



FEBRUARY 2024  
PRODUCT DATA SHEET

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# ARDEX FLOWPLUS IL

## Liquid Cement Screed Additive

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### Features

- Single-component universal additive for producing cementitious self-levelling screed.
- Reduced Shrinkage.
- Strong and long lasting liquefaction capacity up to 120 minutes.
- Maintains a working time of 1 hour.
- No additional curing agents needed under standard conditions.
- Achieves A+ criteria for sustainability and extremely low VOC's to ISO 16000 standards.



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# ARDEX FLOWPLUS IL

## Liquid Cement Screed Additive

### DESCRIPTION

FLOWPLUS Liquid Cement Screed is an all-in-one additive that creates a superior cement-based flowing screed that offers minimal shrinkage, exceptional smoothness to SR1 surface regularity, and removes the need for additional curing agents.

This innovative screed additive is designed to work harmoniously with your locally-sourced cement, aggregates and fillers, optimising project efficiency and sustainability. It's ideal for mobile batching plants such as TransMix or Bremat trucks, or for mixing at batching plants for delivery by ready-mix trucks.

### USE

ARDEX FLOWPLUS is used to produce bonded, unbonded and floating screeds for internal locations. It's ideal for large projects where areas of 1000m<sup>2</sup> can be installed in one day. It's also perfect for underfloor heating systems as it fully encapsulates heating pipes leading to increased thermal conductivity.

### MIXING MODEL FOR 1M<sup>3</sup>

Application	Concrete batching plants or mixing mobiles.
Cement	350kg
Filler (Limestone)	250kg
Sand/Aggregate	1,300kg (<8mm)
Water	300 litres
<b>FlowPlus</b> Admixture	10kg
Water-Cement Ratio	Maximum of approx. 0.85
Flow	210mm to 240mm
Strength	CT-C20-F4 to CT-C30-F6
ISCR Category	A
Surface Finish	SR1 in accordance to BS8204
Pull-up Strength	Approx. 0.9 N/mm <sup>2</sup>
Shrinkage	Approx. 0.3 – 0.5mm/m
Fire Rating	Class A1
Thermal Conductivity	Minimum of 1.8W/mK
Workability Time	2 hours after batching
Wet Density	Approx. 2.20kg/litre

This mixing model shows an average screed mix, the exact model will be calculated following ARDEX lab tests using the selected local materials, together with an initial test at the actual batching plant with close monitoring by an ARDEX regional representative.

FLOWPLUS leads to a large saving in water that has to be taken into account. The maximum water-cement ratio (300 L/350kg) amounts to 0.85, and despite the water savings FLOWPLUS provides outstanding liquefaction allowing for excellent processing.

If produced at a batching plant for transportation to site, it may be necessary to add additional water into the rotating drum of the mixer truck or add pure phosphate based retarders into the mix.

If desired, you may also add polypropylene fibers (600g/m, length up to 12mm) for demanding areas such as underfloor heating.

### THICKNESS

	Domestic:	Commercial:
Load	2.0 kN/m <sup>2</sup>	3.5 kN/m <sup>2</sup>
Floating on insulation (50mm minimum)	≥ 35mm	≥ 40mm
Unbonded on Polyethylene	≥ 30mm	≥ 35mm
Underfloor Heating	Total depth ≥ 50mm (25mm above pipes)	Total depth ≥ 55mm (25mm above pipes)
Bonded Thickness	≥ 25mm	≥ 25mm

All Information in the table refers to a screed with a flexural bending strength of F5.

The maximum thickness should be no more than 80mm.

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### Bay Sizes and Edge Strips

Recommended bay sizes of 100m<sup>2</sup> for unheated screeds and 40m<sup>2</sup> for heated screeds should be observed. These must be laid separately from each other and separated by movement joints. The maximum length of the screed fields must not exceed 8m and an aspect ratio not greater than 2:1.

Careful consideration should be given to the positioning of movement joints based on the floor finish being installed. Please consult the relevant British Standard for the floor type selected. Additional joints must also be placed between independently controlled heating circuits, and heated and unheated screed. Joints to separate areas of high thermal gain must also be used. Structural movement joints should be followed through bonded screeds.

Edge strips should be used for all types of screed. The compressibility of the edge strips should amount to at least 8mm, where the compressibility has to be greater in larger areas. Use edge strips between the screed mortar and all the vertical construction structures such as walls, columns etc, with 5-8mm closed cell strips for unheated screeds and 8-10mm closed cell strips for heated.

Before application, a flow test must be carried out in order to ensure the screed is at the correct, workable consistency. Target a flow between 210mm to 240mm, adding more water to the mix if measurement is below 210mm.

The screed should be laid in one layer to meet the defined levels and thickness within the 2 hour working time. Use a standard flowable screed tamping bar to move and level the screed, working across the full area in two directions, with the first pass being a deep one and the second pass being a shallower finishing pass.

### GENERAL CONSIDERATIONS

- The base should be flat and true, prior to applying a proprietary damp proof/slip membrane.
- Prior to application, the building should be weather proof and have the appropriate climatic conditions in accordance with BS EN 13813.

- Where applicable, the substrate must have a functioning damp proof membrane below the screed or concrete base.
- Air temperature should be maintained during installation between 5°C and 20°C and above 5°C whilst drying.

### DRYING TIMES

Residual humidity of the screed:	Drying period:
5 CM-%	Approx. 7 days
4 CM-%	Approx. 16 days
3 CM-%	Approx. 28 days
2 CM-%	Approx. 45 days

The specified values above apply for 50 mm screed thickness (on UFH above the pipes) at normal climatic conditions of +20°C and a relative humidity of 65%.

The maximum permissible residual humidity of FLOWPLUS screed for floor coverings to be laid is 2.0 CM-%, determined with the Calcium Carbide Measurement (Carbide Bomb).

For a screed on underfloor heating, the maximum permissible residual humidity is 1.8 CM-%.

### AFTERCARE

Ensure appropriate site climatic conditions, for example, a reasonable indoor temperature and relative humidity, and through heating and ventilation in accordance with BS EN 13813.

The following is necessary to avoid cracks: Ensure that the building is closed and windows are fitted and closed to avoid any draught while laying the screed.

Protect the screed from draughts and direct sunlight for the first 7 days.

Adhere to the specified bay sizes and movement joints. We recommend abrading the screed surface after approx. 5 - 7 days to support the drying process.

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### FORMULATION

- Observe dosage (2.5 – 4.0M-% of cement weight).
- Dosage of Flowplus IL should be carried out in the last third or after complete addition of the mixing water.
- Water-cement ratio <0.90
- Sufficient mixing time is to be ensured.
- To obtain a sufficient applicable consistency on site (generally >200 mm) add 0.4 ltr./m<sup>3</sup> per 10 mm increase in consistency into the turning drum of the transport mixing truck.
- Flowplus IL is compatible with all pure-phosphate retarders

### SAFETY

- The general industrial hygiene is to be observed when using our products.
- Flowplus IL is chloride free, solvent-free and building-biologically safe.
- In case of correct storage our products are not subject to decomposition. Stability and reactivity are therefore not influenced by storage up to 12 months.
- Agitate admixture before first use.
- The product must be stored above 10°C
- Further Health and Safety information can be found in our Material Safety Datasheet online at [www.ardex.co.uk](http://www.ardex.co.uk)

### Comment

The raw materials processed by us and products produced by us are subject to stringent factory inspections. No additives from other manufacturers may be used when this product is used. We therefore point out that our products and the process therefore have to be tested for their suitability for the building site conditions to be expected. The quality of the screed depends substantially on the sand and cement quality, mixing ratios and processing in accordance with the recognized rules of screed technology. Since we do not have any control over the building site conditions or the construction work, no statutory liability can be derived from this literature. With the publication of this literature all previous versions lose their validity.

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**  
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