

SINGAPORE STANDARD

**Specification for unplasticised PVC pipe
for cold water services and industrial uses**



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The organisations in which the experts of the Working Group are involved are:

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Housing & Development Board
PUB, the National Water Agency
SETSCO Services Pte Ltd
Singa Plastics Limited
Singapore Contractors Association Ltd
Singapore Plumbing Society
Singapore Sanitary Ware Importers & Exporters Association
Splendour Corporation Pte Ltd
TÜV SÜD PSB Pte Ltd
Vicplas Holdings Pte Ltd

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Foreword

This Singapore Standard was prepared by a Working Group appointed by the Technical Committee on Building Maintenance and Management which is under the purview of the Building and Construction Standards Committee. It is a revision of SS 141 : 1976 – ‘Specification for unplasticised PVC pipe for cold water services and industrial uses’.

This revision is to bring the standard up-to-date with the latest relevant overseas standards, in particular, the alignment of testing methods with international practices.

Tables 5 and 6 and Figures 1 to 3 of this standard are reproduced from ISO 1452-2 : 2009 – ‘Plastics piping systems for water supply and for buried and above-ground drainage and sewerage under pressure – Unplasticized poly(vinyl chloride) (PVC-U), Part 2 : Pipes’ with permission from the International Organization for Standardization (ISO). Copyright remains with ISO.

In the preparation of this standard, reference was made to the following publications:

1. AS 1477 : 2006 PVC pipes and fittings for pressure applications
2. BS 2782 series Methods of testing plastics
3. BS 3506 : 1968 Specification for unplasticised PVC pipe - For industrial uses
4. ISO 1452 series Plastics piping systems for water supply and for buried and above-ground drainage and sewerage under pressure - Unplasticized poly(vinyl chloride) (PVC U)

Acknowledgement is made for the use of information from the above publications.

At the time of publication, this standard is expected to be used by PUB, the national water agency, manufacturers, suppliers and retailers of water closets, water closet flushing cisterns and water closet pans, professional engineers, licensed water service plumbers and qualified persons for building projects.

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

NOTE

1. *Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions.*
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Specification for unplasticised PVC pipe for cold water services and industrial uses

1 Scope

This Singapore Standard applies to unplasticised polyvinyl chloride pipe up to and including 575 mm nominal size, for use in cold water services up to and including 25 °C intended for human consumption and for general purposes as well. It is also applicable to components for the conveyance of water up to 45 °C. For temperatures between 25 °C and 45 °C, Figure A.1 applies.

2 Normative references

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 509-2	Acetone for industrial use – Methods of test
ISO 1167-1	Thermoplastics pipes, fittings and assemblies for the conveyance of fluids – Determination of the resistance to internal pressure – General method
ISO 1167-2	Thermoplastics pipes, fittings and assemblies for the conveyance of fluids – Determination of the resistance to internal pressure – Preparation of pipe test pieces
ISO 1183-1	Plastics – Methods for determining the density of non-cellular plastics – Immersion method, liquid pycnometer method and titration method
ISO 1452-1:2009	Plastics piping systems for water supply and for buried and above-ground drainage and sewerage under pressure – Unplasticized poly(vinyl chloride) (PVC U) – General
ISO 2505	Thermoplastics pipes – Longitudinal reversion – Test methods and parameters
ISO 2507-1	Thermoplastics pipes and fittings – Vicat softening temperature – General test method
ISO 3126	Plastics piping systems – Plastics components – Determination of dimensions
ISO 6259-1	Thermoplastics pipes – Determination of tensile properties – General test method
ISO 6259-2	Thermoplastics pipes – Determination of tensile properties – Pipes made of unplasticized poly(vinyl chloride) (PVC-U), chlorinated poly (vinyl chloride) (PVC-C) and high-impact poly (vinyl chloride) (PVC-HI)
ISO 7686	Plastics pipes and fittings – Determination of opacity
ISO 9311-1	Adhesives for thermoplastics piping systems – Determination of film properties
ISO 9852	Unplasticized poly(vinyl chloride) (PVC-U) pipes – Dichloromethane resistance at specified temperature (DCMT) – Test method
ISO 18373-1	Rigid PVC pipes – Differential scanning calorimetry (DSC) method – Measurement of the processing temperature
SS 270	Elastomeric seals for joints in pipework and pipelines
SS 375 series	Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water