



# AKU-Tile® 4

## Impact Noise Reduction (INR)

AKU-Tile® 4 Impact Noise Reduction (INR) System is a system incorporating a high density non woven, polyester felt tile that when installed under ceramic tiles (to specification) will reduce the amount of impact noise that can be transmitted through the substrate. AKU-Tile® 4 INR is an ideal solution to new, high-rise apartments where designers are concerned for the end-users health and comfort. AKU-Tile® 4 INR is easy and fast to install, ensuring large commercial projects timelines are not compromised when choosing to install the AKU-Tile® 4 INR System.

### Product benefits:

- Easy installation
- Light weight
- Low profile – 4mm tile thickness
- Suitable for internal or external installations
- Water durable – will not swell like cork if subject to water\*
- Cost effective
- Can be installed on concrete or timber surfaces

*\* Although it is water durable it must be waterproofed as per the system*

### AKU-Tile® 4 INR SYSTEM COMPONENTS:

1. CP3 Urethane adhesive
2. AKU-Tile® 4 tile
3. Miracryl 2-Part (M2P) Waterproofing Membrane
4. Miracryl 80 bandage
5. RLA Flex 1-Part Tile Adhesive
6. RLA Foam Backing Rod (FBR)
7. RLA Tilesil Silicon sealant

### NOTE:

Please refer to each individual technical data sheet prior to commencing any installation. Furthermore, ensure you are completely familiar with this specification sheet and have completely read and understand the requirements **PRIOR** to starting any installation. If you have any questions please contact RLA Polymers on (09) 267 2772

### SURFACE PREPARATION

#### Concrete:

The substrate must be free of all dirt, oil grease and loosely adhering particles and dry. Concrete floors must be dry in accordance with A.S. 1884-1985 Appendix A 70% Relative humidity maximum or Industry Standard (NZ=75%RH). Honeycomb and spalled concrete is to be repaired and any protrusions must be removed. Non porous concrete should have the surface removed by mechanical means such as diamond grinding.

#### Timber:

Timber floors should have all coatings removed back to solid wood. It should be free from dust and any contaminant that may hinder adhesion. T&G flooring should be well fixed and demonstrating minimal movement. If required, Tile and Slate underlayment should be installed as per the manufacturer's instructions to isolate the excessively moving T&G flooring prior to AKU-Tile® 4 being installed. Particleboard flooring should be dry, solid and firmly fixed in place.

### PRIMING

- CP3 Urethane adhesive does not usually require any priming.
- Once installed, the surface of AKU-Tile® 4 is to be primed via means of troweling a thin coat of M2P over the entire surface. This needs to be done prior to installing any Miracryl 80 bandage around the edges or installing the main waterproofing coats of M2P.

Our technical advice for use, whether oral, written, or in tests, is given with our best knowledge. It is an indication only and does not involve our responsibility. Values are given as examples and may not be regarded as specifications. As we are not able to monitor product use and given the numerous materials and possible uses, users must perform the necessary tests to verify that the product is suitable for the intended use. Users are responsible for complying with the local legislation and for obtaining any required approvals or authorizations. Users of our products are invited to contact our departments to obtain current versions of technical data sheets and safety data sheets.



## APPLICATION

### 1. Installing AKU-Tile® 4

Protect the area to be installed from rain. Plan the area including a gap of 6mm between all upstands and the AKU-Tile® 4 for the 6mm RLA Foam Backing Rod. Once satisfied, begin the application of CP3 Urethane adhesive (*refer to CP3 data sheet for further information*) using a 3mm notched adhesive trowel. Take care that you do not get any excessive adhesive build up. Spread the adhesive along the shortest width of the area being installed and spread length ways approximately two AKU-Tile® 4 tile widths. Place AKU-Tile® 4 into the wet adhesive ensuring that good transfer to the back of the tiles is achieved. Slide the tiles together so that they butt tightly together. Continue in this manner working backwards until the entire area is complete. Allow for adhesive to dry.

### 2. Priming AKU-Tile® 4 surface with M2P

Due to the open weave nature of AKU-Tile® 4, it is necessary to prepare the surface for subsequent bonding using a thin coat of M2P. Mix the M2P as per the M2P data sheet and flat trowel a thin layer into the surface of AKU-Tile® 4. Ensure that no excess build up is left around the perimeter. If there is an edge in the floor plan where the AKU-Tile® 4 ends, the edge needs to be primed with M2P out past the tiles by at least 40mm to allow for a suitable surface for the Miracryl 80 bandage to adhere to. As a primer coat, this layer can be less than the regular requirement of M2P coat thickness as it is for the purpose of priming only. Allow to dry (approximately 45 minutes at 21°C). Once dry, place the 6mm RLA Foam Backing Rod into the gap left between the edge of AKU-Tile® 4 and the upstands.

### 3. Install Miracryl 80 bandage

Miracryl 80 bandage should be installed around the entire area of AKU-Tile® 4. This bandage will adhere half to the AKU-Tile® 4 and half onto the upstands. First peel the protective backing off one half of the bandage and firmly fix to the AKU-Tile® 4 over top of the RLA Foam Backing Rod directly next to the corner. Peel the other half off the bandage and carefully roll it up onto the surface of the upstands. Ensure all bandaging has been firmly fixed to the substrate by using a small roller or similar. See Figure 1 below.

### 4. Install Miracryl 2-Part waterproofing membrane

Once the area has been prepared and there are no holes evident in the area to be waterproofed, start to install M2P as per the directions found on the M2P product data sheet. Ensure that the corners around the edges do not collect excess M2P. This excess should be removed by using a paint brush to work the product out of these areas. Allow product to thoroughly dry (6-8 hours @ 21°C).

### 5. Install Tiles using RLA Flex 1-Part Tile Adhesive and RLA Tilesil Silicone

For tiles up to the size of 400mm x 400mm, install the tiles using a square notch adhesive trowel of 10mm. For tiles any larger than this use a square notch adhesive trowel of 12mm. Ensure you leave a minimum gap in the corners of at least 5mm for RLA Tilesil to be installed into after grouting. This is required to ensure there is separation between the tiled surface and the upstands so as not to allow noise to travel into the upstands and shortcut the system down through the walls (see diagram on page 4). Refer to the RLA Flex 1-Part technical data sheet for further information on using this adhesive.

**DO NOT INSTALL GROUT INTO THE JUNCTION BETWEEN THE TILED SURFACE AND THE TILED UPSTANDS AS THIS WILL RESULT IN THE AKU-TILE 4 INR SYSTEM BECOMING REDUNDANT.**

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## EXPANSION / MOVEMENT JOINTS

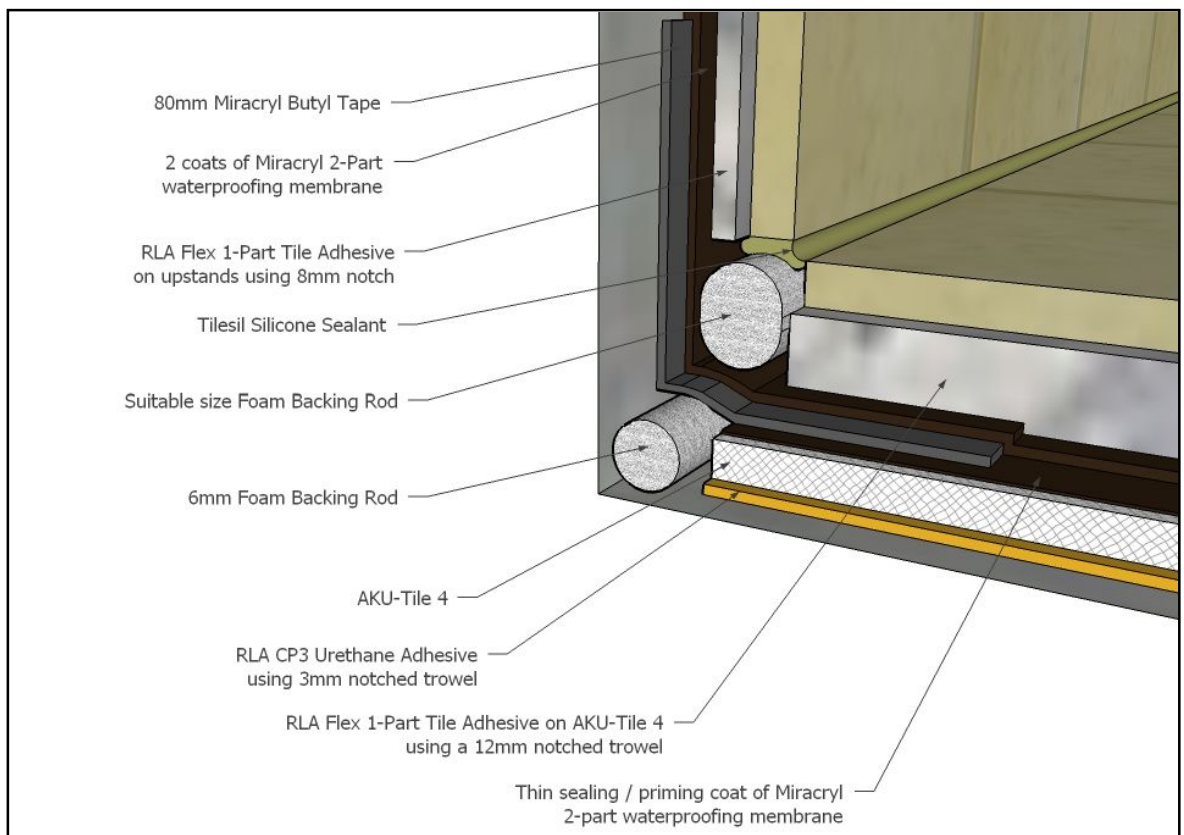
Expansion / Movement joints must be provided to allow for movement between adjacent building components. To provide for these, allow a gap between the AKU-Tile® 4 of approximately 4mm at these horizontal joints. This gap should then be filled with RLA 6mm Foam Backing Rod.

Movement joints should be allowed for as follows:

- Over existing joints in the substrate, where two different substrates meet e.g. Timber and concrete, around fixed elements in the floor e.g. columns, at internal vertical corners, and around the perimeter of the floor.
- In internal floors where any dimension exceeds 9m, or 6m if subjected to sunlight, and in external floors where any dimension exceeds 4.5m.
- On wall surfaces at storey heights horizontally and approx. 3m-4.5m apart vertically.

Movement joints should go right through the tile adhesive bed to the RLA 6mm FBR that has been installed and kept free from dirt and adhesive droppings. Movement joints must not be less than 6 mm and not wider than 10 mm. The movement joints must be filled with RLA Tilesil Silicone Sealant.

Figure 1: AKU-Tile® 4 INR – Complete System Detail



## AKU-Tile® 4 (Tile) TECHNICAL DATA:

### Properties

Composition  
Appearance  
Density  
Weight  
Size  
Nominal Thickness  
Quantity per pack

### Results

100% polyester fibre, high density non-woven acoustic felt  
White tiles  
250kg/m<sup>3</sup>  
1000g/m<sup>2</sup>  
500mm x 500mm Tiles  
4mm  
20 Tiles per Pack (5m<sup>2</sup>)

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#### AKU-Tile® 4 INR TEST RESULTS:

Due to the nature of differing construction, we recommend an acoustic engineer be consulted where compliance with NZBC is required. RLA Polymers have conducted independent performance verification via on-site testing in conjunction with Design Acoustics Ltd. The results are as follows:

Field IIC Test on 'AKU-Tile® 4 INR' Underlay systems.

#### Situation:

Subfloor/ceiling assembly consisted of precast concrete panels with timber infill and 150mm concrete topping. Suspended plasterboard ceiling fixed with steel straps to underside of slab, with R1.8 fibreglass blanket to the cavity (approximately 100mm). Results measured from directly above to directly below at ceiling.

TEST	RESULT	COMMENT
Ceramic Tiles on <b>AKU-Tile® 4 INR</b> System	FIIC 56dB	<b>+ 19 FIIC point improvement</b> provided by sample compared with bare slab test
Bare Slab	FIIC 37dB	Bare Slab (control)

#### NOTE:

These performance results relate to a specific construction system and any changes to the system and products used could have significant impact on the acoustic performance. Design and installation specifications should be strictly followed. For further information including copies of the full test report, please contact RLA Polymers Ltd on Phone (09) 267 2772.

**PLEASE CONSULT ALL RELEVANT MSDS SHEETS PRIOR TO USING ANY PRODUCTS**

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