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PRODUCT DATA SHEET

# ARDEX A 29

## Rapid Hardening Cement for Internal and External Screeds

### Features

- 90 minute working time
- Rapid hardening, walkable after approximately 8 hours
- Passes the BRE Screed (ISCR) Screed Test in as little as 24 hours
- Install ceramic tiles in as little as 24 hours and natural stone after 7 days
- Install resilient and wood floor finishes in as little as 7 days
- Apply as a bonded, unbonded or floating screed
- Can be used with underfloor heating systems
- Can be pumped for fast application
- For internal and external use



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OHS 628374

ARDEX UK LIMITED

Homefield Road, Haverhill, Suffolk CB9 8QP UK.

Telephone: +44 (0)1440 714939

Fax: +44 (0)1440 716640

Email: [technical\\_admin@ardex.co.uk](mailto:technical_admin@ardex.co.uk)

ARDEX online: [www.ardex.co.uk](http://www.ardex.co.uk)

# ARDEX A 29

## Rapid Hardening Cement for Internal and External Screeds

### DESCRIPTION

ARDEX A 29 is a special cement for producing a rapid hardening floor screed for internal and external use which allows ceramic tiles to be fixed in as little as 24 hours, and natural stone and resilient floorcoverings in as little as 7 days.

### USE

ARDEX A 29 is used to produce bonded, unbonded and floating screeds in internal or external locations. A 1:7 mix is suitable for most normal screeding situations. An ARDEX A 29 Screed passes the BRE Screed (ISCR) after 24 hours (tested on 50mm unbonded at 20°C).

### THICKNESS

ARDEX A 29 should be applied at the conventional thicknesses for normal cement/sand screeds i.e. Minimum 20mm at 1:5 ratio and minimum 25mm at 1:7 ratio, (design thickness up to 40mm) for bonded screeds. Minimum 50mm for unbonded screeds. Minimum 75mm for floating screeds. 65mm in lightly loaded (domestic) locations.

### SUBSTRATE PREPARATION

#### Bonded Screeds

An ARDEX A 29 Screed can be laid as a bonded screed by applying either ARDEX A 18 Screed Bonding Cement or an ARDEX A 29 grouting slurry to a dry and suitably prepared concrete base.

To prepare the grouting slurry for use in internal dry locations, dilute ARDEX P 51 Primer and Bonding Agent with an equal volume of water. Mix the ARDEX A 29 cement with an equal volume of screeding sand and then mix with the diluted bonding agent, to produce a grouting slurry of creamy consistency. The ARDEX A 29 Screed Mortar must be compacted onto the base 'fresh in fresh, whilst the grouting slurry is still wet and workable.

For external locations, wet areas and damp concrete, use ARDEX A 18 Screed Bonding Cement or prepare the ARDEX A 29 grouting slurry as above using ARDEX E 100 Additive for Bonding/Slurry Grouts diluted with an equal volume of water.

**NOTE:** The concrete surface must be prepared using suitable mechanised equipment to expose the coarse aggregate and be free from all barriers to adhesion.

#### Unbonded Screeds

For unbonded screeds, it is good practice to ensure that the concrete slab surface is reasonably true and flat prior to applying a proprietary damp proof/slip membrane.

#### Floating Screeds

For floating screeds, place a suitable separating layer or damp proof membrane over the insulation before applying the screed mortar.

**NOTE:** An ARDEX A 29 Screed is suitable for direct application to concrete bases which are insufficiently dry (above 75% RH), direct to ground or ground supported without an effective damp proof membrane, as well as areas which are subject to rising damp. It is however recommended for projects installing resilient floor finishes such as carpet, vinyl, rubber & wood that the use of a damp-proof membrane is incorporated as follows to protect the finish from moisture in the underlying substrate.

For unbonded and floating screeds, install a proprietary damp proof/ slip membrane as recommended by BS 8204 1:2003+A1:2009 and BS 5385-3:2014 before laying the screed; for bonded screeds, it is recommended screeding is followed by an application of ARDEX DPM 1 C/ ARDEX DPM 1 C R, when the screed is walkable after approximately 8 hours. Should the concrete base be affected by residual construction moisture and is below 95%RH, ARDEX MVS 95 can be substituted for the ARDEX DPM and can be applied when the screed is walkable after approximately 8 hours.

#### MIX PROPORTIONS

Mix a maximum of 1 part by weight of ARDEX A 29 Cement to 7 parts by weight screeding sand.

The sand used should be good quality, well graded 0/8mm sand. BS 8204-1:2003 recommends that screeding sands are classified to BS EN 13139.

Alternatively, a 0/8mm fine aggregate with fines category 1 with range MP should be used.

Experience has shown that sand complying with the following grading table provides a workable screeding mortar with good compactability.

Sieve size (BS 410)	Proportion by dry mass passing nominal mesh size.
10.00mm	100%
5.00mm	90% – 100%
2.36mm	65% – 97%
1.18mm	40% – 90%
600µm	24% – 75%
300µm	8% – 40%
150µm	0% – 10%
75µm	0% – 3%

Where the available screeding sand is good quality, but does not have the required coarse fraction, a nominal 6mm aggregate can be mixed with the screeding sand. The ratio of screeding sand to 6mm aggregate will depend upon the actual gradings involved and the workability of the mix, however approximately

10% of 6mm aggregate by mass of aggregate can be used as a starting guide.

Where the screed thickness is consistently greater than 50mm, a fine concrete mix can be used by partially replacing some of the screeding sand with a suitable amount of 8mm or 10mm single sized aggregate. The optimum proportions of cement to sand, or to sand plus aggregate, should be determined within the mix proportions of 1 part ARDEX A 29 Cement with 7 parts by weight of sand, or sand plus aggregate, to obtain good workability and achieve the required soundness category. The sand, fine or coarse aggregates used should not contain lime or other materials that could be detrimental to the workability of the screed mortar during application, or the performance of the set and hardened screed. Do not add any other cement or lime materials to ARDEX A 29 mixes.

#### WATER

Add sufficient water to obtain a workable mix. With an evenly graded, fairly dry sand, the water requirement will normally be up to a maximum of 11 litres per 20kg bag of ARDEX A 29 (including the water contained in the sand/ aggregate).

#### MIXING

When a sample of mixed mortar is squeezed in the hand the sample should retain its shape and not crumble, the hand being left slightly moist. When a sample is compacted on the base, no film of water should form on the surface.

Mix to a normal screed mortar consistency. If a mixer is used it should be a pan, trough or other forced action type. Normal 'free-fall' mixers are not suitable for mixing semi-dry screed mortars. Use clean equipment and do not use other cements, lime or screed additives etc., in the mix.

#### COVERAGE

Approximately 0.27kg ARDEX A 29 cement per m<sup>2</sup> for each millimetre of screed thickness using a 1:7 mix.

#### APPLICATION

The working time of the mixed mortar is approximately 90 minutes at 20°C, therefore mixing, placing, compaction and trowelling off must proceed without delay. The amount of mortar mixed and the area to be screeded should be limited so that trowelling off and finishing can be completed within the working time.

Where a new bay is laid against a set and hardened screed it is recommended that such daywork joints are vertical and treated with the grouting slurry and may be tied together with steel reinforcement.

Apply an ARDEX A 29 Screed at temperatures of 5°C and rising.

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### **Application on a floor heating system:**

When an ARDEX A 29 screed has been laid on a hot water floor system, 7 days should be allowed to elapse before heating the water up to a temperature of 25°C and maintained for a further 3 days. The maximum floor temperature should then be used and maintained for a further 4 days. In doing so draughts must be avoided. The floor should then be allowed to cool down to room temperature (above 15°C) before laying floorcoverings.

### **SURFACE FINISH**

For fixing ceramic tiles and quarry tiles, etc., the screed should be finished with a wood float. Prior to laying thin floorcoverings e.g. vinyl sheet, a very smooth surface may be obtained using and ARDEX Levelling and Smoothing Compound, which should be selected with the final floor finish in mind. Please refer to the relevant ARDEX Technical Datasheet for further information.

### **Drying Times**

A bonded ARDEX A 29 Screed is normally ready to receive ceramic tiles after 24 hours. For unbonded and floating screeds, 7 days drying time is required, or a moisture reading of <2% by the Carbide method, before fixing ceramic tiles.

Natural stone tiles can be fixed after 7 days. An ARDEX Screed can usually receive resilient and wood floorcoverings after 7 days, or when a moisture reading of <2% by the Carbide method is recorded.

The time taken to harden, and the drying time of the ARDEX A 29 Screed, is determined by screed thickness and ambient conditions on site. Low temperatures will slow down the rate of hardening whilst high temperatures will accelerate hardening, thus reducing the working time.

**NOTE:** High or low relative humidity will slow or accelerate the drying time respectively. Drying times apply to 23°C and 50% relative humidity for screeds up to 50mm thick. The use of a Speedy moisture tester is recommended to determine the moisture content prior to applying the appropriate floorcovering.

For ultra rapid drying screeds that dry uniformly, irrespective of thickness, consult the ARDEX A 38 or ARDEX A 35 data sheets. Where higher early and late strength development is required, a 1:5 mix may be used. Note the maximum mix water content that should be used, including the moisture in the aggregate, is 11 litres per 20kg bag of ARDEX A 29.

**NOTE:** Screeds are not designed as wearing surfaces and the screed surface should be given adequate protection once dry, against damage water ingress, wear and contamination during subsequent building operations. Protective coverings will also minimise any curling and lipping at joints in unbonded screeds.

### **PUMPING**

It is possible to pump ARDEX A 29 screed mixes using a proprietary screed pump. Contact our Technical Services Department for further details.

### **PACKAGING**

ARDEX A 29 is packed in paper sacks incorporating a polyethylene liner – net weight 20kg.

### **STORAGE AND SHELF LIFE**

This product must be stored in unopened packaging, clear of the ground in cool dry conditions and be protected from excessive draught. If stored correctly, as detailed above, the shelf life of this product is 12 months from the date shown on the packaging.

**NOTE:** For the latest technical or health and safety data on this product, consult the current technical or health and safety data sheet online at [www.ardex.co.uk](http://www.ardex.co.uk)

### **TECHNICAL DATA**

Weight of fresh mortar approx. 2kg/litre  
Working time at 20°C approx. Up to 90 minutes

### **Compressive strength**

28 days (1:7 mix) 30 N/mm<sup>2</sup>  
28 days (1:5 mix) 40 N/mm<sup>2</sup>

### **Soundness (BRE Screed Test)**

Annex D and E of BS 8204-1:2003 contains advice on the use of this in situ crushing resistance test on bonded, unbonded and floating screeds. The installed ARDEX A 29 can normally be tested after 24 hours using the BRE screed tester, if required. The depth of an indentation of a correctly mixed and compacted screed should comply with the requirements of the floor finish and category of use.

### **Moisture Testing of ARDEX A 29 cement/sand screed**

Should the moisture content need to be determined the Speedy Moisture Tester (Carbide method) must be used. Please consult ARDEX Technical Services for further advice.

The following British Standard Codes of Practice can be referred to for advice on screeding: -  
**BS 8204: Part 1.**

In situ Floorings – Bases and Screeds

**BS 5385: Part 3. Appendix C.**

Ceramic Floor Tiling and Mosaics

**BS 8000: Part 9.**

Code of Practice for cement/sand floor screeds and concrete floor toppings (Workmanship on building sites).

**NOTE:** The information supplied in our literature or given by our employees is based upon extensive experience and, together with that supplied by our agents or distributors, is given in good faith in order to help you. Our Company policy is one of continuous Research and Development; we therefore reserve the right to update this information at any time without prior notice. We also guarantee the consistent high quality of our products; however, as we have no control over site conditions or the execution of the work, we accept no liability for any loss or damage which may arise as a result thereof.

Country specific recommendations, depending on local standards, codes of practice, building regulations or industry guidelines, may affect specific installation recommendations.

**TECHNICAL ADVICE HELPLINE**  
**01440 714939**  
**ARDEX online: [www.ardex.co.uk](http://www.ardex.co.uk)**