry Development & Audit Division  
01 January 2024

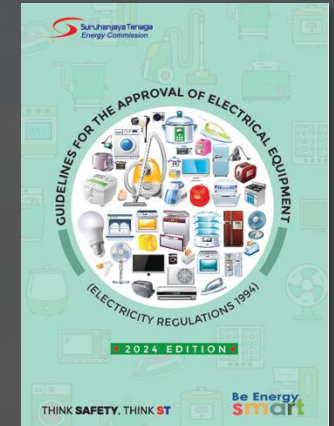
**WE ARE READY  
TO **SERVE** YOU!**

# LATEST UPDATES

## ➤ Update on Electrical Product Certification

### ST New Guidelines:

- Malaysia Energy Commission has released the latest Guidelines for the Approval of Electrical Equipment (GFAEE),
- Existing : 34 categories , 120 subcategories  
New subcategories : **20 new product subcategories**
- Updated GFAEE will be implemented on June 21, 2025.

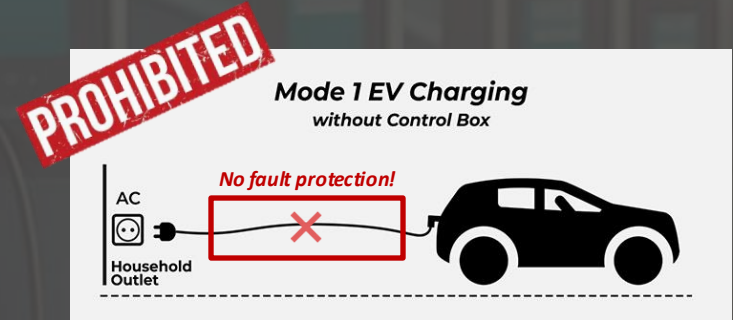


# LATEST UPDATES

## ➤ Update on Electrical Product Certification

### Electric Vehicle (EV) Charger Requirements:

- **Charging cable and mains plugs/socket** for EV systems **must be certified** to the standards listed in the guidelines.
- Only **Mode 2 Portable Charger with in-cable control protection device (IC-CPD)** and **Mode 3 Fixed AC Charger** are allowed
- **Mode 1** charger is **prohibited**



WE ARE READY  
TO **SERVE** YOU!

# LATEST UPDATES

## Update on **Minimum Energy Performance Standard (MEPS)**

- 6 existing electrical equipment regulated : domestic fan, air conditioner, refrigerator, TV, lighting, and washing machine.
- The list of Regulated Electrical Equipment to be tested for MEPS in the GFAEE has been expanded with **four additional electrical equipment types**:

1. Electric rice cooker



2. Microwave oven



3. Freezer



4. Electric oven



MEPS requirements for **electric ovens** will take effect on 1 November 2024.

# LATEST UPDATES

## Update on **Communication and Multimedia & Hybrid Product Certification**

26 existing Technical Codes / Technical Specification

New Technical Codes:

The Malaysian Communications and Multimedia Commission (MCMC) has **published two new technical codes:**

### 1. **MCMC MTSFB TC T020:2023** – Aeronautical Radiocommunications Equipment – Specifications



Localizer for Instrument Landing System (ILS)



VHF Omnidirectional Range (VOR)

### 2. **MCMC MTSFB TC T021:2023** – Maritime Radiocommunications Equipment – Specifications



Marine VHF Communications (Data)



Personal Locator Beacon (PLB)

Regulatory Requirement:

Under Regulation 14 of the Communications and Multimedia (Technical Standards) Regulations 2000, it is **mandatory for all communications equipment**, including aeronautical and maritime equipment, **to be certified** and comply with these technical codes.



# Thank You



+603-55446000



<https://www.sirim-qas.com.my/>



[cserviceqas@sirim.my](mailto:cserviceqas@sirim.my)



8, Persiaran Dato Menteri,  
Seksyen 2, 40700 Shah Alam,  
Selangor Darul Ehsan



SIRIM

**“Ada SIRIM,  
Baru Beli”**

@SIRIMQASInternational



### a. What are the main functions and roles of SIRIM QAS International?

- Under the Corporatisation Agreement 1996, SIRIM Berhad is bestowed powers, functions and duties that can be categorized into commercial, developmental and statutory.
- SIRIM QAS International is a subsidiary under SIRIM Berhad, under the commercial arm, specializing in conformity assessment.
- Since 1996, SIRIM QAS undertaken the DUTY to “Running testing and quality assurance schemes relating to the GOVERNMENT procurement and enforcement of regulations and directives”
- Under this function and duty, SIRIM QAS serves as the national conformity assessment body, providing testing, inspection, certification, verification and validation schemes for almost all sectors across the industry.

**b. Why is product certification important according to SIRIM QAS?**

**Product certification plays a crucial role in ensuring that products are safe, reliable and compliant with standards, Acts and Regulations.**

**As a local certification body, it is our utmost objective to protect the people's safety while provide innovative solutions through Testing, Inspection and Certification services for the industry to be competitive globally.**

**c. What types of product are certified under SIRIM's Water and Sewerage Product Certification Scheme?**

- d. How does SIRIM compliance approval process works for communications equipment?
  
- e. What updates have been introduced for the certification of electrical products by SIRIM?