



SRO948 Levelling on Approved Screed Externally

Scope

This recommendation is regarding the levelling externally over applied topping screeds on concrete substrates. AS1884-2012 requires topping screeds to achieve at least 20MPa compressive strength and at least 1.5MPa surface tensile strength hence traditional sand/cement toppings used for tile finishes are not acceptable as they do not achieve these performances.

PREPARATION

The new concrete shall have completed the 4 weeks curing /drying period to allow the development of micro-cracking and be structurally sound. Any cracking is to be repaired using the ARDEX systems described in **ARDEX Technical Bulletin TB206**. These include the **ARDEX RA** series of injection products as well as repair mortars (e.g. [ARDEX A 46](#), [ARDEX BR 345](#) / [ARDEX BG 90 GP](#)) for filling wide cracks and/or holes in the concrete.

All concrete (new & aged) shall be mechanically prepared (by grinding, shot-blasting, scabbling or scarifying) to remove all contaminants such as weak surface materials, adhesive residues, waxy/oily residues, debris from other trades, paint over-spray and/or laitance to achieve a clean open pored surface comparable to Concrete Surface Profile 3 (CSP3) which has a fine textured surface. Vacuum to remove all dust prior to proceeding.

Damaged and/or incomplete movement joints must be raked clean of old flexible sealant and reinstated prior to application of the levelling cement. These joints must not be filled with rigid materials such as these levelling cements.

PRIMING

The [ARDEX A 38 Rapid Set](#) screed is bonded to the prepared substrate with a bonding slurry consisting of [ARDEX A 38](#) Powder mixed with an el volume of **ARDEX Gravel Mix** and a solution of 1 volume of [ARDEX P 51](#) in 1 volume of water. This bonding slurry is applied to the prepared concrete immediately before placing the wet [ARDEX A 38](#) mortar on the wet bonding slurry.

TOPPING SCREED

The topping screed shall be the [ARDEX A 38 Rapid Set](#) screed consisting of 20kg A38 binder per 100kg Gravel Mix. The Gravel Mix is a blend of size graded particles to ensure high compressive strength.

- [ARDEX A 38 Rapid Set](#) screed for both internal and external applications as either a bonded topping or an unbonded topping.
- [ARDEX A 38 Rapid Set](#) screed as a bonded topping is from a minimum thickness of 15mm to around 80mm. It is applied over the [ARDEX A 38](#)



bonding slurry that has been applied to the prepared concrete substrate (no other primer required) as per the product data sheet.

- [ARDEX A 38 Rapid Set](#) screed used as an unbonded topping is placed over a double layer plastic slip sheet system. The minimum thickness shall be 45mm and the reinforcing mesh is not required.
- Application of this topping screed to large floors shall be in bays/panels with the maximum size not more than 40m² each
- Ensure these toppings are allowed to fully dry prior to application of the levelling/smoothing cement.

PRIMING

The screeded surface can be primed after 16 hours curing with 2 coats of [ARDEX WPM 300](#). It is applied by roller at 3m² per litre per coat. The first coat is allowed to dry (4 hours @ 23C) before the second coat is applied. Clean dry 0.3mm sand (ARDEX PRIMER SAND) is broadcast into this second coat at 700g/m². After 24 hours the excess sand is broomed from the surface before the levelling compound is applied.

LEVELLING CEMENTS

The recommended levelling cement is the [ARDEX K 301](#) which can be applied from 2 to 20mm normally, or from 10 to 30mm when mixed with an equal volume of 2-5mm aggregate. The added aggregate will allow the [ARDEX K 301](#) to be used for creating falls to prevent water ponding and to create ramping if required.

The [ARDEX K 301](#) is to be mixed using [ARDEX Mixing Paddles](#) attached to a heavy duty electric drill. Concrete mixers and hand mixers are not suitable for mixing this product.

The mix ratio is 20kg of [ARDEX K 301](#) with 5 litres of water. Mix for 2-3 minutes to a smooth lump free consistency and apply to the prepared and primed surfaces to achieve the thickness required.

The [ARDEX K 301](#) will be walkable after 3-4 hours drying time @ 20°C although lower temperatures will slow drying.

Once the [ARDEX K 301](#) has fully dried the surface could be sealed with a penetrating sealer. A suitable external paint or coating could also be applied.

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).