

HT Sleeve

The Naylor Hatherware HT (Thermal Shock Resistant) Sleeve system of DN100, 150, 225 and 300 plain-end specially formulated clay pipes and fittings with Band-Seal couplings, was developed for hot washing process drainage and is beneficial in many types of industrial processing, where frequent large changes in temperature are expected. HT pipe systems are manufactured to comply with the stringent requirements of BS EN295-1.

When installed in general accordance with the Naylor Sitework Instruction Booklet the Naylor HT Sleeve system meets the latest technical requirements of the Building Regulations Approved Document H and BS EN295-1.



Description

Clayware

Specially formulated thermal shock resistant clay plain-end pipes and fittings, manufactured in accordance with the requirements of BS EN295-1. The standard lengths of pipes are convenient for handling and laying to allow for flexible

joints at sufficiently frequent intervals to enable the pipeline to withstand settlement or other ground movement after installation.

Couplings

HT Sleeve Couplings

Manufactured in high impact polypropylene with elastomeric seals providing watertight, flexible mechanical joint assemblies, complying with BS EN295-1: System G. Coloured yellow for easy identification on site.

Band-Seal Chemical Couplings

Elastomeric Sleeve - Manufactured in high grade EPDM or Nitrile elastomers conforming to EN681-1.

Clamping Bands - Manufactured in a high corrosion resistant austenitic stainless steel to EN10088. Where external contamination demands a higher quality stainless this can be supplied to order.

Fluoropolymer Liner - A one-piece seamless FEP element located within the elastomeric sleeve. Expanded PTFE secondary seals ensure a leak tight joint between the FEP and the pipe. For the best results and to ensure a close

fit between the liner and the pipe the FEP liner is heat shrunk on site. The liner and seal are chemically inert and solvent resistant to virtually all chemicals.

Joint Performance

Hatherware joint assemblies meet all the requirements of BS EN295-1. They accept angular deflection and shear resistance without leakage, when tested under an internal or external water pressure of 50kPa (5metres head).

Aggressive Environments

Naylor HT is suitable for handling sudden changes in effluent temperatures frequently experienced in boiler blowdown drains, bottle washing or sterilisation areas in the dairy, food or drinks industries. In addition when used in conjunction with Band-Seal Chemical Couplings, HT pipes and fittings may be used to handle aggressive discharges.

Specification

The following statement is a suitable clause for inclusion in contract specification:

Pipes and Fittings

High temperature resistant chemical clayware plain-ended pipes and fittings (HT Sleeve as manufactured by Naylor Hatherware, Clough Green, Cawthorne, Barnsley).

Availability

Hatherware HT Sleeve is available directly from the manufacturer. Contact the Hatherware Technical Department for details: 01226 794058.

Structural Performance

Naylor Hatherware HT Sleeve pipes can usually be laid directly on a hand trimmed natural trench bottom with selected, excavated materials (Class D Bedding) used as backfill. In case of contaminated land, contact the Naylor Hatherware Technical department on 01226 794058.

Crushing Strengths

BS EN295-1 includes a variety of crushing strengths for each nominal size of pipe as it takes into account the strength requirements in various parts of Europe. As it is impracticable for any single manufacturer to offer pipes and fittings in the full range of strengths, Naylor Hatherware has standardised on the strengths shown in the table below

Pipe Nominal Size (DN)	Crushing Strength kN/m	Standard Length (metres)
100	34	1.5
150	40	1.75
225	45	1.25
300	72	1.25

Range

A full system is offered from DN100 to DN300 with an extensive range of fittings, including bends, junctions and tapers, particularly suitable for industrial drainage applications.

Naylor Hatherware HT Sleeve system can be used in conjunction with other Naylor underground and with other above-ground systems. Connections are made by using purpose made connectors and adaptors or by use of Band-Seal couplings.

Pipe Trench Beddings

Depths of cover between which Naylor Hatherware HT Sleeve pipes conforming to BS EN295-1 can be laid, in any width of trench, are found in the Naylor Drainage Design Handbook.

Advantages

It is a major advantage of the Naylor Hatherware HT Sleeve system that the plain-end pipes can be quickly and easily cut to intermediate lengths on site and can still be jointed using Band-Seal Chemical Couplings. This feature retains the ease in jointing, reduces wastage and damage and is particularly cost effective.

Flexibility

The flexible Band-Seal Chemical Coupling joints ensure that the pipeline will accommodate minor settlement and ground movement without failure.

Strength

The specially formulated clay pipes and fittings are rigid and do not distort under loading. Their high inherent strength ensures stability even at extreme depths of cover.

Bedding Economy

Hatherware HT Sleeve pipes can often be laid on the natural, trimmed trench bottom or where not possible on a 50mm bed of inexpensive granular material such as recycled aggregates. As dug material can be used for the backfill, all resulting in significant savings in granular bedding materials.

Chemical Resistance

The chart at the back of this technical handbook gives details of the resistance of the HT Sleeve system to a range of chemicals but it is advisable to consult the Naylor Hatherware Technical Department on 01226 794058 for more specific advice, particularly where temperatures are above ambient or a combination of chemicals are involved.

Durability

The Hatherware HT Sleeve system is extremely durable. For design purposes, a chemical stoneware clay pipeline can be considered to have unlimited life.

Water Jetting

The Hatherware HT Sleeve system, when installed in general accordance with the Naylor Sitework Instructions Booklet is guaranteed for the lifetime of the system against penetration of the pipe wall caused by high pressure water jetting when operated with the following maximum parameters:

Pressure - 7500psi (510Bar)

Flow rate - 20gals/min (1.5Ltrs/sec)

Time - Static for 5 minutes

Pipe Lengths and Delivery

Naylor Hatherware HT Sleeve Pipes are supplied in easy-to-handle lengths. They are delivered in convenient packs with optional mechanical offloading equipment available on the delivery vehicle.


Easy Cutting

Where shorter lengths of pipe are required, pipes may be easily cut on site.

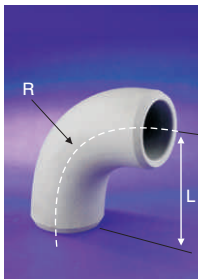
HT Sleeve Pipes & Fittings

DN100, 150, 225 and 300 plain-end specially formulated clay pipes and fittings with Band-Seal Chemical Coupling joints. Where less aggressive discharges are expected, the Naylor HT sleeve coupling can be utilised instead of chemical couplings leading to a more cost-effective system. Contact the Naylor Hatherware Technical Department on 01226 794058 for assistance.

Pipes & Bends

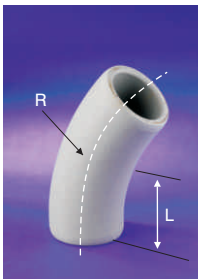


Pipes			
DN	CODE	L	
100	83090	1.5M	
150	83088	1.75M	
225	83037	1.25M	
300	83034	1.25M	

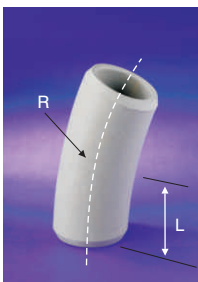


Bends (90°)				
DN	CODE	L	R	
100	83382	190	150	
150	83385	230	190	
225	83041	310	250	
300	83045	360	300	

15°, 30° and 60° Bends also available



Bends (45°)				
DN	CODE	L	R	
100	83383	190	375	
150	83387	230	475	
225	83040	310	600	
300	83033	310	600	



Bends (22½°)				
DN	CODE	L	R	
100	83377	150	750	
150	83402	180	900	
225	83039	250	1200	
300	83034	250	1200	



Bends (11¼°)				
DN	CODE	L	R	
100	83376	120	1500	
150	83401	175	1750	
225	83038	245	2400	
300	83035	245	2400	



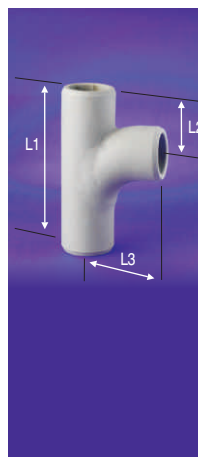
Rest Bend				
DN	CODE	L	R	
100	83073	250	220	
150	83089	270	250	
225		310	250	
300		360	300	

Junctions



Oblique (45°)					
DN	CODE	L1	L2	L3	
100x100	83378	380	250	240	
150x100	83379	450	330	300	
150x150	83384	450	330	350	
225x100	83342	500	380	375	
225x150	83031	500	360	420	
225x225	83043	700	530	500	
300x150	83025	600	480	490	
300x225	83047	750	530	550	
300x300	83048	900	600	615	

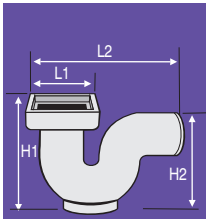
Other sizes available on request



Curved Square (90°)					
DN	CODE	L1	L2	L3	
100x100	83074	380	145	180	
150x100	83080	450	225	180	
150x150	83081	450	185	225	
225x150	83082	600	220	290	
225x225	83083	700	290	300	

Other sizes available on request

Gully



Square P Gully

DN Outlet	100
L1	150x150
L2	350
H1	350
H2	180
Code	83071

Grate for P Gully & Hoppers

Loose Grate

CODE	SIZE
	152x152

Made from Pipe material
Made to Order

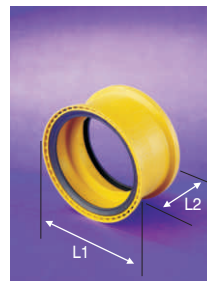
Hoppers



Square

DN	CODE	L	H
100		150	285

Couplings



EPDM Seals as standard Nitrile also available

DN	CODE	L1	L2
100		155	90
150		220	120
225		320	155
300		410	190

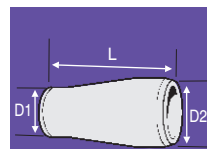


Horizontal 100mm Inlet

DN	CODE	L	H1	H2
100		150	285	160

Made to Order

Tapers



Taper

DN D1-D2	CODE	L
100-150	83398	300
150-225	83029	380
225-300	83046	500

Made to Order



Vertical 100mm Inlet

DN	CODE	L	H
100		150	285

Made to Order

Sitework Equipment



Lubricant

50001	1Kg Tub
50002	2.5Kg Tub
DN	Average Number of Joints per 1Kg Tub
100	100
150	50
225	30
300	24

Low Back Trap



P Outlet 92½°

DN	CODE	L	H1	H2
100	83388	350	295	240
150		450	400	320

Other sizes Made to Order

NB: Measurements are only as a guideline