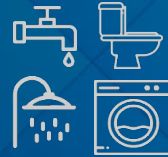


# Developing New Zealand's Building Code

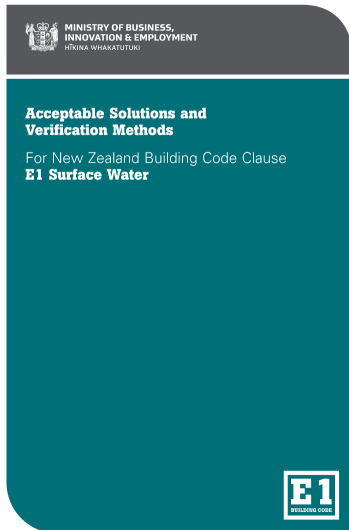
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To support plumbing work across NZ

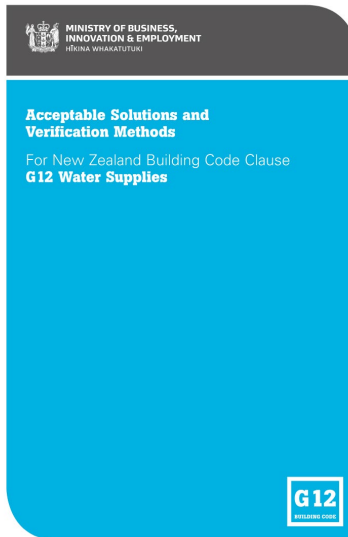




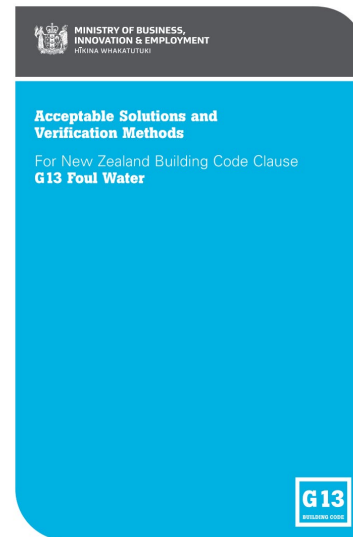
**SURFACE WATER** Disposal of rainwater from external surfaces and confirmation surface water cannot enter the building.



**WATER SUPPLIES** Requires the safe supply, storage, reticulation and delivery of hot and cold water.



**FOUL WATER** Requires the safe disposal of foul water to prevent illness and the loss of amenity due to odour and accumulated matter.



# AS/NZS 3500:2021 Standards





## Status Quo

### Verification Method G12/MM1

#### 1.0 Water Supply System

1.0.1 A design method for *water supply systems* may be verified as satisfying the Performances of NZBC G12 if it complies with:

- a) AS/NZS 3500.1 Section 2, Section 3 and Appendix C: Sizing method for supply piping for dwellings (note that Appendix C is part of this Verification Method even though it is included in the standard as an “Informative” Appendix), and
- b) AS/NZS 3500.4.

## Prospective

### Pipe sizing VM for various buildings

- Residential
- Offices
- Hotels
- Aged care facilities
- Hospitals
- Schools
- Commercial premises.



# Pipe Sizing Methods Assessed

BRITISH STANDARD

BS EN  
806-3:2006

Specifications for  
installations inside  
buildings conveying  
water for human  
consumption —

Part 3: Pipe sizing — Simplified method

The European Standard EN 806-3:2006 has the status of a  
British Standard

ICS 91.140.60

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AN AMERICAN NATIONAL STANDARD  
IAPMO/ANSI UPC 1 - 2018

## 2018 UNIFORM PLUMBING CODE®

Water Demand Calculator (WDC v2.1)

Category	Item	WATER USE PER UNIT PER HOUR	PERIOD PER DAY	WATER USE PER UNIT PER YEAR	NUMBER OF UNITS PER YEAR	WATER USE PER YEAR (GALLONS)	WATER USE PER YEAR (LITERS)
Bathrooms	Standard	1.5	1	1.5	1	1.5	5.48
	Master	2.0	1	2.0	1	2.0	7.32
	Guest	1.0	1	1.0	1	1.0	3.64
	Child	0.5	1	0.5	1	0.5	1.82
Kitchens	Standard	1.0	1	1.0	1	1.0	3.64
	Master	1.5	1	1.5	1	1.5	5.48
	Guest	0.5	1	0.5	1	0.5	1.82
	Child	0.2	1	0.2	1	0.2	0.73
Laundry	Standard	1.0	1	1.0	1	1.0	3.64
	Master	1.5	1	1.5	1	1.5	5.48
	Guest	0.5	1	0.5	1	0.5	1.82
	Child	0.2	1	0.2	1	0.2	0.73
Closets	Standard	0.5	1	0.5	1	0.5	1.82
	Master	0.7	1	0.7	1	0.7	2.55
	Guest	0.3	1	0.3	1	0.3	1.10
	Child	0.1	1	0.1	1	0.1	0.36
Halls	Standard	0.5	1	0.5	1	0.5	1.82
	Master	0.7	1	0.7	1	0.7	2.55
	Guest	0.3	1	0.3	1	0.3	1.10
	Child	0.1	1	0.1	1	0.1	0.36
Stairways	Standard	0.5	1	0.5	1	0.5	1.82
	Master	0.7	1	0.7	1	0.7	2.55
	Guest	0.3	1	0.3	1	0.3	1.10
	Child	0.1	1	0.1	1	0.1	0.36
Other	Standard	0.5	1	0.5	1	0.5	1.82
	Master	0.7	1	0.7	1	0.7	2.55
	Guest	0.3	1	0.3	1	0.3	1.10
	Child	0.1	1	0.1	1	0.1	0.36

ANSI FIBS MCAA IPC

DEUTSCHE NORM May 2012

**DIN 1988-300** **DIN**

ICS 91.140.60

Together with  
DIN EN 806-3:2006-07,  
supersedes  
DIN 1988-3:1988-12;  
supersedes  
DIN 1988-3 Supplement 1:  
1988-12

**Codes of practice for drinking water installations –  
Part 300: Pipe sizing; DVGW Code of practice,  
English translation of DIN 1988-300:2012-05**

Technische Regeln für Trinkwasser-Installationen –  
Teil 300: Ermittlung der Rohrdurchmesser; Technische Regel des DVGW,  
Englische Übersetzung von DIN 1988-300:2012-05

Directives techniques pour installations d'eau potable –  
Partie 300: Calcul du diamètre des tuyaux; Directive technique DVGW,  
Traduction anglaise de DIN 1988-300:2012-05

Document comprises 44 pages

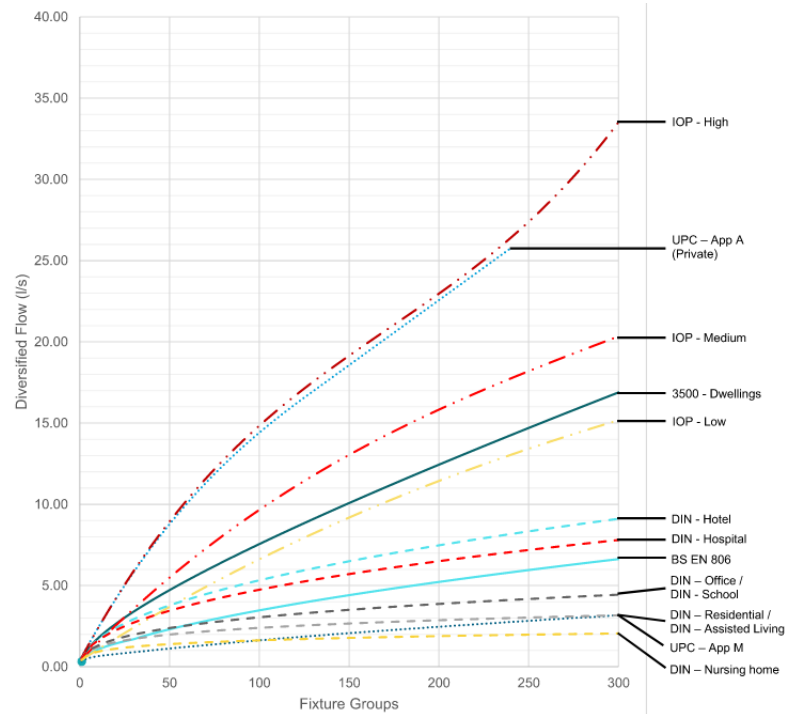
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## Plumbing Engineering Services Design Guide

**The Institute of Plumbing**

# Pipe Sizing Diversity Curves





## DIN-1988-300:2012

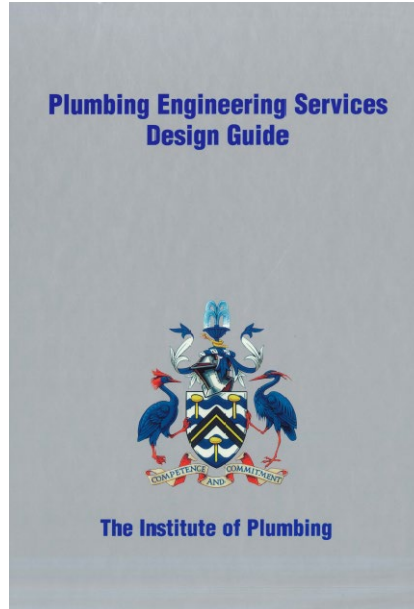
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## Plumbing Engineering Services Design Guide 2002 (IOP)

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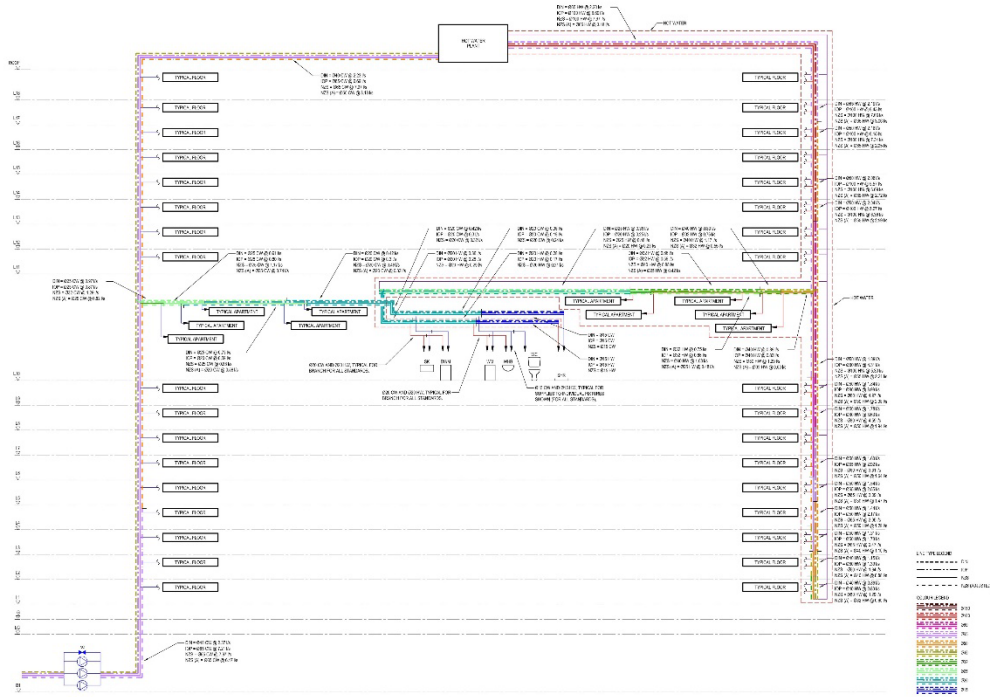
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DIN 1988-300		<b>DIN</b>
ICS 91.140.60		
<p>Codes of practice for drinking water installations – Part 300: Pipe sizing; DVGW Code of practice, English translation of DIN 1988-300:2012-05</p>		<p>Together with DIN EN 806-2:2009-07, supersedes DIN 1988-3:1988-12; supersedes DIN 1988-3 Supplement 1: 1988-12</p>
<p>Technische Regeln für Trinkwasser-Installationen – Teil 300: Ermittlung der Rohrdurchmesser; Technische Regel des DVGW, Englische Übersetzung von DIN 1988-300:2012-05</p> <p>Directives techniques pour installations d'eau potable – Partie 300. Calcul du diamètre des tuyaux; Directive technique DVGW, Traduction anglaise de DIN 1988-300:2012-05</p>		
Document comprises 44 pages		
<p>DIN-Normenausschuss Wasserwesen (NAW) DIN-Sprachendienst</p>		



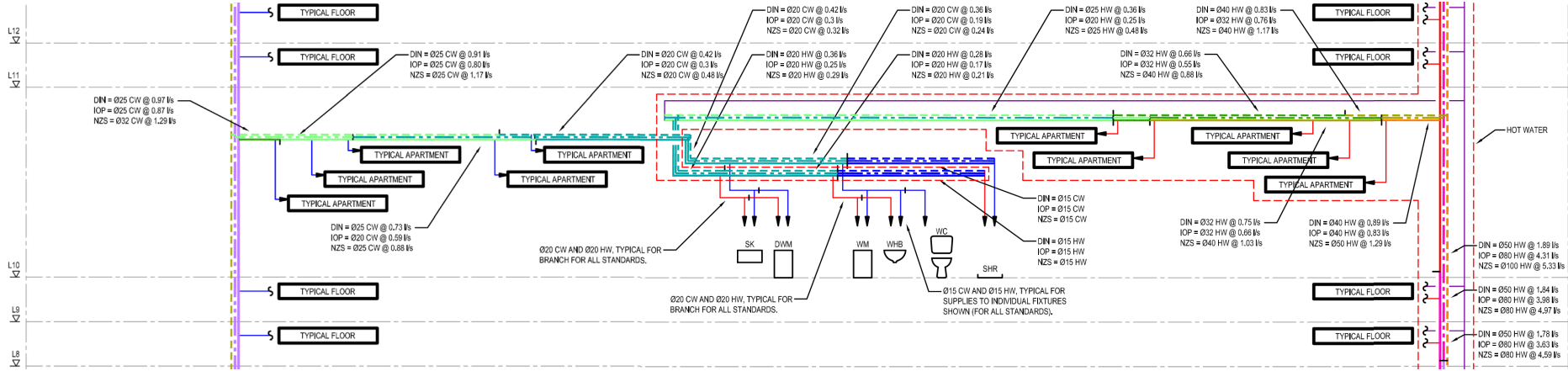
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# Pipe Sizing Comparison





# Pipe Sizing Comparison





## 5.2 Stage 3 Results

### 5.2.1 Simultaneous Flow Demand Curves for Representative Buildings

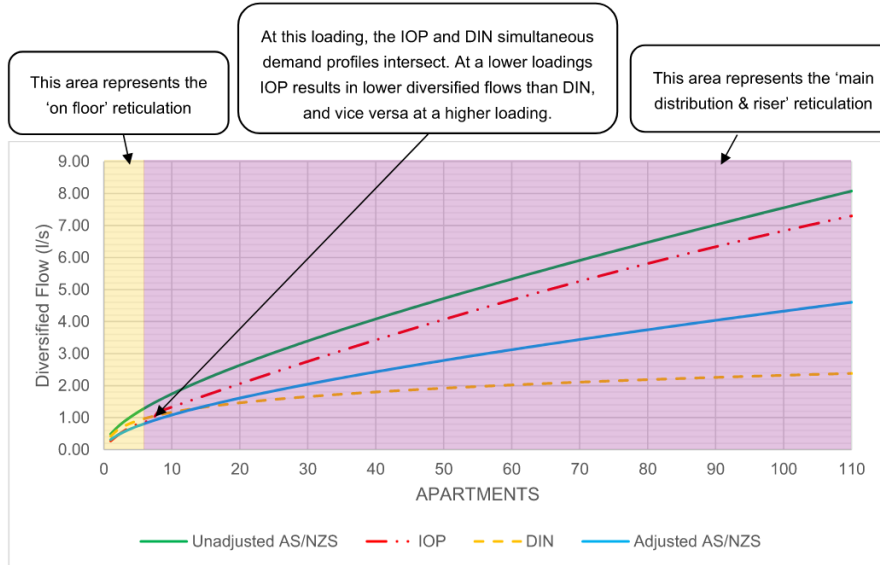


Figure 2 – Maximum Simultaneous Demand Profiles – Representative Apartment Building

# Pipe Sizing Comparison Findings

DIN-1988-300:2012

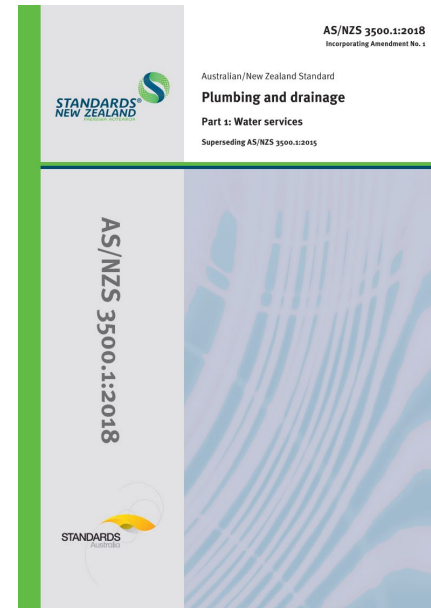
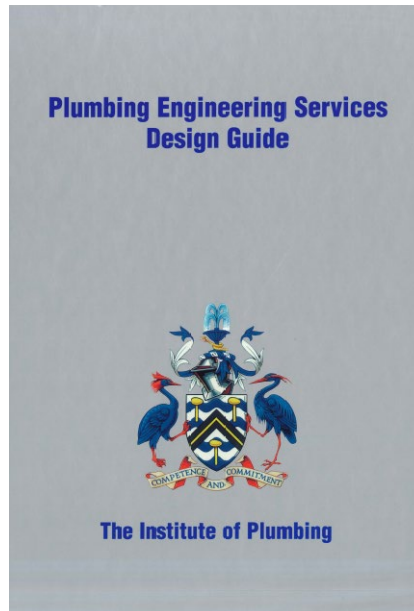
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# Questions

