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PRODUCT DATA SHEET

ARDEX A 38

Ultra Rapid Drying Cement for Internal & External Screeds

GEV-EMICODE® ECT PLUS very low emission

Features

- Walkable in 3 hours
- Receives ceramic and natural stone tiles directly after only 4 hours
- Install resilient floorcoverings after 48 hours
- Passes BRE In-Situ Crushing Resistance (ISCR) Testing after just 6 hours
- After just one day, achieves the acceptable minimum compressive and tensile bending strengths attained by an ordinary cement screed after 28 days
- For bonded, unbonded and floating screeds
- Can be used with underfloor heating systems
- Can be pumped for fast application

RAPIDRY PLUS FORMULA

What is the Rapidry Plus Formula?

It is the ability to totally bind the water used for mixing within the mortar, ensuring rapid drying and hardening properties

bsi ISO 9001 Quality Management Systems CERTIFIED · ISO 14001 Environmental Management CERTIFIED · ISO 45001 Occupational Health and Safety Management CERTIFIED
Reg No. FM 01207 EMS 565427 OHS 628374

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ARDEX A 38

Ultra Rapid Drying Cement for Internal & External Screeds

DESCRIPTION
ARDEX A 38 has been specially formulated to produce ultra-rapid drying floor screeds for internal and external locations. With 'RAPIDRY PLUS FORMULA' Technology, an ARDEX A 38 screed can be walked on just 3 hours after application and ceramic and natural stone tiles can be installed after just 4 hours irrespective of thickness, making it ideal for fast track tiling projects. Resilient floorcoverings such as carpet, vinyl and wood can be installed after 48 hours irrespective of thickness.

ARDEX A 38 achieves rapid strengthening and will pass a BRE Screed (ISCR) Test after just 6 hours. After a day, it will also exceed the acceptable minimum compressive and tensile bending strengths attained by ordinary cement screeds after 28 days.

USE
ARDEX A 38 is used to produce bonded, unbonded and floating screeds for internal and external locations, including wet areas such as swimming pools. It can also be used for large repairs to existing cement/sand screeds. It is ideal for situations where early foot traffic and rapid hardening is required.

THICKNESS
ARDEX A 38 can be applied to the following thicknesses.
Bonded screeds: 15mm - 40mm.
Unbonded screeds: 50mm+.
Floating screeds: 75mm+ or 65mm+ in lightly loaded/domestic locations.
When used for screed repair, ARDEX A 38 can be applied to the full thickness of the existing cement/sand screed. Please consult BS 8204: Part 1 or BS 5385: Part 3 for additional information/guidance.

SUBSTRATE PREPARATION
Bonded Screed
ARDEX A 38 can be laid as a bonded screed by firstly applying an ARDEX A 38 or ARDEX A 18 grouting slurry to a suitably prepared concrete base. The ARDEX A 38 screed must then be placed and compacted on the base 'fresh in fresh' whilst the grouting slurry is still wet and workable.

To prepare the grouting slurry for dry concrete in internal locations, dilute ARDEX P 51 Primer & Bonding Agent with an equal volume of water. Then add ARDEX A 38 powder mixed with an equal volume of screeding sand with the diluted ARDEX P 51 to produce a grouting slurry of a creamy consistency or ARDEX A 18 can be used.

For external locations, wet areas, damp concrete and below a DPM ARDEX A 18 can be used.

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 Screed
For unbonded screeds, it is good practice to ensure the concrete slab surface is reasonably true and flat prior to applying a proprietary damp proof/slip membrane. For uneven areas which require levelling or filling, consult the ARDEX A 46 datasheet for localised areas and the ARDITEX NA datasheet for larger areas.

Floating Screed
For floating screeds, place a suitable separating or damp proof membrane over the insulation before applying the screed mortar. The insulation board should be fit for purpose for the application intended and have been laid in accordance with the manufacturers recommendations

NOTE: ARDEX A 38 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+A1 and BS 5385-3 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 after 3 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 after 4 hours.

MIX PROPORTIONS
Sand
Mix maximum 1 part by weight of ARDEX A 38 cement to 5 parts screeding sand. The screeding sand used should be good quality 0-8mm sand and, recommended by BS 8204-1/A1, classified to BS EN 13139 standards. Alternatively, a fine 0-8mm 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%

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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 should remain within the product's normal mix ratio of 1 part by weight ARDEX A 38 cement to 5 parts sand/aggregate e.g. 1 x 25kg bag of ARDEX A 38 to 3 x 25kg bags of screeding sand and 2 x 25kg bags of nominal 6mm aggregate.

Where the screed thickness is going to be consistently greater than 50mm, a fine concrete mix can be produced for easier compaction by partially replacing some of the screeding sand with 8mm or 10mm single-sized aggregate. To achieve good workability as well as the required soundness category, the optimum mix proportions for this application should still be determined within the product's normal mix proportions and up to a maximum of 2 parts 8mm or 10mm single-sized aggregate added to 3 parts screeding sand and 1 part ARDEX A 38 cement.

NOTE: Any screeding sands or aggregates used should not contain lime lignite or any other materials that could be detrimental to the workability of the screed mortar or the performance of the set and hardened screed. Do not add any other cement or lime materials to ARDEX A 38 mixes.

Water
Add sufficient water to obtain a workable mix. With an evenly graded, fairly dry sand, the water requirement will normally be 10-11 litres per 25kg bag of ARDEX A 38. To achieve rapid drying and rapid strength development etc. as stated, not more than 11 litres should be added per 25kg bag, including the water contained within the sand/aggregate.

MIXING
Mix to a normal screed mortar consistency. When a sample of the mortar is squeezed in the hand, the sample should retain its shape and not crumble, and the hand should be left slightly moist.
When a sample is compacted on the base, no film of water should form on the surface.

Mixing should be performed using 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.

APPLICATION
The working time of the mixed mortar is approximately 1 hour 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 this time.

Where a new bay is laid against a set and hardened screed, it is recommended that day work joints are vertical and treated with the grouting slurry as described under SUBSTRATE PREPARATION.

Apply ARDEX A 38 at temperatures above 5°C.

Application over underfloor heating systems:
When an ARDEX A 38 screed has been laid on a hot water floor system, 3 days should be allowed to elapse before heating the water up to a temperature of 25°C; this should then be maintained for a further 3 days. The maximum floor temperature should then be used and maintained for a further 4 days. Throughout this time, draughts across the screed must be avoided. The floor should then be allowed to cool down to room temperature (above 15°C) before laying floorcoverings.

NOTE: ARDEX A 38 screeds can be thermally loaded up to 65°C (water temperature).

DRYING TIME
ARDEX A 38 can be walked on just 3 hours after application and ceramic and natural stone tiles installed after just 4 hours, irrespective of screed thickness. Resilient floorcoverings such as carpet, vinyl, rubber and wood can be installed after 2 days. The screed will be fully dry (below 2%MC) after 48 hours.

SURFACE FINISH
Before 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 any of the ARDEX levelling compounds which should be selected with the final floor finish in mind. Please see the relevant ARDEX datasheets for further information.

NOTE: Screeds are not designed as wearing surfaces, and should be given adequate protection once dry against damage, 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 38 screed mixes using a proprietary screed pump. Contact our Technical Support Team for further details.

COVERAGE
Using the recommended 1:5 mix, material requirement is approximately 0.31kg of ARDEX A 38 cement per m^2 per millimetre of screed thickness i.e. approximately 3.2m^2 at 25mm thick or 5.4m^2 at 15mm thick per bag.

PACKAGING
ARDEX A 38 is packed in paper sacks incorporating a polyethylene liner – net weight 25kg.

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STORAGE AND SHELF LIFE

ARDEX A 38 contains a reducing agent to control the level of Chromium VI when mixed prior to use. ARDEX A 38 must be stored in unopened packaging, clear of the ground in cool dry conditions and protected from excessive draught.

If stored correctly, as detailed above, and used within 12 months of the date shown on the packaging, the activity of the reducing agent (added to control the level of soluble Chromium VI) will be maintained and this product will contain, when mixed with water, no more than 0.0002% (2ppm) soluble Chromium VI of the total dry weight of the cement content of this product. Use of the product after the end of the declared storage period may increase the risk of allergic reaction.

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**

TECHNICAL DATA

Weight of fresh mortar	approx. 2kg/litre
Working time at 20°C	approx. 1 hour
Walkability at 20°C	approx. 3 hours

COMPRESSIVE STRENGTH USING 0-8MM GRADED AGGREGATE

After 1 day	25.0 N/mm^2
After 7 days	40.0 N/mm^2
After 28 days	45.0 N/mm^2

TENSILE BENDING STRENGTH (1:5)

After 1 day	4.0 N/mm^2
After 7 days	4.5 N/mm^2
After 28 days	5.5 N/mm^2

SOUNDNESS ISCR (BRE SCREED TEST)

Annex D and E of BS 8204-1 contains advice on the use of the In-Situ Crushing Resistance (ISCR) Test on bonded, unbonded and floating screeds. The installed ARDEX A 38 can normally be tested after 6 hours using the ISCR 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

Should the moisture need to be determined, the specific properties and composition of an ARDEX A 38 screed mean that the moisture content cannot be determined with electric conductivity or hygrometer methods and instead the Speedy Moisture Tester (Carbide Method) must be used. The DIN standard for testing cementitious floor screeds (DIN 18121-2) is to use the CM (Carbide Method) when laying moisture sensitive floorcoverings and a reading of † 2% needs to be achieved. Please consult ARDEX Technical Support Team for further advice.

British Standard Codes of Practice

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).

TECHNICAL ADVICE HELPLINE:
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ARDEX online: www.ardex.co.uk