



How is it possible that our latest **AS3500.4:2015** can overrule the recommendations of the International Copper Association Australia (ICAA, former CDA) when it comes to hot potable water velocities in **Copper** hot potable water circulation and non-circulation systems??

AS/NZS 3500.4:2015

1.8 VELOCITY REQUIREMENTS

The maximum water velocity in piping shall be in accordance with Table 1.8.

TABLE 1.8
MAXIMUM ALLOWABLE FLOW VELOCITIES

Piping	Maximum flow velocities m/s	
	Copper pipes	Other materials
Circulatory	1.2	2.0
Other	3.0	3.0

NOTES:

- 1 Circulatory piping means piping where there is forced circulation of heated water.
- 2 Circulatory piping does not include—
 - (a) systems where the circulatory flow only occurs in response to activation by a user; and
 - (b) primary circulation in a solar water heater.
- 3 In circulatory piping, the maximum flow velocity is derived from the sum of forced circulation and probable simultaneous demand flow in the relevant section of piping.

Recommended Water Velocities				
Service	Velocity Range m/s.			
	Recommended Design Velocity m/s	Institute of Plumbing Australia Selection and Sizing of Copper Tubes for Water Piping Systems	Australian Standards AS 3500.4 2003 +Amend 1&2	British Standard BS 6700:2006 +A1:2009
Cold Water - Mains pressure water services pipelines	Up to 2.4 Up to 1.6 within Dwelling / Apartment	1.0 to 2.1	Max. 3.0	Max. 3.0
Cold Water - Gravity flow pipelines from upper level storage tanks – Top two floors only	0.1 to 0.4	0.1 to 0.4	Max. 3.0	Max. 3.0
Cold Water - Gravity flow pipelines from upper level storage tanks – below top two floors	1.0 to 2.1	1.0 to 2.1	Max. 3.0	Max. 3.0
Cold Water - Pump suction pipelines	1.2 to 2.1	1.2 to 2.1	Max. 3.0	Max. 3.0
Cold Water - Pump delivery pipelines	1.5 to 2.1	1.5 to 2.1	Max. 3.0	Max. 3.0
Heated water - Flow and return – circulating system	1.0	Not Specified	Not Specified	Max. 3.0
Heated water - Non-circulatory systems	2.0	1.0 to 2.1	Max. 3.0	Max. 3.0

Table 17.1
Recommended Water Velocities for Cold and Heated Water Supplies

International Copper Association Australia





Recommended Water Velocities				
Service	Velocity Range m/s.			
	Recommended Design Velocity m/s	Institute of Plumbing Australia Selection and Sizing of Copper Tubes for Water Piping Systems	Australian Standards AS 3500.4 2015	British Standard BS 6700:2006 +A1:2009
Cold Water - Mains pressure water services pipelines	Up to 2.4 Up to 1.6 within Dwelling / Apartment	1.0 to 2.1	Max. 3.0	Max. 3.0
Cold Water - Gravity flow pipelines from upper level storage tanks – Top two floors only	0.1 to 0.4	0.1 to 0.4	Max. 3.0	Max. 3.0
Cold Water - Gravity flow pipelines from upper level storage tanks – below top two floors	1.0 to 2.1	1.0 to 2.1	Max. 3.0	Max. 3.0
Cold Water - Pump suction pipelines	1.2 to 2.1	1.2 to 2.1	Max. 3.0	Max. 3.0
Cold Water - Pump delivery pipelines	1.5 to 2.1	1.5 to 2.1	Max. 3.0	Max. 3.0
Heated water - Flow and return – circulating system	1.0	Not Specified	Max. 1.2	Max. 3.0
Heated water - Non-circulatory systems	2.0	1.0 to 2.1	Max. 3.0	Max. 3.0

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Recommended Water Velocities for Cold and Heated Water Supplies

