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ENTERPRISE SINGAPORE CALLS FOR PUBLIC COMMENTS ON SINGAPORE STANDARDS – 5 SEPTEMBER 2025

Under the National Standardisation Programme, the public comment period is an important stage of standards development. Members of the public are invited to provide feedback on draft Singapore Standards for publication and work item proposals for development and review of Singapore Standards, Technical References and Workshop Agreements. The establishment of Singapore Standards is done in accordance with the World Trade Organisation's requirements for the development of national standards.

A) Notification of Draft Singapore Standards for Publication

Newly developed and revised Singapore Standards (SSs), and the outcomes of the reviews of existing SSs are available to the public to gather feedback on their contents and status prior to their completion.

Members of the public are invited to comment on the following Singapore Standard(s):

Building and Construction – [geotechnical investigation](#) (12 standards), [fire doors](#)

Biomedical and Health – [accelerated ageing](#), [healthcare products](#), [terminally sterilized medical devices](#) (2 standards)

Chemical – [LNG bunkering](#) (4 standards), [pesticides](#)

Food – [agriculture practice](#)

Manufacturing – [robotics](#) (3 standards)

Transportation – [Electric vehicles charging system](#) (4 standards)

Closing date for comments: **6 November 2025** (except for SS on specification for fire doors, which closes on **13 November 2025**)

For more information on viewing the document(s), [click here](#).

Please submit comments to: standards@enterprisesg.gov.sg.

B) Notification of Work Item Proposals

B.1 Proposal for New Work Items

New Work Items (NWIs) are approved proposals to develop new Singapore Standards, or pre-standards like Technical References and Workshop Agreements. The NWIs are work-in-progress, and the drafts are not available at the public comment stage.

Members of the public are invited to comment on the scope of the following NWi(s):

Biomedical and Health – [medical devices](#)

Chemical – [polymers](#)

Electrical and Electronic – [batteries](#)

Manufacturing – [service robots](#)

Safety and Quality – [intangible assets and intellectual property](#)

Closing date for comments: **6 October 2025**

B.2 Proposal for the Review of Singapore Standards

Published Singapore Standards, Technical References and Workshop Agreements are reviewed to determine if they should be updated, confirmed or withdrawn (if they no longer serve the industry's needs) or classified as mature standards (no foreseeable changes; to be reviewed only upon request). The reviews are ongoing, and the new versions/drafts are not available at this juncture. Users can refer to the current standards to provide feedback. [Click here](#) to view or purchase the standards.

Members of the public are invited to comment on the following standard(s) to be reviewed:

Building and Construction – [fire hydrant](#)

Food – [food storage in warehouses](#)

Safety and Quality – [outdoor fitness equipment](#)

Closing date for comments: **6 October 2025**

Members of the public are invited to join as standards partners, co-opted members or resource members subject to the approval of relevant committees and working groups.

To comment or to join in the development of these standards, please write to standards@enterprisesg.gov.sg.

A) Notification of Draft Singapore Standard for Publication

(I) Building and Construction

New

1. Geotechnical investigation and testing – Laboratory testing of soil

Part 1: Determination of water content (Identical adoption of ISO 17892-1:2014 and Amd 1:2022)

This standard specifies a method of determining the water content of soils.

It is applicable to the laboratory determination of the water (also known as moisture) content of a soil test specimen by oven-drying within the scope of geotechnical investigations. The water content is required as a guide in the classification of natural soils and as a control criterion in re-compacted soils. It is measured in samples used for most field and laboratory tests.

Part 2: Determination of bulk density (Identical adoption of ISO 17892-2:2014)

This standard specifies three methods for determining of the bulk density of soils, comprising:

- linear measurement method;
- immersion in fluid method; and
- fluid displacement method.

It applies to the laboratory determination of the bulk density of soil within the scope of geotechnical investigations.

Part 3: Determination of particle density (Identical adoption of ISO 17892-3:2015)

This standard specifies methods for the determination of the particle density of soils.

It is applicable to the laboratory determination of the particle density of soil within the scope of geotechnical investigations, and describes two methods, a pycnometer method by fluid displacement and a pycnometer method by gas displacement.

Part 4: Determination of particle size distribution (Identical adoption of ISO 17892-4:2016)

This standard specifies a method of determining the particle size distribution of soils.

It is applicable to the laboratory determination of the particle size distribution of a soil test specimen by sieving, or sedimentation, or a combination of both within the scope of geotechnical investigations.

Part 5: Incremental loading oedometer test (Identical adoption of ISO 17892-5:2017)

This standard specifies methods for the determination of the compressibility characteristics of soils by incremental loading in an oedometer.

It is applicable to the laboratory determination of the compression and deformation characteristics of soil within the scope of geotechnical investigations.

Part 6: Fall cone test (Identical adoption of ISO 17892-6:2017)

This standard specifies a method of undrained strength index testing of both undisturbed and remoulded specimens of fine-grained soils using the fall cone method.

It applies to the laboratory estimation of undrained shear strength of a soil test specimen, done within the scope of geotechnical investigations.

Part 7: Unconfined compression test (Identical adoption of ISO 17892-7:2017)

This standard specifies a method for the unconfined compression test.

It is applicable to the determination of the unconfined compressive strength for a homogeneous specimen of undisturbed, re-compacted, remoulded or reconstituted soil under compression loading within the scope of geotechnical investigations.

Part 8: Unconsolidated undrained triaxial test (Identical adoption of ISO 17892-8:2018)

This standard specifies a method for the unconfined compression test.

It is applicable to the determination of the unconfined compressive strength for a homogeneous specimen of undisturbed, re-compacted, remoulded or reconstituted soil under compression loading within the scope of geotechnical investigations.

Part 9: Consolidated triaxial compression tests on water saturated soils (Identical adoption of ISO 17892-9:2018)

This standard specifies a method for consolidated triaxial compression tests on water-saturated soils.

It is applicable to the laboratory determination of triaxial shear strength under compression loading within the scope of geotechnical investigations.

Part 10: Direct shear tests (Identical adoption of ISO 17892-10:2018)

This standard specifies two laboratory test methods for the determination of the effective shear strength of soils under consolidated drained conditions using either a shearbox or a ring shear device.

It is applicable to the laboratory determination of effective shear strength parameters for soils in direct shear within the scope of geotechnical investigations.

Part 11: Permeability tests (Identical adoption of ISO 17892-11:2019)

This standard specifies methods for the laboratory determination of the water flow characteristics in soil.

It is applicable to the laboratory determination of the coefficient of permeability of soil within the scope of geotechnical investigations.

Part 12: Determination of liquid and plastic limits (Identical adoption of ISO 17892-12:2018 with Amd 1:2021 and Amd 2:2022)

This standard specifies methods for the determination of the liquid and plastic limits of a soil.

These comprise two of the Atterberg limits for soils. The liquid limit is the water content at which a soil changes from the liquid to the plastic state.

Users of the above standards on laboratory of testing of soil include, consultants, engineers, service providers, testing laboratories, certification bodies and relevant government agencies.

Revision

2. Specification for fire doors (Revision of SS 332:2018+A1:2022)

This standard specifies requirements for the construction and installation of fire doors intended to protect openings in walls and partitions that are required to resist the spread of fire. It also covers transom panels above fire doors rated 0.5 h only, provided these panels are contained within the door frame and form part of the complete doorset.

The changes in this revision include the following:

- Extension of door hardware tests to include multipoint locks, mechatronic door furniture, and automatic swing door operators. All hardware tests are aligned with European Standards (EN).
- Removal of sliding fire doors, and expansion of permissible variations which includes digital locksets.
- Refinement of fire door hardware requirements for typical applications.

This standard is not applicable to lift-landing doors, sliding doors, or floor covering materials that pass through fire door openings.

Users of the standard include manufacturers, suppliers, architects, testing laboratories, certification bodies, and relevant government agencies.

Public comment period: 12 September to 13 November 2025

(II) Biomedical and Health

Revision

3. Standard guide for accelerated aging of sterile barrier systems for medical devices (Revision of SS 647:2019) (Identical adoption of ASTM F1980-21)

This standard provides information for developing accelerated aging protocols to model the possible effects of the passage of time on the sterile integrity of the sterile barrier system (SBS), as defined in ANSI/AAMI/ISO 11607-1:2019 and the physical properties of their component packaging materials. Guidance for developing accelerated aging protocols may also be used for medical devices and medical device materials.

Amendment

4. **Amendment No. 1 to Sterilisation of health care products – Vocabulary of terms used in sterilisation and related equipment and process standards** (SS ISO 11139:2018)
(Identical adoption of ISO 11139:2018/Amd 1:2024)

This amendment updates and expands the list of terms and definitions used in sterilisation of healthcare products, related equipment and processes.

5. **Amendment No. 1 to Packaging for terminally sterilized medical devices – Part 1: Requirements for materials, sterile barrier systems and packaging systems** (SS ISO 11607-1:2019) (Identical adoption of ISO 11607-1:2019/Amd 1:2023)

This amendment updates the terms and definitions of terminally sterilised medical devices, which addresses the application of risk management to sterile barrier systems and packaging systems.

6. **Amendment No. 1 to Packaging for terminally sterilized medical devices – Part 2: Validation requirements for forming, sealing and assembly processes** (SS ISO 11607-1:2019) (Identical adoption of ISO 11607-2:2019/Amd 1:2023)

This amendment expands guidance on the application of risk management to the process of forming, sealing and assembly of sterilised medical devices, with updated terms and definitions.

Users of the standard on medical devices and equipment include medical devices manufacturers and suppliers, healthcare professionals and medical device engineers, consultants, testing, inspection and certification (TIC) bodies, institutions of higher learning (IHLs), and relevant government agencies.

(III) Chemical

Revision

7. **Code of practice for LNG bunkering**

Part 1: General introduction (Review of TR 56-1:2020)

This standard provides the terms and definitions used in this series of standards. It also includes an introduction to the properties of LNG. The key changes in this revision include the following:

- Addition of new terms and definitions to align with other bunkering standards such as SS 648 and TR 129.
- Removal of two modes of transfer, shore-to-ship and cassette bunkering, due to no near-term plan for their use in Singapore.

Part 2: Requirements for custody transfer (Review of TR 56-2:2020+A1:2022)

This standard specifies the custody transfer requirements for LNG bunkering including quality and quantity measurements, applicable to truck-to-ship and ship-to-ship. The key changes in this revision include the following:

- Addition of ISO 19970 as a reference standard for vapour return and the gas consumption consideration.
- Addition of ISO 23306 as a reference standard for LNG bunker quality.
- Addition of calibration and validation recommendations for quality measurement equipment.
- Expansion of guidance on energy calculation.

Part 3: Procedures and safety distances (Review TR 56-3:2020+A1:2023)

This standard covers the principles, safety requirements and procedures for LNG bunkering operations for truck-to-ship and ship-to-ship. Responsibilities of bunkering stakeholders, equipment requirements, controlled zones and safe bunkering procedures including simultaneous operations are specified in this standard. The key changes in this revision include the following:

- Update of the Responsible, Accountable, Consulted, Informed (RACI) matrix.
- Pre-filling of the Simultaneous operations (SIMOPS) matrix to provide users with an example.
- Addition of bunker vessel requirements covered in Standard for Port Limit LNG Bunker Tankers.

Part 4: Competency requirements for personnel (Review of TR 56-4:2020)

This standard specifies the competencies and knowledge required by LNG bunker personnel (Management, Operation, Support and Emergency) for truck-to-ship and ship-to-ship bunkering, to bunker LNG fuel safely and efficiently to ships. It also covers the appropriate training required to achieve the requirements set out in this standard. This revision refines the competencies and underpinning knowledge to be acquired in alignment with the changes made to Part 2 and Part 3 of the standard.

These standards are reviewed with the intention to elevate the TR 56 series (pre-standard) into a Singapore Standard.

Users of the above standards include LNG bunker suppliers, bunker craft operators, tanker owners, shipowners, bunker surveying companies, testing laboratories, bunkering associations, maritime institutions and relevant government agencies.

8. Code of practice for the safe handling, transportation and storage of pesticides (Revision of SS 615:2016)

This standard outlines requirements for the safe handling, transportation and storage of pesticides. Safe handling includes preparation of pesticides prior to application and residual waste management post application.

It excludes ready-to-use spray solutions and formulated products for household use. It is not intended to apply in areas where materials are displayed and advertised on shelves for sale to the public, such as in the retail section of supermarkets, hardware stores and home garden outlets. It also does not cover application of pesticides, as these application methods should follow the manufacturer's label instruction. This revision provides additional guidance on safe management such as handling of pesticides (including fumigants).

Users of the standard include organisations and operators who engage in the handling, storage and transportation of pesticides.

(IV) Food

Revision

9. Specification for good agriculture practice (Revision of SS 675:2021+A1:2022)

This standard specifies requirements for a farm management system detailing best practices to ensure the production of safe and high-quality produce, while minimising the risk of hazards that impact the environment and staff.

It covers all phases of farm operations, including pre-production (nursery), cultivation, harvesting and post-harvest handling prior to delivery of agriculture products for both outdoor and indoor agriculture utilising various cultivation systems, e.g., soil-based, hydroponics or substrate-based.

Users of the standard include fruits, vegetables, bean sprouts and mushroom farms, wholesalers, distributors and retailers, TIC bodies, IHLs and relevant government agencies.

(V) **Manufacturing**

New

10. Robotics – Performance criteria and related test methods for service robots

Part 2: Navigation (Identical adoption of ISO 18646-2:2024)

This standard specifies how to measure the navigation performance of mobile service robots. It covers criteria such as pose accuracy, obstacle detection, path deviation, and mapping accuracy.

Part 3: Manipulation (Identical adoption of ISO 18646-3:2021)

This standard specifies evaluation methods for the manipulation performance of service robots, detailing how to test for factors like grasp size, strength, and slip resistance, as well as the ability to open hinged and sliding doors. While the specified tests are designed for indoor use, they can also be applied to outdoor robots.

It does not address safety requirements.

Part 4: Lower-back support robots (Identical adoption of ISO 18646-4:2021)

This standard specifies methods for evaluating the performance of lower-back support robots, irrespective of their purpose or driving method.

It does not address verification of safety requirements.

Users of the standard on robotics include robot manufacturers and part suppliers, TIC bodies, IHLs and relevant government agencies.

(V) **Transportation**

Revision

11. Electric vehicles charging system

Part 1: Electrical safety and general requirements (Review of TR 25-1:2022+A1:2025)

This standard provides general requirements for safety applicable to:

- on-board and off-board equipment for charging electric vehicles;
- battery swapping equipment and kiosk; and
- equipment installed in public or non-public car parks, public places and non-public premises with standard supply voltages up to 1000 V AC and at voltages up to 1500 V DC.

It also covers the safety requirements for the installation, inspection, and testing of the electrical charging station to provide supply for the charging of the electric vehicle (EV) or the battery.

Part 2: Low power charging and wireless power transfer systems (Review of TR 25-2:2022)

This standard is applicable to the following electric vehicle supply equipment (EVSE) for charging electric powered two-wheelers (e-PTW) or electric vehicles (EVs) in areas with non-restricted access or restricted access:

- Low-power charging at standard AC supply voltages of up to 230 V AC and a rated output voltage of up to 230 V AC or up to 120 V DC, with maximum power not exceeding 2.3 kW.
- Magnetic field charging at standard AC supply voltages up to 480 V AC or DC supply voltages up to 800 V DC, at ambient temperatures of up to 50°C.

It includes requirements for smart grid integration, smart charging capabilities, and cybersecurity measures within the EV charging ecosystem.

Part 3: DC electric vehicle charging system (Review of TR 25-3:2022)

This standard specifies requirements for electric vehicle charging system to provide energy transfer between the supply network and electric vehicles (EVs), with a rated maximum voltage at side A of up to 1000 V AC or up to 1500 V DC and a rated maximum voltage at side B up to 1500 V DC.

Part 4: Battery swapping and mobile charging system (Review of TR 25-4:2022)

This standard provides the general overview and technical requirements for battery swap systems (BSSs) of electric motorcycles (UNECE category L), passenger vehicles (UNECE category M1), and heavy goods vehicles (UNECE category N3). It sets standards to ensure that batteries in these systems meet essential safety, performance, and reliability criteria.

This standard also covers mobile electric vehicle (EV) charging and battery testing requirements, as well as systems designed to charge electric vehicles using conductive EV supply equipment integrated with energy storage. These systems may include inputs from generators, solar panels, or grid power, and are intended solely for recharging the vehicle's battery.

These standards are reviewed with the intention to elevate TR 25 series (pre-standard) into a Singapore Standard.

Users of these standards include EV manufacturers, contractors, suppliers, IHLs, and relevant government agencies.

Copies of the draft are available at:

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NOTE – The viewing period of the draft and standard will expire on the closing of the public comment period and will no longer be available after this date.

B) Notification of the Work Item Proposals

B.1 Proposal for New Work Items

(I) Biomedical and Health

1. Medical devices – Information to be supplied by the manufacturer (Identical adoption of upcoming ISO 20417)

This standard specifies requirements for information supplied by the manufacturer for a medical device or for an accessory. It includes applicable requirements for identification and labels on a medical device or accessory, the packaging, marking of a medical device or accessory. This standard does not specify how the information is to be supplied.

Users of the standard include medical devices manufacturers and suppliers, healthcare professionals and medical device engineers, consultants, TIC bodies, IHLs, and relevant government agencies.

(II) Chemical

2. Test method for polymers in residual marine fuels

This standard covers the qualitative determination of polystyrene, polypropylene, and polymethacrylate in residual petroleum product. It specifies the maximum limits of the three polymers in the residual petroleum product according to the test method and requirements.

Users of the standard include bunker/shipping associations, bunker suppliers, shipowners, testing laboratories and relevant government agencies.

(III) Electrical and Electronic

3. Batteries for use in stationary and motive auxiliary power applications (Identical adoption of UL 1973)

This standard specifies safety requirements for batteries and battery systems and evaluates the battery system's ability to safely withstand simulated abuse conditions.

The battery systems covered in this standard include:

- energy storage for stationary applications such as for photovoltaic, wind turbine storage or for uninterruptible power supply;
- light electric rail applications and stationary rail applications such as rail substations;
- vehicle auxiliary power systems that are utilised in recreational vehicles and other vehicles to provide power for various applications such as lighting and appliances.

It does not cover the performance or reliability of these battery systems.

Users of the standard include secondary cells suppliers/manufacturers, energy storage system contractors and integrators, training providers, TIC bodies, IHLs and relevant government agencies.

(IV) Manufacturing

4. Technical Reference (TR) - Guidelines on the design and safe deployment of wireless charging system for service robots

This standard specifies guidelines for users and solution providers on designing, commissioning, and deploying wireless charging systems for service robots. It covers key areas such as technical recommendations for safe operations, best practices for deployment, and the necessary integration to ensure safety and interoperability with the operating environment.

Users of the standard include robot manufacturers and suppliers, building owners, universal wireless charging solution providers and IHLs.

(V) Safety and Quality

5. Technical Reference (TR) - Intangible assets (IA) and intellectual property (IP) management skills

This standard defines good practices in IA and IP management, covering essential systems, processes, and core competencies required at various levels. It can be used for individuals seeking an in-house IA/IP management role, or for companies' reference on the skills required for the role.

Users of the standard include research institutions, training providers, IHLs, and relevant government agencies.

B.2 Proposal for the Review of Singapore Standards

(I) Building and Construction

1. Code of practice for fire hydrant, rising mains and hose reel system (SS 575:2012+A1:2021)

This standard applies to the planning, installation, testing and upkeep of fire hydrant, wet and dry rising mains and hose reel systems on building premises. It does not apply to street fire hydrants used in lieu of on-site fire hydrants or to supplement the coverage afforded by street fire hydrants.

This standard is reviewed with the intention to incorporate provisions from the latest relevant international standards.

Users of the standard include engineers, architects, building owners, facility managers, fire safety manager and relevant government agencies.

(II) Food

2. Code of practice for food storage in warehouses – Ambient / air-conditioned (SS 629:2017)

This standard provides guidelines for food storage warehouses (ambient temperature and air-conditioned) for food products that do not require refrigeration to ensure food safety.

It contains provisions pertaining to the following areas relating to food storage warehouses that affect food safety:

- Warehouse exterior and surroundings;
- Warehouse structure, design, equipment and maintenance;
- Food safety management; and
- Product recall and traceability.

This standard does not apply to facilities for the storage of food under chilled or frozen conditions. This standard is reviewed with the intention to confirm with amendments.

Users of the standard include ambient and/or air-conditioned warehouses, wholesalers, distributors and retailers, food manufacturers, TIC bodies, as well as IHLs and relevant government agencies.

(III) Safety and Quality

3. Specification for outdoor fitness equipment for public use (SS 534:2007)

This standard specifies parameters for the design and manufacture of fitness equipment, excluding gymnasium equipment.

It is reviewed with the intention to update it by including new designs, incorporating improvement in functionality, safety and accessibility to meet industry needs.

Users of the standard include manufacturers and suppliers, maintenance and service providers, designers, consultants, contractors, industry associations, training providers, TIC bodies, and relevant government agencies.

Submit Comments

Frequently asked questions about public comment on Singapore Standards:

1. What is the public comment on Singapore Standards?

Singapore Standards are established based on an open system which is also in accordance with the requirements of the World Trade Organisation. These documents are issued as part of a consultation process before any standards are introduced or reviewed. The public comment period is an important stage in the development of Singapore Standards. This mechanism helps industry, companies and other stakeholders to be aware of forthcoming changes to Singapore Standards and provides them with an opportunity to influence, before their publication, the standards that have been developed by their industry and for their industry.

2. How does public comment on Singapore Standards benefit me?

This mechanism:

- ensures that your views are considered and gives you the opportunity to influence the content of the standards in your area of expertise and in your industry;
- enables you to be familiar with the content of the standards before they are published and you stand to gain a competitive advantage with this prior knowledge of the standards.

3. Why do I have to pay for the standards which are proposed for review or withdrawal?

These standards are available for **free viewing** at TOPPAN NEXT Pte. Ltd. and all Public Libraries. However, the normal price of the standard will be charged for those who wish to purchase a copy. At the stage where we propose to review or withdraw the standards, the standards are still current and in use. We seek comments for these standards so as to:

- provide an opportunity for the industry to provide inputs for the review of the standard that would make the standard suitable for the industry's use,
- provide feedback on the continued need for the standard so that it will not be withdrawn.

4. Why are comments only accepted through the public comment form provided by Enterprise Singapore?

The public comment form enables users to submit their comments in a standardised and structured manner. The Working Group (WG) that will be reviewing the comments will have a better understanding of what the commenter has proposed, the rationale for the changes and where these changes will be made in the standard. This will assist the WG in addressing the comments more effectively.

5. What happens after I have submitted my comments?

The comments will be channelled to the relevant WGs for consideration and you will be informed of the outcome of the committee's decision. You may be invited to meet the WG if clarification is required on your feedback.

6. Can I view drafts after the public comment period?

Drafts will not be available after the public comment period.

7. How do I request for the development of a new standard?

You can propose the development of a new standard [here](#).