



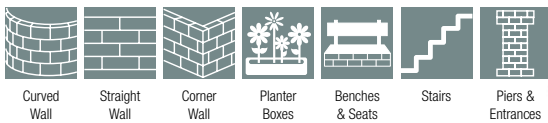
### No-Fines Concrete Wall Construction

Modernstone™ is our flagship retaining wall system. Long and sleek with a sharp picture framed split face finish, Modernstone™ versatile appeal complements the cutting edge architectural designs through to the contemporary and the classic.

#### Benefits

- Genuine split face with premium exposed aggregate flush face finish with bevelled surrounds
- Unique universal corner block enables 90 degree corners without any fuss
- Can be used for straight and curved walls
- Near vertical installation for maximum land utilisation
- Purpose made cap with genuine split face for premium finish
- Suitable for walls up to 2mtr\* (walls over 1mtr require specific engineering & certification)
- Bayferrox® colour pigments provide long lasting finish
- Manufactured locally by National Masonry® to strict Australian Standards

#### Where to use



#### Which colour

Available in 4 unique and contemporary colours



Charcoal Portstone Light Sands Cafe Creme



Modernstone® Standard



Modernstone® Corner



Classic Cap

Special purpose construction such as waterside walls, post fixing, earthquake zones, and terraces will require additional engineer's design.

#### STEP 1:

##### Excavation/Preparation of Levelling Pad

- Excavate a trench 600mm wide and sufficiently deep to allow a 150mm levelling base plus 1 course below ground.

#### STEP 2:

##### Installing the First Course

Lay the first course of Modernstone™ units side by side over the prepared base. Bolster off the tails so that 'No-Fines' concrete connects backfill to core-fill areas.

#### STEP 3:

##### No-Fines Concrete Backfill

- Backfill the first 2 1/2 courses of the wall with 'No Fines' concrete.
- All voids inside and between the units must also be filled. The vertical height of any pour of 'No Fines' concrete is limited to 400mm. For walls greater in height, each pour must be allowed to harden prior to pouring the next lift. Alternatively the wall maybe propped to support the lateral load from the wet concrete.

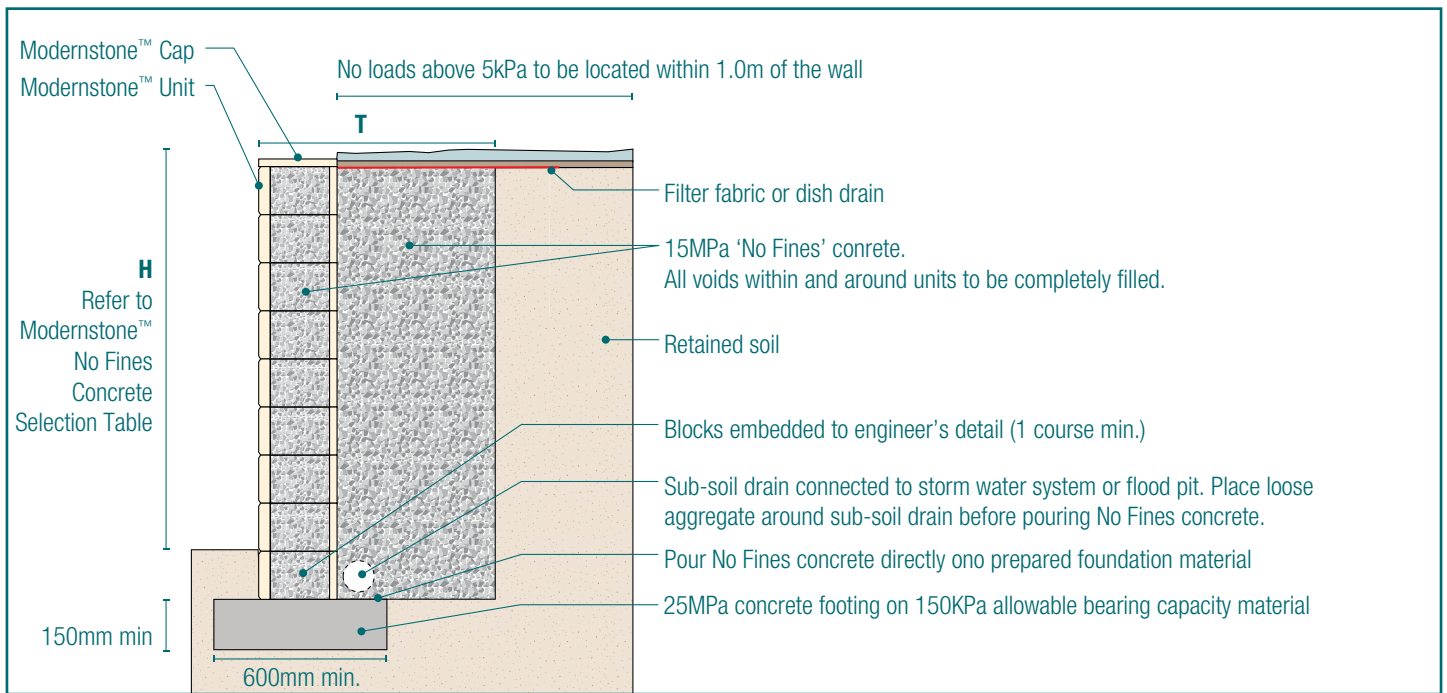
#### STEP 4:

##### Installing Capping Units

- Install capping units and fix with construction adhesive.

See reverse for how it's laid

# Modernstone™ - No Fines Concrete Cross Section



## Typical Construction Detail – Modernstone™ No-Fines Concrete Wall

Product Name	Size (mm)	Available Colours	Weight per unit (kg)	Units per m <sup>2</sup>	Units per pallet
Modernstone™ Standard	440x280x165	Charcoal, Portstone, Light Sands, Café Crème	26.5	13.77	40
Modernstone™ Corner Unit	440x220x165	Charcoal, Portstone, Light Sands, Café Crème	20	n/a	48
Modernstone™ Classic Cap	440x280x60	Charcoal, Portstone, Light Sands, Café Crème	16.5	2.27 l/m	100

No-Fines Concrete shall consist of cement, water and coarse aggregate. Cement will comply with the definitions for cement per AS3972-1991 – ‘Portland and Blended Cements’. The quantity of cement is specified as 210kg/m<sup>3</sup> with a total water/cement ratio of between 0.45 and 0.55.

The particle size distribution of the aggregate shall comply with the limitations for the nominal single sized 20mm aggregate specified in AS2758.1.

### Notes:

- Table D2 is based on AS4678 : 2002, Earth Retaining Structures. The code assumes a surcharge of 5kPa is applied to all retaining wall structures
- Global stability and all design considerations should be checked by an engineer in poor clay conditions.
- Design assumes a dry excavation (i.e. water table is below bottom of footing level). If ground water exists in the excavation the wall is to be re-designed by a suitably qualified engineer.
- These tables are supplied free of charge and do not form any part of any contract with the user.
- 15MPa No-Fines concrete with a 6:1 ratio (Gravel : Cement).
- Remove tail fins to allow “no fines” to connect block fill to back fill.
- The density of this product will vary with the density of the aggregate used. The density range may be from 1650kg/m<sup>3</sup> to 2100kg/m<sup>3</sup>.
- The void ratio of the mix is expected to be between 20% and 30% and should be free draining.
- The compressive strength should generally exceed 10MPa for design purposes.
- This product has no slump and exerts similar pressures on the soil and formwork, as does loosely poured aggregate.

## Modernstone™ Maximum Wall Heights – No-Fines Concrete Construction

Wall Height 'H' (mm)	Retained Soil CLAY $\phi = 26^\circ$ (POOR)	Retained Soil SAND $\phi = 30^\circ$ (AVERAGE)	Retained Soil GRAVEL $\phi = 34^\circ$ (GOOD)
	'T' (mm)	'T' (mm)	'T' (mm)
972	670	570	570
1296	730	770	670
1620	1170	970	770

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