

# Intertile Research Pty Ltd

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## INDUSTRY MOVEMENT JOINT ALERT

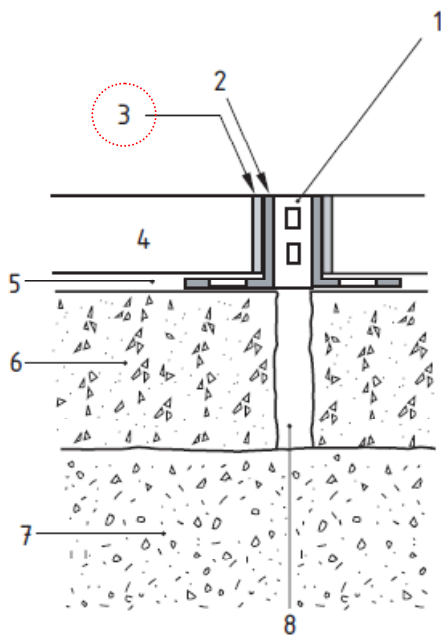
The Australian Tile Council (ATC) has a long term goal of raising the number of competent tile fixers, including the competency of licensed and unlicensed tile fixers.

Having recently investigated a number of floor tiling system failures involving ceramic tiles, resin-bonded agglomerate stone tiles and cement-bonded agglomerate stone tiles, I have had cause to consider the poor quality of workmanship associated with movement joint installation, and particularly proprietary movement joint installation.

Having made informal enquiries with senior tile fixing teachers, it appears as though apprentices receive no hands on instruction with respect to installation of proprietary movement joints, although the need for the placement of sufficient movement joints is constantly stressed.

Architects may similarly receive relatively little formal education on the mechanics of tiling systems and are thus largely dependent on published Standards and manufacturers' guidance, where manufacturers may provide more specific instruction than is contained in their technical literature.

BS 5385-5:2009, *Wall and floor tiling – Part 5: Design and installation of terrazzo, natural stone and agglomerated stone tile and slab flooring – Code of practice*, seems to be the only English language tile installation standard to depict commonly used metal-edged neoprene-filled movement joints. This detail sensibly requires the placement of grout between the edge of the tile and the metal edge of the joint. This often ignored element, the grout, provides the tile with greater support and thus resistance to impact damage. The grout bond is particularly important for cement-bonded agglomerate stone tiles, which have some reversible moisture movement potential and might also exhibit some slight long-term irreversible shrinkage.



d) Type D. Flexible joint with reinforced edges

### Key

- 1 Neoprene bonded to metal angle
- 2 Non-ferrous metal angle with large, closely spaced apertures through base
- 3 Grout
- 4 Flooring unit
- 5 Adhesive bed
- 6 Screed
- 7 Concrete base
- 8 Back-up material in sawn joint

NOTE 1 All drawings in Figure 2 illustrate principles only.

NOTE 2 Large apertures in metal angle allow adhesive through to bond edge of flooring unit to screed.

Part of Fig 2 d) extracted from BS 5385-5:2009

In the case of large projects, architects should identify the correct placement and type of movement joints, where this is ideally based on engineering advice and a detailed consideration of the tile characteristics. Pre-construction reviews of tiling specifications have identified that the choice of the type of joint, its detailing, and the joint locations are often inappropriate. Architects might rely upon the expertise of tiling contractors to install tiling proficiently; tiling contractors may have seen too many grossly inadequate tiling specifications to regard them as being anything more as indicative, such that they consider they have license to exercise their 'experienced' judgement.

There are now some 30 Australian TAFE Colleges and private providers of ceramic tiling education. An industry summit meeting with the manufacturers and suppliers of metal-edged neoprene-filled movement joints would seem to be required in order to develop agreed industry wide detailed practices for the appropriate installation of such joints. Ideally, the joint manufacturers would jointly make an initiative, and a new agreed practice might be finalised at the next ATC National Conference (Melbourne, April 2012) if not before.

AS 3958, *Ceramic Tiling*, needs to be revised to include the appropriate detailing of metal-edged neoprene-filled movement joints, but the revision of the Australian Standards for ceramic tile installation is in bureaucratic limbo. Coincidentally, Standards Australia has just rejected a proposal to adopt the revised ISO 13007 grout and adhesive standards as Australian Standards under its Standards Development Prioritisation and Selection Process.

The ATC needs to play a leading role in the timely revision and publication of industry Standards.

A handwritten signature in black ink, appearing to read 'R Bowman', with a long horizontal flourish extending to the right.

Richard Bowman

25 November 2011