

Water Supply and Sewerage Approved Products Manual 2022

Sewerage Gravity Pipeline Systems – Vitrified Clay (VC)
Pipeline System



Section SGPS 02

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1 Pipes

1.1 Vitrified Clay (VC), spigot-spigot pipes

Compliance	Sizes DN(mm)	Length (m)	Products	Manufacturers
AS 1741	150	1.75	 	Hepworth SuperSleve
EN 295	225	2		
WSA PS – 231	300	2		

2 Fittings

2.1 Fittings notes

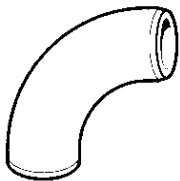
All VC fittings shall comply with the following standards:

- AS 1741: Vitrified clay pipes and fittings with flexible joints - Sewer quality
- EN 295: Vitrified clay pipe systems for drains and sewers Requirements for pipes, fittings and joints
- WSA PS – 231: Vitrified clay (VC) pipes and fittings for non-pressure applications sewerage

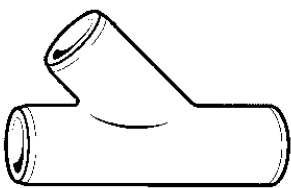
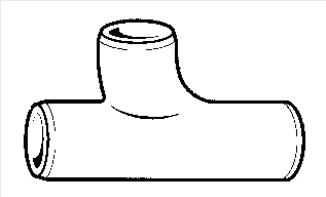
All fittings are available in the following diameter nominal (DN) sizes:

- 150 mm
- 225 mm
- 300 mm

2.2 Bends 15 to 90 degrees

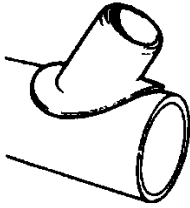
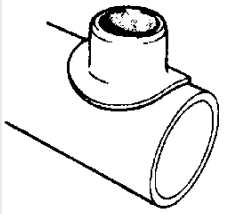
Bend	Products	Manufacturers
15° 30° 45° 90°		Hepworth SuperSleve

2.3 Junctions 45 and 90 degrees

Junction	Products	Manufacturers
45°		Hepworth SuperSleve
90°		

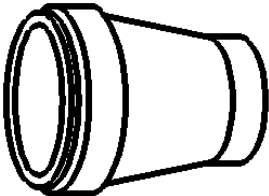
Notes: DN x dn includes 150 mm x 150 mm, 225 mm x 150 mm, 300 mm x 150/225/300 mm

2.4 Saddles

Junction	Products	Manufacturers
Spigot oblique saddles		Hepworth SuperSleve
Spigot square saddles		

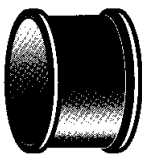

Notes: For R&M only. DN x dn includes 150 mm x 150 mm, 225 mm x 150 mm, 300 mm x 150/225 mm

2.5 Tapers

Type	Products	Manufacturers
Spigot-spigot taper		Hepworth SuperSleve

Notes: DN x dn includes 225 mm x 150 mm

2.6 Miscellaneous

Type	Products	Manufacturers
Couplings with elastomeric seals		Hepworth SuperSleve
Lubricant		

3 Specifications

3.1 SGPS 02 - 2 Pipes and fittings to AS1741

Standard:

- AS 1741: 1991 - Vitrified clay pipes and fittings with flexible joints – Sewer quality.

Design:

- **Hydraulic:**
 - VC pipes to AS 1741 have a minimum internal diameter closely approximating the nominal size.
 - The deviation of the internal diameter from the nominal size increases as pipe diameter increases being ± 3 mm for DN 100 mm up to ± 12 mm for DN 600.
- **Structural:** The class of pipe is defined by the ring crushing strength which can be directly used in structural design calculations.
- **Joint:** AS 1741 specifies only one standard jointing dimension system but allows other dimension systems to be specified by the purchaser.
- **Compatibilities:** Pipe of different classes are compatible.

Materials:

- **Pipe:**
 - A blend of clays from different locations and/or strata.
 - Shale, sand and prefired material may also be included.
 - Calcine clays included to minimise pipe wall permeability.
- **Joint sleeve:**
 - Polymer complying with ISO 175 for chemical resistance
 - Polypropylene to SP7 Appendix A
 - Stainless steel Grade AS1449/316.
- **Joint seal:** EPDM, SBR, NBR or other approved elastomer to AS 1646 and SP15.

Crushing strength (in kN/m):

DN	Class	Class	DN	Class	Class
	3	4		3	4
150	30	39	450	45	60
200	31	41	525	52	69
225	32	42	600	59	78
250	33	43	700	68	90
300	34	45	750	72	96
350	37	49	800	76	101
375	39	51	900	84	111
400	41	54	1000	89	121

Effective length:

Not specified

Markings (pipe and sleeve):

- Manufacturer's name and registered trademark (indented)
- Date of manufacture or equivalent identification (indented)
- Identification of factory location if manufacturer has more than one works (indented)
- Nominal size, e.g. DN 300 (indented or indelibly stencilled)
- Crushing strength class, e.g. class 3 (indelibly stencilled)
- The word 'SEWER' (indelibly stencilled)
- The word 'TOP' (indelibly stencilled)
- The letters 'BL', i.e. beam loading strength (indelibly stencilled)
- Product certification mark, i.e. StandardsMark.

Marking method:

- Indented or indelibly stencilled as shown above on the exterior in legible lettering, not less than 10 mm and 15 mm high respectively.

Use limits:

- Do not use in unstable ground, i.e. refilled ground, tidal zones.
- Do not use above ground or for crossing under water courses.

Contact

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