



Guideline – Engineering Products (Water and Sewer)

1 Foreword

This document contains a list of requirements for products to be installed in Hunter Water's water, sewer, recycled water and/or stormwater networks, and/or networks which are to become owned and operated by Hunter Water.

It is the responsibility of the Designers and Constructors to only specify, procure and install engineering products as outlined within this guideline.

Products used in water supply applications must have current product certification and evidence of compliance to AS/NZS 4020 Testing of products for use in contact with drinking water that is no older than 5 years old.

Hunter Water reserves the right to alter, amend or withdraw this document, at any time, without prior notice.

Further information and copies of Hunter Water Design Standards are available on the Hunter Water website: <http://www.hunterwater.com.au/Building-and-Development/Drawings-Plans-Specifications/>

General background information on products and materials is also available on the WSAA website (www.wsaa.asn.au).

We welcome any question, feedback or suggestions. Send them to standards@hunterwater.com.au

2 Requirements

Hunter Water's requirements for engineering products (water and sewer) include **ALL** of the following:

- A. Only [WSAA appraised products](#) in conjunction with the [WSAA Product Specification – Hunter Water Version](#) shall be used & installed in Hunter Water's networks; **AND**
- B. The [WSAA Product Specification – Hunter Water Version](#) shall be adhered to its entirety; **AND**
- C. The [Hunter Water WSAA codes](#) shall be adhered to their entirety in regard to standard product configurations (For example; Limitations for Gravity Sewerage Maintenance Chambers, etc.); **AND**
- D. Hunter Water will ensure that correct products are installed via the use of both random and targeted audits as required of constructed assets as part of the [Certification and Delivery of Developer Works](#); **AND**
- E. This Guideline includes a listing of:
 - **NON-PERMITTED PRODUCTS** – Based on Hunter Water's operational requirements and/or experience not all products and materials appraised by WSAA are approved for use in Hunter Water's water and sewer networks.
 - **NON-STANDARD PRODUCTS** – Contains a list of engineering products that have been deemed suitable for general use in Hunter Water's water and sewer networks. These engineering products are classified as non-standard engineering products. Examples of these specific products include; lightweight plastic MH access covers/make-up rings, plastic surface covers for spring hydrant and stop valves.

5 Acronyms and Abbreviations

The following list of acronyms and abbreviations are intended to assist designers and constructors. Please note this list is not exhaustive and other Australian and/or International standards may apply.

Please refer to the [WSAA Product Specification – Hunter Water Version](#) for applicable standards relating to each product.

Acronym or Abbreviation	Description
ABS	Acrylonitrile Butadiene Styrene
Amdt	Amendment
ANSI	American National Standards Institute
AS	Australian Standards
AWWA	American Water Works Association
CC	Centrifugally Cast
CIOD	Cast Iron Outside Diameter
DI	Ductile Iron
EN	European Standards
FW	Filament Wound
GRP	Glass Reinforced Plastic
ISO	International Organisation for Standardisation
PE	Polyethylene
PN	Pressure Number
PP	Polypropylene
PS	Product Specification
PVC-M	Polyvinylchloride, Modified
PVC-O	Polyvinylchloride, Oriented
PVC-U	Polyvinylchloride, Unplasticised
SDR	Standard Dimension Ratio
WMTS	Water Mark Technical Specification
WSAA	Water Supply Association of Australia

Australian and International Standards

Standard No.	Standard Title
AS 1260:2017	PVC-U Pipes and Fittings for Drain, Waste and Vent Applications
AS 1281:2001	Cement Mortar Lining of Steel Pipes and Fittings
AS 1379:2007	Specification and Supply of Concrete
AS 1432:2004	Copper Tubes for Plumbing, Gasfitting and Drainage Applications
AS 1477:2017	PVC Pipes and Fittings for Pressure Applications
AS 1579:2001	Arc-Welded Steel Pipes and Fittings for Water and Waste-Water
AS 1604.1:2012	Specification for Preservative Treatment - Sawn and Round Timber
AS 1646:2007	Elastomeric Seals for Waterworks Purposes
AS 1657:2013	Fixed Platforms, Walkways, Stairways and Ladders - Design, Construction and Installation
AS 2159:2009	Piling - Design and Installation
AS 2280:2014	Ductile Iron Pipes and Fittings

Standard No.	Standard Title
AS 2566.2:2002	Buried Flexible Pipelines - Structural Design
AS 2638.1:2011	Gate Valves for Waterworks Purposes - Metal Seated
AS 2638.2:2011	Gate Valves for Waterworks Purposes - Resilient Seated
AS 2648.1:1995	Underground Marking Tape - Non-Detectable Tape
AS 3518:2013	ABS Compounds, Pipes and Fittings for Pressure Applications
AS 3571:2009	Plastics Piping Systems – Glass-Reinforced Thermoplastics (GRP) Systems based on Unsaturated Polyester (UP) Resin – Pressure and Non-Pressure Drainage and Sewerage
AS 3680:2008	Polyethylene Sleeving for Ductile Iron Piping
AS 3705:2012	Geotextiles - Identification, Marking and General Data
AS 3879:2011	Solvent Cements and Priming Fluids for PVC (PVC-U and PVC-M) and ABS and ASA Pipes and Fittings
AS 3952:2002	Water Supply - Spring Hydrant Valve for Waterworks Purposes
AS 4020:2015	Testing of Products for use in Contact with Drinking Water
AS 4058:2007	Precast Concrete Pipes (Pressure and Non-Pressure)
AS 4129:2008	Fittings for PE Pipes for Pressure Applications
AS 4130:2009	Fittings for PE Pipes for Pressure Applications
AS 4158:2003	Thermal-bonded polymeric coatings on valves and fittings for water industry purposes
AS 4181:2013	Repair and Off-Take Clamps for Water Industry Purposes
AS 4198:1994	Precast Concrete Access Chambers for Sewerage Applications
AS 4310:2004	DN80 Piston Type Vacuum Interface Valves for Municipal Sewer Systems
AS 4327:1995	Metal-banded flexible Couplings for Low-Pressure Applications
AS 4441:2017	Orientated PVC (PVC-O) Pipes for Pressure Applications (ISO 16422:2014, MOD)
AS 4671:2001	Steel Reinforcing Materials
AS 4765:2017	Modified PVC (PVC-M) Pipes for Pressure Applications
AS 4793:2009	Mechanical tapping bands for waterworks purposes
AS 4794:2001	Non-return valves - Swing check and tilting disc
AS 4795.1:2011	Butterfly valves for waterworks purposes Double flanged
AS 4795.2:2011	Butterfly valves for waterworks purposes Wafer and lugged
AS 4796:2016	Water supply - Metal-bodied and plastic-bodied ball valves for property service connection
AS 4883:2017	Air valves for sewerage
AS 4956:2017	Air valves for water supply
AS 4998:2009	Bolted unrestrained mechanical couplings for waterworks purposes
AS 4999:2006	PVC-U maintenance shafts
AS 5065:2005	Polyethylene and Polypropylene Pipes and Fittings for Drainage and Sewerage Applications
AS 5081:2008	Hydraulically operated automatic control valves for waterworks purposes
AS 6401:2003	Knife gate valves for waterworks purposes
AS 681.1:2008	Elastomeric Seals – Material Requirements for Pipe Joint Seals used in Water and Drainage
AS 681.1:2008	Elastomeric seals - Material requirements for pipe joint seals used in water and drainage applications Vulcanized rubber
ASTM C990M-09	Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants (Metric)
EN 1074.1:2000	Valves for Water Supply - Fitness for Purpose Requirements and Appropriate Verification Tests Part 1: General Requirements

Standard No.	Standard Title
EN 1074.2:2000	Valves For Water Supply - Fitness For Purpose Requirements And Appropriate Verification Tests Part 2 - Isolating Valves
EN 124:2015	Gully Tops and Manhole tops for Vehicular and Pedestrian Areas
EN 12842:2012	Ductile Iron Fittings for PVC-U or PE Piping Systems - Requirements and Test Methods
EN 13101:2002	Steps For Underground Man Entry Chambers - Requirements, Marking, Testing And Evaluation Of Conformity
EN 1401:2009	Plastics Piping Systems for No-Pressure Underground Drainage and Sewerage
EN 14396:2004	Fixed Ladders For Manholes
EN 14525:2004	Ductile Iron Wide Tolerance Couplings and Flange Adaptors for Use with Pipes of Different Materials: Ductile Iron, Grey Iron, Steel, PVC-U, PE, Fibre-Cement
EN 295:2013	Vitrified Clay Pipe Systems for Drains and Sewers
EN 545:2010	Ductile Iron Pipes, Fittings, Accessories and Their Joints for Water Pipelines - Requirements and Test Methods
EN 598:2007	Ductile Iron Pipes, Fittings, Accessories and Their Joints for Sewerage Applications
EN 681-1:1996	Elastomeric Seals - Materials Requirements For Pipe Joint Seals Used In Water And Drainage Applications Part 1: Vulcanized Rubber
ISO 10467:2004	Plastics Piping Systems for Pressure and Non-Pressure Drainage and Sewerage
ISO 10639:2004	Plastics Piping Systems For Pressure And Non-Pressure Water Supply - Glass-Reinforced Thermosetting Plastics (Grp) Systems Based On Unsaturated Polyester (Up) Resin
ISO 25780:2011	Plastics piping systems for pressure and non-pressure water supply, irrigation, drainage or sewerage - Glass-reinforced thermosetting plastics (GRP) systems based on unsaturated polyester (UP) resin - Pipes with flexible joints intended to be installed using jacking techniques
ISO 9001	Quality Management Systems
WMTS-006-2014	Reflux Valves - Sewerage
WSA 109:2011	Industry standard for flange gaskets and O-rings
WSA 113:2002	Industry standard for reinforced concrete pipes with flexible thermoplastic linings
WSA 114:2002	Industry standards for concrete special class
WSA 115:2003	Industry standard for post-formed variable bend PVC fittings for non-pressure pipelines
WSA 129:2011	Industry standard for plastics collection tanks for pressure and vacuum sewers
WSA 133:2013	Industry standard for lightweight macro-composite access covers and compatible frames for water supply and sewerage
WSA 137:2013	Maintenance shafts and maintenance chambers for sewerage

7 Document Control

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2.0	J. Wynn	Minor Update	4/08/20	L. Backhausen	July 2021
3.0	J. Wynn	Amendment to Section 3 Non-Permitted Products	19/08/22	R. Main	As per Corporate Standard HW2013-421/22.002
4.0	T. Hartigan	Amendment to Section 3 Non-Permitted Products	18/09/23	R. Main	As per Corporate Standard HW2013-421/22.002