

## Sleepers Installation Guide

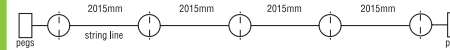
This example is based on installing a 1m high retaining wall with 2m sleepers. Icon Walls Pty Ltd always recommends that you consult structural engineers and or local council before building any walls

### SPECIFICATIONS:

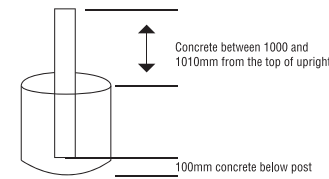
- SLEEPER CONCRETE GRADE AS PER TABLE BELOW. RIGID FORMWORK & INTENSE CONCRETE COMPACTION IN ACCORDANCE WITH AS3600 IS REQUIRED FOR CASTING EACH SLEEPER. THE MIX CONCRETE SHALL HAVE A MAXIMUM AGGREGATE OF 14mm. NOTE: 80mm THICK CONCRETE SLEEPERS SHALL NOT BE USED WITHIN 1km FROM THE COASTLINE.
- HAND COMPACTING EQUIPMENT ONLY IS PERMITTED TO BE USED ADJACENT SLEEPERS (WITHIN DISTANCE=0.75Hs)
- SLEEPERS SHALL BE HANDLED WITH DUE CARE DURING TRANSPORTATION & ERECTION. CRACKED OR DAMAGED SLEEPER WILL NOT BE USED.
- SLEEPER MINIMUM END BEARING LENGTH SHALL NOT BE LESS THAN 25mm EACH END.
- FOR DETERMINATION OF THE APPROPRIATE SLEEPER TYPE, THE HEIGHT IS MEASURED FROM THE TOP OF THE WALL TO THE APPLICABLE SLEEPER. A WALL FACE CROSS SECTION MAY CONSIST OF VARIOUS SLEEPER TYPES.

### SLEEPER CONCRETE GRADE

SURFACE & EXPOSURE ENVIRONMENT	SLEEPER THICKNESS 't'		
	80mm	100mm	150mm
INLAND (>50km FROM COASTLINE)	32MPa	32MPa	40MPa
NEAR-COASTAL (1km TO 50km FROM COASTLINE)	32MPa	32MPa	40MPa
COASTAL (WITHIN 1km FROM COASTLINE)	-	40MPa	40MPa

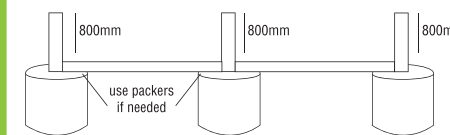
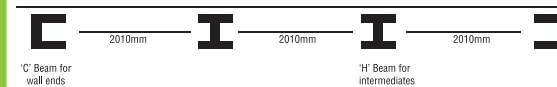


You will need to set a string line along the line of the proposed retaining wall. Set your pegs 500mm past each end of the retaining wall so that the end holes do not disturb your string line. Mark out where each hole will need to be dug (hole centres should be 2015mm apart for 2m sleepers).



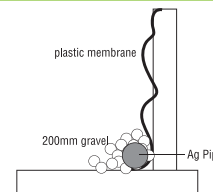
Holes should be dug to the same height as the wall, plus 100mm. For example, a 1m high wall should be dug to 1000mm+100mm = 1100mm. Hole diameters should be approximately 450mm.

Once your holes are dug, concrete your steel uprights in place leaving a gap of 2010mm between them. The easiest way to do this is to cut a piece of wood to the right length. Check each upright with a spirit level as you go. The distance from the top of the upright to the top of the concrete should be 1000 to 1010mm.

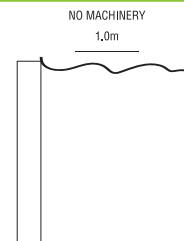


Once the posts have set for at least 24 hours you can start slotting your sleepers. In most cases it is best to set your bottom sleeper first, then check the measurement from the top of the sleeper to the top of the upright. For a 1m wall you should end up with 800mm. If measurement is more place packers underneath until it is correct.

Packers should be made of a material that will not disintegrate



Once your sleepers are slotted you will need to place a plastic membrane behind the wall, and place Ag pipe along the bottom. Cover the Ag pipe with 200mm of gravel to allow sufficient draining



Concrete sleepers are designed to take the pressure of soil behind them, however it is not recommended to compact directly behind the wall. **As a general rule you should never compact and closer to the wall than its height**, so for a 1m wall heavy machinery should be kept at least 1m away from it

NOTE: These instructions are supplied as a basic guide only. Icon Walls Pty Ltd accepts no responsibility in regards to the installation of a wall, or for any issues that occur as a result of an incorrect installation. For large walls, structural engineers should be employed to ensure structural integrity. Any queries contact your local council.