



Mortar is used to hold bricks together and fill and seal any gaps around them. Basically mortar used in brick veneer is a mixture of sand, cement, admixture and water. It is however critical that the components of mortar are properly proportioned and mixed correctly.

MIXING MORTAR

For brick veneer to function correctly it is important that the bricks are stronger than the mortar. This will ensure that in the event of seismic activity the tensile bond strength, or adhesion of the mortar, will fracture rather than the bricks themselves.

NZS 4210:2001 provides for a strength requirement for structural masonry but not for brick veneer and states that mortars for veneers shall follow the strength requirement of the masonry suppliers.

In 2011 BRANZ released SR258 – Critical properties of Mortar for good Seismic Performance of brick veneer.

You can read this report here: [SR258 Report](#)

This research indicates that mortar strength should be at least 6mpa and advises that this can be achieved with mortar mixes of 4:1 sand to cement.

A hydration process occurs between the water and cement which causes the cement to harden and bind with the sand and therefore cause the mortar to 'set'. If the mortar shows signs of powdering that may mean that hydration has not occurred properly and the resulting veneer will need to be pulled down.

One of the most common causes of mortar powdering is rapid loss of moisture when the bricks are first laid. If the temperature exceeds 27 degrees Celsius then it is important to ensure that the bricks are kept damp for the first 24 hours.

In summer and for temperatures below 5 degrees Celsius any mortar which is more than 1.5 hours old should be discarded. Mortar should be discarded after 2 hours.

NZS 4210:2001 Section 2.2.2.2(e) advises that bricklayers should avoid re-tempering mortar with water.

Mixing good mortar is a skill obtained through experience. Mixing times, humidity levels and even the type of sand used can all have an effect on the final product. Bricklayers should consider using bagged mortar for quality control issues and to obtain compliant mortar strength.

Chemical admixture shall comply with NZS 3113:1979 or AS 1478.1:2000. Admixtures shall be dosed in accordance with the manufacturer's instructions. **Master Brick and Blocklayers** ask that if you do use bagged mortar that you support our manufacturing members:

Dricon (Firth): [Trade Mortar Click here](#)

Cemix: cemix.co.nz [Click here](#)

Ezymix: ezymix.co.nz [Click here](#)