

TECHNICAL MEMORANDUM 013 PART 2

(Edition 1)

LAYING UNDERGROUND PIPEWORK TO SPECIFIC FALLS QUICK REFERENCE GUIDE TABLES EXTRACTED FROM THE APPROVED DOCUMENTS PART H DRAINAGE

- The following tables have been extracted from the Approved Document Part H (Drainage). The extracts can be used as a quick reference to find the falls (gradients) required when laying underground pipes carrying foul water or surface rainwater.
- Please note that you should always seek guidance from your professional advisors if you have unusual circumstances on your site, such as very un-even terrain, or requirements to remove water from basement levels etc.

Materials for pipes and jointing

Table 7 Materials for below ground gravity drainage

Material	British Standard
Rigid pipes	
Vitrified clay	BS 65, BS EN 295
Concrete	BS 5911
Grey iron	BS 437
Ductile iron	BS EN 598
Flexible pipes	
UPVC	BS EN 1401+
PP	BS EN 1852+
Structure walled plastic pipes	BS EN 13476
+ Application area code UD should normally be specified	
Note: Some of these materials may not be suitable for conveying trade effluent	

Paragraph and table extracted from the Approved Document Part H – Drainage
Any of the above materials shown are suitable for below ground gravity drains.

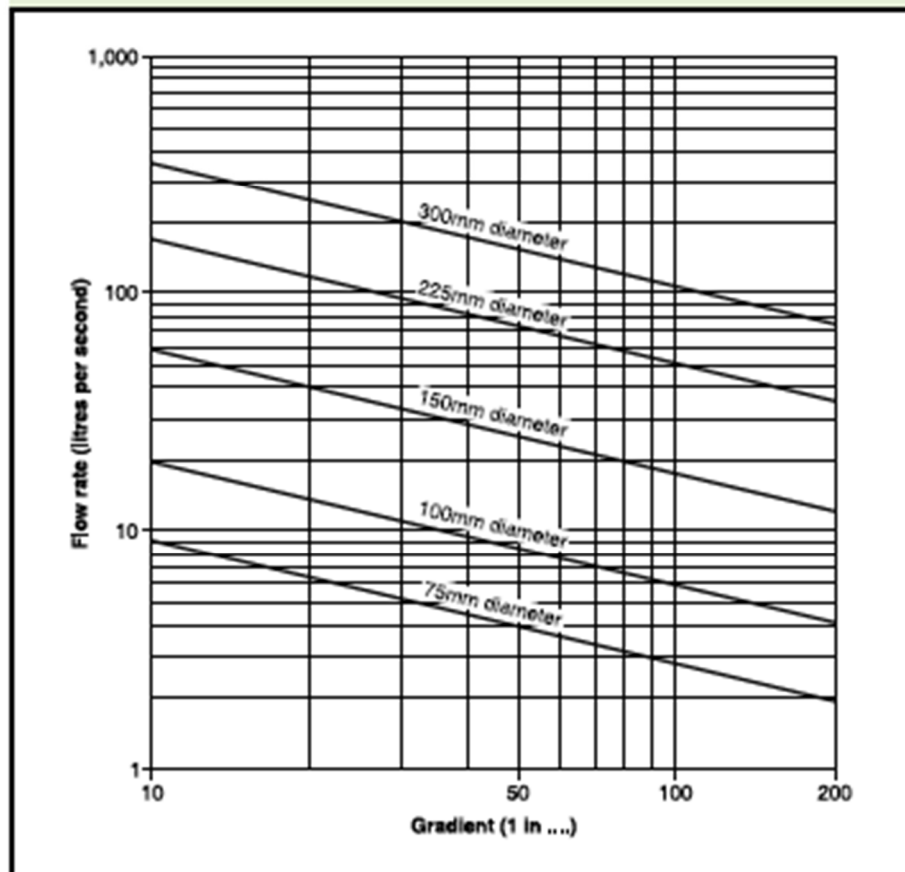
Table 6 Recommended minimum gradients for foul drains

Peak flow (litres/sec)	Pipe size (mm)	Minimum gradient (1 in ...)	Maximum capacity (litres/sec)
< 1	75	1:40	4.1
	100	1:40	9.2
> 1	75	1:80	2.8
	100	1:80*	6.3
	150	1:150†	15.0
Notes:			
* Minimum of 1 WC			
† Minimum of 5 WCs			

Paragraph and table extracted from the Approved Document Part H - Drainage

3.15 75mm and 100mm rainwater drains should be laid at not less than 1:100. 150mm drains and sewers should be laid at gradients not less than 1:150 and 225mm drains should be laid at gradients not less than 1:225. For minimum gradients for larger pipes see BS EN 752-4 (see paragraph 3.36).

Diagram 3 Discharge capacities of rainwater drains running full



Paragraph and table extracted from the Approved Document Part H - Drainage

Table 11 Minimum dimensions for access fittings and inspection chambers

Type	Depth to invert from cover level (m)	Internal sizes		Cover sizes	
		Length x width (mm x mm)	Circular (mm)	Length x width (mm x mm)	Circular (mm)
Rodding eye		As drain but min. 100			Same size as pipework ¹
Access fitting					
small	150 diam.				
	150 x 100	0.6 or less, except where situated in a chamber	150 x 100	150	150 x 100 ¹
large	225 x 100		225 x 100	225	225 x 100 ¹
Inspection chamber					
shallow	0.6 or less	225 x 100	190 ²	–	190 ¹
	1.2 or less	450 x 450	450	Min. 430 x 430	430
deep	> 1.2	450 x 450	450	Max. 300 x 300 ³	Access restricted to max. 350 ³
Notes:					
1. The clear opening may be reduced by 20mm in order to provide proper support for the cover and frame.					
2. Drains up to 150mm.					
3. A larger clear opening cover may be used in conjunction with a restricted access. The size is restricted for health and safety reasons to deter entry.					

Responsibility for compliance

People who are responsible for building work (e.g. agent, designer, builder or installer) must ensure that the work complies with all applicable requirements of the Building Regulations. The building owner may also be responsible for ensuring that work complies with the Building Regulations. If building work does not comply with the Building Regulations, the building owner may be served with an enforcement notice.