



‘Mortar joint’ is the term for the space of mortar between bricks. According to NZS 4210:2001 the average thickness of a mortar bed, Cross or Perpend joint should be 10mm +/- 3mm. A joint thickness of up to 20mm may be accepted on the bottom course to accommodate any slab level issues.

While the thickness of mortar needs to ensure that an adequate seal and bond is achieved, the mortar joint itself also provides an aesthetic value to the brick veneer. Different looks and weather tight properties can be achieved by creating different patterns in the mortar joint. Varying mortar joint styles are created by bricklayers running jointers, rakes or beadings across the mortar before it sets to achieve the desired look.

The most common mortar joint types are:

**GROOVED JOINT** – Also known as Concaved or rolled. This type of joint is formed by using a curved steel jointing tool. Its recessed profile and tight seal mean that it is very effective at resisting moisture penetration. This type of joint can be good for hiding small irregularities. Joints should be tooled to a maximum depth of 6mm after initial stiffening has occurred. **The delay of tooling is vital if a tight weatherproof joint is to be produced in horizontal, but particularly vertical joints.** It is recommended that all slurry coated bricks should use a grooved joint.

**WEATHERED JOINT** – The mortar forms a joint that is recessed from the bottom to the top. This type of joint can give brickwork a neat, ordered appearance. While not as weathertight as Grooved and ‘V’ joints, it can be used on external walls and should be tooled after initial stiffening has occurred. The delay of tooling is vital if a tight weatherproof joint is to be produced in horizontal but particularly, vertical joints.

**‘V’ JOINT** – This type of joint is formed with a V-shape jointer (or trowel). This type of joint can be good for hiding small irregularities. This joint has good weathertight properties. Joints should be tooled to a maximum depth of 6mm after initial stiffening has occurred. **The delay of tooling is vital if a tight weatherproof joint is to be produced in horizontal, but particularly vertical joints.**

**RAKED JOINT** – For this type of joint the mortar is raked out and once pointed and tooled shall not exceed a maximum depth of 6mm. It is important to compact the mortar to improve its weathertight performance. This design creates a form of ledge where water can pool.

**EXTRUDED JOINT** – This type of joint is formed without tooling. It is caused naturally as excessive mortar squeezes out between the bricks. Exposure to weather may degrade an extruded joints appearance.



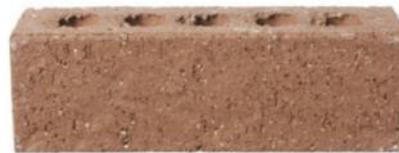
**FLUSH JOINT** – Master Brick & Blocklayers does not recommend the use of flush joints unless they are compacted. If the mortar is flush jointed and not compacted it can lead to the following issues:

- When veneer is to be honed the mortar can ‘flick’ out with the honing process.
- When brick is to be plastered it can lead to hairline cracking in the plaster where the outline of the brick can be seen.

The type of brick selected plays a part in which type of mortar joint will work best. Straight edged bricks with a ‘Vitrated’ or ‘slurry’ coat should use grooved (rolled) joints, whereas colour through bricks with rumbled edges are better with raked joints.



Vitreous coated



Colour through

**Master Brick & Blocklayers recommends discussing the Mortar Joint options for your chosen product with the installer who will take into account the Manufacturers recommendations.**

## TOOTHING

Toothing of the masonry is not permitted in many architectural specifications. Why does toothing provide less strength than raking, or stepping back of the masonry wall?

Toothing is not as strong because of the difficulty involved in properly filling and compacting the mortar for the full depth of the head and bed joints. Much of the mortar at the tooth portion of the wall must be installed by pointing the joints and it is difficult to point the mortar in the back portion of the joints (and into the cores). As a result these tooth joints are often poorly filled and as a result create a weak plane within the wall that is susceptible to cracking.

Toothing however is sometimes necessary when connecting to an existing wall. If the joint cannot be stepped back, providing a vertical expansion joint at such interfaces may be an alternative to toothing. When toothing must be done (eg: an infill in existing brickwork) extreme care must be taken to carefully point these joints to ensure that they are completely packed with mortar for the full depth.

