



SRO924 – TILING ON SOUND REDUCTION/DECOUPLING MATS

Internal Dry Floors

SCOPE

This recommendation is regarding the adhesive fixing of internal dry area floor tiles over cracked substrates covered with a Sound reduction and/or a Decoupling mat system. The decoupling mats are the [ARDEX DS 40](#) and the [ARDEX DS 60](#). The [ARDEX DS 40](#) mat is also system to reduce the transmittal of impact generated noise from an upper floor to the rooms below.

PREPARATION

The floor substrate must have no vertical displacement of one side of the crack relative to the other side and the cracks must not be still moving. All other surface imperfections such as holes/voids must be filled with a suitable patching mortar and all surface protrusions ground flat while the cracks in concrete floors may be repaired using one or more of the ARDEX systems for example [ARDEX RA 142](#).

Concrete internal floors shall be mechanically (i.e. by grinding, shot-blasting or scabbling techniques) prepared to remove all contaminants such as concrete curing compound residues, residues such as old adhesive residues, plaster droppings, paint over-spray and/or laitance. Steel trowel finished concrete should also be prepared to achieve a fine textured profile and open the pores/capillaries in the concrete surface. Vacuum to remove dust.

Engineered sheet timber and Compressed Fibre Cement sheet floors must be checked to ensure the sheeting is recommended by the sheet manufacturer for the application. Both the sheet and the structural framing must be of the correct dimensions (i.e. thickness) to support the added weight of the tile finish. The floor must not deflect in excess of the allowable deflection calculated by the formula "Span divided by xxx" where the span is the distance between the supporting frames.

- For tiles up to 300 x 300mm, allowable deflection is "Span divided by 360".
- For tiles up to 500 x 500, allowable deflection is "Span divided by 600"
- For tiles > 500 x 500mm, allowable deflection may be "Span divided by 750+"

INSTALLATION OF THE SOUND REDUCTION / DECOUPLING MAT

System 1 - The [ARDEX DS 40](#) mat is glued to the prepared floor using either the [ARDEX AF 266](#) Carpet adhesive or the [ARDEX X 56](#) tile adhesive as per ARDEX Technical Bulletin **TB147**.

- Spread the [ARDEX AF 266](#) adhesive with a 3.2 V-notched trowel and place the mats (felt side down) onto the wet adhesive in a tight brick bond pattern.
- Or spread the mixed [ARDEX X 56](#) tile adhesive with a 4mm square notched trowel and place the mats (felt side down) onto the wet adhesive in a tight brick bond pattern.

Once the mats have been positioned, roll the surface to ensure maximum adhesion.



Any joints between the mat sections and around the mat perimeters to walls and/or built in furniture are to be filled with [ARDEX ST](#) neutral cure silicone prior to adhesive fixing the tiles using ARDEX polymer improved cement based adhesives.

System 2 – The [ARDEX DS 60](#) mat is glued to the floor using the [ARDEX AF 360](#) Water based adhesive as follows;

- Unroll the [ARDEX DS 60](#) and allow to ‘relax’ for 24 hours prior to installation. This allows any creases in the mat to flatten out.
- Apply the water based adhesive at a rate of 7 – 8 sqm per litre using a roller and avoiding concentrations of adhesive. Allow the adhesive to ‘setup’ for around 15 minutes (dependent on site conditions) prior to placing the mat.
- Place the mat onto the adhesive and roll with a 35 -50kg smooth roller in both directions of a grid pattern to ensure maximum contact with the adhesive.
- The installation of tiles may commence 30 minutes after the decoupling mat installation has been completed using ARDEX polymer improved cement based adhesives

The following adhesives may be used to adhesive fix the tiles to either decoupling mat.

	Suitable ARDEX Adhesives
Porous Bodied Tiles Terracotta and Glazed Ceramics	X18 ; X52 ; Abaflex ; X77 ; X78
Glazed Mosaics	X18 ; X52 ; Abaflex ; X77 ; X78
Dense Bodied Tiles Vitrified/Porcelain	X18 ; X52 ; Abaflex ; X77 ; X78
Natural Stone Tiles (excluding moisture sensitive stone tiles)	X18 ; X52 ; Abaflex ; X77 ; X78
Natural Stone tiles Moisture Sensitive stone	S28+E90 (low-med moisture sensitivity stone in dry areas) Refer to ARDEX Technical Bulletin TB010 for more details

Note : As an optional add-on, you can use [ARDEX E 90](#) with X78, X77 and X18 as detailed in **TB231**. This will greatly improve their performance and longevity.

The installation of tiles onto flexible substrates such as ARDEX Decoupling mats; requires deformable adhesives. In order to achieve the required performance, the mixed adhesives must be applied using 12 or 15mm notched trowels to achieve a continuous layer at least 3mm minimum thickness under the tile. ARDEX recommends at least 90% adhesive contact to the tile and the substrate. This can be achieved by



spreading the mixed adhesive using a suitable notched trowel so the adhesive lines are parallel. Additional adhesive is to be buttered over the back of tiles larger than 400 x 400mm. Each tile is then pressed firmly into the adhesive with a back & forth sliding action across the adhesive lines to collapse and merge the adhesive lines to achieve maximum contact between the tile and adhesive.

GROUTING

Once the adhesive has set, the tiles may be grouted with one of the following ARDEX grouts.

- [ARDEX FG 8](#) sanded grout for joints from 1 to 8mm is a general purpose grout available in a large range of colours. In this application it is mixed with 50% [ARDEX Grout Booster](#)
- [ARDEX FS-DD](#) un-sanded grout for joints 1 to 4mm. This is recommended for polished tiles with rectified edges as the grout has a smooth finish and is available in a range of colours. In this application, it is mixed with 50% [ARDEX Grout Booster](#)
- [ARDEX WJ 50](#) sanded grout for joints 5 to 50mm. In this application it is mixed with 100% [ARDEX Grout Booster](#)
- [ARDEX WA](#) Epoxy 2 part grout available in black, grey or white for installations where high standards of hygiene and/or chemical resistance is required.
- [ARDEX EG-15](#) Epoxy 3 part grout for installations where high standards of hygiene and/or chemical resistance are required. It is available in 8 colours and is suitable for grout widths ranging from 1.5 to 15mm.

MOVEMENT JOINTS

Movement joints are to be included in the new tile finish in accordance with the recommendations of AS3958. These joints are installed (but not limited to) in the following locations:

- Over all existing movement joints in the substrate
- At all internal corners/changes in direction in the plane of the substrate
- Along all perimeters where the tiles butt against walls and/or built in furniture
- Around all penetrations through the tile finish
- At not more than 6m intervals in both directions of a grid pattern

Movement joints should be at least 6mm wide and are filled with a flexible sealant such as the [ARDEX SE](#) silicone or [ARDEX ST](#) neutral cure silicone for natural stone. Compressible backer rods may be required in deeper joints to maintain the recommended sealant thickness at half the joint width.

Disclaimer:

The recommendation selected is based upon questions answered on the ARDEX Australia website. This recommendation is designed as a general application for your described situation and should not be



considered site specific documentation for general distribution. Always consult the latest relevant ARDEX Technical Bulletins and information on the product packaging and/or product data sheets (available on the ARDEX Website). Australian and other relevant standards should be followed during installation. If you have any further questions or would like further clarification please contact the ARDEX Technical Services Hotline on 1800 224 070 (9am to 5pm Monday to Friday).