

SINGAPORE STANDARD

**Specification for unplasticised PVC pipes
and fittings below ground for drainlines
and sewers**



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Specification for unplasticised PVC pipes and fittings below ground for drainlines and sewers

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Housing & Development Board

PUB, the National Water Agency

SETSCO Services Pte Ltd

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Singapore Contractors Association Ltd

Singapore Institute of Architects

Singapore Plumbing Society

Singapore Sanitary Ware Importers & Exporters Association

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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 272 : 1983 – Specification for unplasticised PVC pipes below ground for drainlines and sewers. In this revision, the title of the standard has been changed to *Unplasticised PVC pipes and fittings below ground for drainlines and sewers* and the scope has been expanded to adequately address the requirements for fittings. This revision brings the standard up-to-date and makes it more comprehensive by incorporating recommendations made in the latest relevant international and overseas standards.

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

1	AS/NZS 1260 : 2009	PVC-U pipes and fittings for drain, waste and vent application
2	BS 4660 : 2000	Thermoplastics ancillary fittings of nominal sizes 110 and 160 for below ground gravity drainage and sewerage
3	BS 7874 : 1998	Method of test for microbiological deterioration of elastomeric seals for joints in pipework and pipelines
4	BS EN 681-1 : 1996	Elastomeric seals - Material requirements for pipe joint seals used in water and drainage applications – Vulcanised rubber
5	BS EN 681-2 : 2000	Elastomeric seals - Material requirements for pipe joint seals used in water and drainage applications – Thermoplastic elastomers
6	BS EN 682 : 2002	Elastomeric seals - Materials requirements for seals used in pipes and fittings carrying gas and hydrocarbon fluids
7	BS EN 1401-1 : 2009	Plastic piping systems for non-pressure underground drainage and sewerage – Unplasticized poly (vinyl chloride) (PVC-U) – Part 1: Specifications for pipes, fittings and the system
8	BS EN 13598-1 : 2010	Plastics piping systems for non-pressure underground drainage and sewerage - Unplasticized poly (vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) - Specifications for ancillary fittings including shallow inspection chambers
9	SS 213 : 1998	Unplasticised PVC pipes and fittings for soil, waste and vent applications
10	SS 270 : 1996	Elastomeric seals for joints in pipework and pipelines

Table 8 and Figure 7 of this standard were reproduced from EN 1401-1 : 2009 with permission from CEN.

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, 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 pipes and fittings below ground for drainlines and sewers

1 Scope

This standard specifies the requirements for unplasticised polyvinyl chloride (uPVC) pipes and fittings, and accessories for drainlines and sewers carrying sewage and/or waste water for use below ground.

2 Normative references

The following referenced documents are indispensable for the application of this standard. The latest edition of the referenced document (including any amendments) applies.

BS EN 580	Plastics piping systems - Unplasticized poly(vinyl chloride) (PVC-U) pipes - Test methods for the resistance to dichloromethane at a specified temperature (DCMT)
BS EN 727	Plastics piping and ducting systems - Thermoplastics pipes and fittings - Determination of Vicat softening temperature (VST)
BS EN ISO 580	Plastics piping and ducting systems - Injection-moulded thermoplastics fittings - Methods for visually assessing the effects of heating
BS EN ISO 2505	Thermoplastics pipes - Longitudinal reversion - Test methods and parameters
ISO 3126	Plastics piping systems - Plastics components - Determination of dimensions
ISO 18373-1	Rigid PVC pipes - Differential scanning calorimetry (DSC) method - Measurement of the processing temperature
ISO 18373-2	Rigid PVC pipes - Differential scanning calorimetry (DSC) method - Measurement of the enthalpy of fusion of crystallites
SS 270	Elastomeric seals for joints in pipework and pipelines