

Submit Comments

ENTERPRISE SINGAPORE CALLS FOR PUBLIC COMMENTS – 10 JANUARY 2020

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 and Technical References. 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

Members of the public are invited to comment on the following Singapore Standard documents:

Biomedical and Health – [miRNA-based diagnostics](#), [risk management to medical devices](#), [biological indicators](#)

Building and Construction – [steel fabric for the reinforcement of concrete](#), [gas installation](#), [water services](#), Eurocode 3 ([silos](#) and [tanks](#)), [portable fire extinguishers](#)

Chemical – [paints and varnishes](#)

Quality and Safety – [automotive workshops](#), [business continuity management](#)

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

Closing date for comments: **11 March 2020** (except for the standard on miRNA which closes on **18 March 2020**).

Please submit comments to: kay_chua@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 Technical References (pre-standards).

Members of the public are invited to comment on the scope of the new standards and contents that can be included into the following proposals:

Food – [urban agriculture farms](#), [urban aquaculture farms](#)

Manufacturing – [data interchange between robots, lifts and automated doorways](#)

The NWIs are work-in-progress and the drafts are not available at this juncture.

Closing date for comments: **11 February 2020**.

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

B.2 Proposal for the Review of Singapore Standards

Published Singapore Standards are reviewed to determine if they should be updated, confirmed or withdrawn (if they no longer serve the industry's needs) or classified as mature standards (no foreseeable changes; to be reviewed only upon request).

Members of the public are invited to comment on the scope and contents of the following standards to be reviewed:

Electrical and Electronic – [grid-tied solar photovoltaic \(PV\) power supply system](#)

Manufacturing – [autonomous vehicles](#)

Quality and Safety – [respiratory protective devices](#), [business continuity management](#)

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 and purchase the standards.

Closing date for comments: **11 February 2020**.

Members of the public are invited to join as standards partners, resource members or co-opted 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 kay_chua@enterprisesg.gov.sg.

A) Notification of draft Singapore Standards for Publication

(I) Biomedical and Health

New

1. Specification of the validation of miRNA-based diagnostics

This standard provides guidance on a basic analytical test to validate and verify the performance of miRNA based biomarkers assays. It also provides suggestions in overcoming difficulties faced regarding the collection and testing of miRNA from human samples.

Potential users of the standard include research institutes, manufacturers, and testing laboratories.

NOTE: This draft will be released for public comment from 17 Jan to 18 Mar 2020.

Revision

2. Medical devices – Application of risk management to medical devices (Revision of SS ISO 14971 : 2017) (Identical adoption of ISO 14971:2019)

This standard specifies terminology, principles and a process for risk management of medical devices, including software as a medical device and in vitro diagnostic medical devices. The process described in this standard is intended to assist manufacturers of medical devices to identify the hazards associated with the medical devices, to estimate and evaluate the associated risks, to control these risks, and to monitor the effectiveness of the controls.

The requirements of this document are applicable to all phases of the life cycle of a medical device. The process described in this document applies to risks associated with a medical device, such as risks related to biocompatibility, data and systems security, electricity, moving parts, radiation, and usability.

Potential users of the standard include medical device manufacturers, suppliers, certification bodies and consultants.

Withdrawal

3. Sterilisation of health care products – Biological indicators – Guidance for the selection, use and interpretation of results (SS ISO 14161 : 2018)

This standard is recommended for withdrawal as it has been replaced by SS ISO 11138-7:2019, “Sterilisation of health care products – Biological indicators – Part 7: Guidance for the selection, use and interpretation of results.

(II) Building and Construction

Amendments

4. Amendment No. 1 to Specification for steel fabric for the reinforcement of concrete (SS 561 : 2010)

This amendment is to update a normative reference in this standard.

Those who may be interested in this amendment include consultants, contractors, developers, professional engineers, suppliers/manufacturers, tertiary institutions, testing bodies, accreditation bodies and relevant government agencies.

([Click here](#) to download the amendment.)

5. Amendment No. 2 to Code of practice for gas installation (SS 608:2015+A1:2017)

This amendment includes the changes required for less joints to be involved to reduce the possibility of gas leakage. The change includes the replacement of ‘seamless galvanised iron (GI) pipe’ with ‘welded GI pipe’ as the performance of welded GI pipe will not compromise safety since they are used for very low pressured applications.

The amendment also includes an important requirement of the minimum interval distance for domestic meter installation.

Those who may be interested in this amendment include professional engineers, architects, consultants, service providers, licensed gas service workers and relevant government agencies.

([Click here](#) to download the amendment.)

6. Amendment No. 2 to Code of practice for water services (SS 636:2018+A1:2019)

This amendment specifies the requirement for the term ‘electrode holder’ to be specifically mentioned as an unsecured electrode holder poses a higher level of risk as compared to other pipe openings. It also includes other types of non-potable water pipes above water tanks which have potential impact on water quality conveyed in the water tanks. Additionally, as water tanks are mounted on elevated platforms, there will be an effective increase in the height of the tank itself to more than 3 m.

Those who may be interested in this amendment include professional engineers, architects, licensed water services plumbers in the design, installation, fixing, testing and maintenance of water services in all residential, commercial and industrial buildings/premises, and relevant government agencies.

([Click here](#) to download the amendment.)

7. Amendment No. 1 to Eurocode 3 – Design of steel structures – Part 4-1: Silo (SS EN 1993-4-1: 2011)

This amendment is to update the principles and application rules for the structural design of steel silos of circular or rectangular plan-form, being free standing or supported.

([Click here](#) to download the amendment.)

8. Amendment No. 1 to Eurocode 3 – Design of steel structures – Part 4-2: Tanks (SS EN 1993-4-2: 2011)

This amendment is to update the requirements and application rules for the design of vertical cylindrical and rectangular above ground steel tanks for storage of liquid products.

([Click here](#) to download the amendment.)

Those who may be interested in the amendments to the above Eurocode 3 standards include consultants, contractors, developers, professional engineers, suppliers / manufacturers, testing / accreditation bodies, tertiary institutions and relevant government agencies.

Confirmation

9. Portable fire extinguishers

Part 7 : Characteristics, performance requirements and test methods (SS EN 3-7 : 2012)

This standard specifies the characteristics, performance requirements and test methods for portable fire extinguishers.

Part 8 : Additional requirements to SS EN 3-7 for the construction, resistance to pressure and mechanical tests for extinguishers with a maximum allowable pressure equal to or lower than 30 bar (SS EN 3-8 : 2012)

This standard specifies the rules of design, type testing, fabrication and inspection control of portable fire extinguishers manufactured with metallic bodies as far as pressure risk is concerned. It applies to portable fire extinguishers of which the maximum allowable pressure *PS* is lower than or equal to 30 bar and containing non-explosive, non-flammable, non-toxic and non-oxidising fluids. It also applies to the metallic gas cartridge of a volume less than 0.12 L and gives guidance for sound engineering practice for metallic gas cartridges equal to or greater than 0.12 L and less than 0.5 L.

Part 9 : Additional requirements to SS EN 3-7 for pressure resistance of CO₂ extinguishers (SS EN 3-9 : 2012)

This standard specifies the rules and design, assembling, inspection and testing of CO₂ portable fire extinguishers as far as the pressure risk is concerned.

Part 10 : Provisions for evaluating the conformity of a portable fire extinguisher to SS EN 3-7 (SS EN 3-10 : 2012)

This standard specifies the minimum requirements for attesting the conformity of portable fire extinguishers to SS EN 3-7, as well as the requirements for the quality and production control of the fire extinguishers. It also specifies the documentation to be provided and the methods for type testing, factory assessment and controls during production.

The users of the standards on portable fire extinguishers include manufacturers and suppliers, industry associations, professional engineers, testing, inspection and certification bodies, and relevant government agencies.

(III) Chemical

10. Methods of test for paints, varnishes and related materials (SS 5)

50 parts of SS 5 are being reviewed, of which 32 parts have been completed.

Another 13 parts have been reviewed and the outcome of the review is shown below. The standards are expected to be completed by Mar 2020.

Revisions

Part A3 : Standard panels for testing [Revision of SS 5 : Part A3 : 2013 (2018)] (Modified adoption of ISO 1514 : 2016)

This standard specifies several types of standard panel and describes procedures for their preparation prior to painting. These standard panels are for use in general methods of test for paints, varnishes and related products.

Part E1 : Determination of gloss value at 20°, 60° and 85° [Revision of SS 5 : Part E1 : 2003 (2013)] (Modified adoption of ISO 2813 : 2014)

This standard specifies a method for determining the gloss of coatings using the three geometries of 20°, 60° or 85°. The method is suitable for the gloss measurement of non-textured coatings on plane, opaque substrates.

Part G10 : Corrosion tests in artificial atmospheres – Salt spray tests (Revision of SS 5 : Part G10 : 2013) (Modified adoption of ISO 9227 : 2017)

This document specifies the apparatus, the reagents and the procedure to be used in conducting the neutral salt spray, acetic acid salt spray and copper-accelerated acetic acid salt spray tests for assessment of the corrosion resistance of metallic materials, with or without permanent or temporary corrosion protection.

It also describes the method employed to evaluate the corrosivity of the test cabinet environment.

It does not specify the dimensions or types of test specimens, the exposure period to be used for a particular product, or the interpretation of results. Such details are provided in the appropriate product specifications.

Part H2 : Assessment of degree of blistering (Revision of SS 5 : Part H2 : 2013) (Identical adoption of ISO 4628-2 : 2016)

This standard specifies a method for assessing the degree of blistering of coatings by comparison with pictorial standards. These pictorial standards illustrate blisters in the sizes 2, 3, 4, and 5, and each size in the quantities (densities) 2, 3, 4, and 5.

Part H3 : Assessment of degree of rusting (Revision of SS 5 : Part H3 : 2013) (Modified adoption of ISO 4628-3 : 2016)

This standard specifies a method for assessing the degree of rusting of coatings by comparison with pictorial standards. These pictorial standards show coated steel surfaces which have deteriorated to different degrees by a combination of rust broken through the coating and visible underrust.

Part H4 : Assessment of degree of cracking (Revision of SS 5 : Part H4 : 2013) (Identical adoption of ISO 4628-4 : 2016)

This standard specifies a method for assessing the degree of cracking of coatings by comparison with pictorial standards.

Part H5 : Assessment of degree of flaking (Revision of SS 5 : Part H5 : 2013) (Identical adoption of ISO 4628-5 : 2016)

This standard specifies a method for assessing the degree of flaking of coatings by comparison with pictorial standards.

Confirmation

Part D5 : Determination of through-dry state and through-dry time (SS 5 : Part D5 : 2013) (Identical adoption of ISO 9117-1:2009)

This standard specifies a test method for determining under standard conditions whether a single coat or a multi-coat system of paint, varnish or related material has reached the through-dry state after a specified drying period.

Part F5 : Washability (wet abrasion) of emulsion paint [SS 5 : Part F5 : 2003 (2013)]

This standard determines the scrub resistance of a paint applied to a plastic panel by subjecting the paint system to the abrasive action of a bristle brush wetted with a detergent solution.

Part F6 : Determination of wet-scrub resistance (SS 5 : Part F6 : 2014) (Modified adoption of ISO 11998:2006)

This standard describes an accelerated method for the determination of wet-scrub resistance.

Part H7 : Rating of degree of chalking by tape method (SS 5 : Part H7 : 2013) (Identical adoption of ISO 4628-6:2011)

This standard provides pictorial reference standards for designating the degree of chalking of paint coatings. It also describes a method by which the degree of chalking is rated.

Mature standards

Part A4 : Temperature and humidities for conditioning and testing [SS 5 : Part A4 : 2003 (2013)] (Identical adoption of ISO 3270:1984)

This standard specifies conditions of temperature and relative humidity for general use in the conditioning and testing of paints and varnishes and their raw materials. It is applicable to paints and varnishes in liquid or powder form, to wet or dry films, and their raw materials.

Part H1 : Evaluating degree of settling of paint [SS 5 : Part H1 : 1985 (2013)]

This standard covers the determination of the degree of pigment suspension and ease of remixing a shelf-aged sample of paint to a homogeneous condition suitable for the intended use.

Users of the SS 5 series of standards include testing laboratories, paints suppliers and manufacturers, contractors, consultants, architects, industry associations and relevant government agencies.

(IV) Quality and Safety

New

11. Code of practice for automotive workshops

The standard provides guidance to help the automotive repair industry carry out fair business practices. It covers the maintenance of automotive workshop premises, maintenance and safety of various equipment and activities, competency of personnel, post repair quality control processes, and pre and post sales procedures.

Potential users of the standard may include automotive repair workshops, industry associations, vehicle inspection centres, insurance companies in motor insurance trade, surveyors, academia and relevant government agencies.

Revision

12. Societal security – Business continuity management systems – Requirements (Revision of SS ISO 22301 : 2012) (Identical adoption of ISO 22301:2019)

This standard specifies requirements to implement, maintain and improve a management system to protect against, reduce the likelihood of the occurrence of, prepare for, respond to and recover from disruptions when they arise. The requirements specified in this standard are generic.

It is applicable to all sizes and types of organisations.

Copies of the drafts and standards are available at:

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All public libraries' multimedia stations and on personal internet/mobile devices (e.g. mobile phones, notebooks, tablets) at all public libraries via NLB eDatabases "Singapore and ISO Standards Collection" (refer to www.nlb.gov.sg/VisitUs.aspx for address and viewing hours)

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NOTE – The viewing period of the drafts and standards will expire on the closing of the 2-month public comment period and will no longer be available after this date.

B) Notification of Work Item Proposals

B.1 Proposed New Work Items

(I) Food

- 1. Clean and green standard for urban farms (agriculture)**
- 2. Clean and green standard for urban farms (aquaculture)**

These standards provide guidelines to certify urban agriculture/aquaculture farms that have established a sustainable (clean and green) farm production system. They cover farming techniques, practices and management to achieve clean and green production systems and farm products including measurement of resource efficiency.

Potential users of the standard may include urban agriculture and aquaculture farmers, suppliers, packers, import and export companies, retailers and relevant government agencies.

(II) **Manufacturing**

3. **Data interchange between robots, lifts and automated doorways to enable autonomous operations**

This Technical Reference (TR) defines the interoperability requirements (such as describing the datasets required) and recommends a protocol for communication between the robots, lifts and automated doorways. Standardised data exchange formats will enable interoperability among manufacturers and facilitate the deployment of robots within building compounds.

Potential users of this TR may include inspection and certification bodies, academia, research institutions, insurance companies, hospitals and government agencies (such as JTC Corporation, Infocomm Media Development Authority and Centre for Healthcare Assistive and Robotics Technology).

B.2 **Review of Singapore Standards**

(I) **Electrical and Electronic**

1. **Code of practice for maintenance of grid-tied solar photovoltaic (PV) power supply system (SS 601 : 2014) (Modified adoption of IEC 62446-1:2016+A1:2018)**

This standard describes the minimum commissioning tests, inspection criteria and documentation expected to verify the safe installation and proper operation of the PV power supply system (also referred to as PV system). It can also be used for periodic re-testing.

This standard is for grid connected PV systems only. It does not apply to AC module systems or systems that do not utilise energy storage (e.g. batteries) or hybrid systems.

Users of the standard may include the system designers and installers of grid connected solar PV systems, as well as engineers and technicians for verification and inspection of a grid connected PV system.

(II) **Manufacturing**

2. **Technical Reference (TR) for autonomous vehicles (AVs)**

Part 1 : Basic behaviour (TR 68 : Part 1 : 2019)

This TR gives the provisions relating to the dynamic driving task (DDT) and behaviour controlled by an AV's automated driving system (ADS). It covers:

- a) Conduct of autonomous driving, including but not limited to vehicle-to-vehicle interactions;
- b) Interpretation of road signs, markings and traffic signals; and
- c) Management of non-transferable rules.

Part 2 : Safety (TR 68 : Part 2 : 2019)

This TR gives the safety provisions for AVs deployed on public roads. Specifically, the use case of deployment in Singapore is considered.

The TR can be subdivided into two major fields:

- a) Design and production quality; and
- b) Safe operation in the context of specific applications in Singapore.

Part 3 : Cybersecurity principles and assessment (TR 68 : Part 3 : 2019)

This TR covers the cybersecurity assessment framework of AVs deployed on public roads. Specifically, the use case of deployment in Singapore is considered.

Part 4 : Vehicular data types and formats (TR 68 : Part 4 : 2019)

This TR applies to Level 4 and Level 5 AVs to be deployed as people mover systems (i.e. mobility-on-demand and scheduled transportation services that are equivalent to the Class 3 and 4 motor vehicle driving licence in Singapore).

It specifies vehicular data types and formats (but not the interchange syntax) for the following purposes:

- a) Data to be recorded by the data storage system for automated driving;
- b) Reasonable and adequate use of AV data to continuously improve safety;
- c) Management of dynamic content (e.g. high-definition mapping and road traffic information);
- d) Use in investigation and reporting of accidents and claim disputes; and
- e) V2X information exchange for enhancing safety and efficiency.

The TRs are reviewed with the intention to update them.

Users of TR 68 include AV developers, testing, inspection and certification bodies, academia, research institutions, insurance companies and government agencies (such as the Ministry of Transport, Land Transport Authority, Traffic Police, Singapore Land Authority and Cyber Security Agency).

(III) Quality and Safety

3. Code of practice for selection, use and maintenance of respiratory protective devices (SS 548 : 2009)

This standard sets forth accepted practices for respirator users. It provides information and guidance on the selection, use, and maintenance of respirators and contains recommendations for establishing a respiratory protection programme. It covers the use of respirators to protect persons against the inhalation of contaminants and oxygen-deficient atmospheres in the workplace.

Users of this standard include hospitals and healthcare institutions, marine industry, construction industry, relevant associations, tertiary institutions and relevant government agencies.

4. Societal security – Business continuity management systems – Guidance (SS ISO 22313 : 2013) (Identical adoption of upcoming ISO 22313)

This standard provides guidance based on good international practice for planning, establishing, implementing, operating, monitoring, reviewing, maintaining and continually improving a documented management system that enables organisations to prepare for, respond to and recover from disruptive incidents when they arise.

It is applicable to all sizes and types of organisations.

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 Leefung 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. What happens after I have submitted my comments?

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

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

Drafts will not be available after the public comment period.

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

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