

+FLOWPLUS

By ARDEX

**Next Generation
Cementitious Liquid Screed**



KNOPP





Unlock the future of flooring innovation with the dynamic partnership of ARDEX Limited, the flooring specialists, and Germany's screed additive pioneers, KNOPP GmbH. Together, ARDEX and KNOPP introduce **FLOWPLUS**, a game-changing technology used in the European market for over 12 years, that's now available for the first time in the UK.

FLOWPLUS creates a superior cement-based flowing screed that offers minimal shrinkage, exceptional smoothness (easily to SR1 surface regularity with the correct preparation), and removes the need for curing agents. This innovative all-in-one product is designed to work harmoniously with locally-sourced materials, optimising project efficiency and sustainability.

From screeds to adhesives, ARDEX offer full systems for the installation of tile and resilient floorcoverings. Our technical support team is always on hand to help, whether you need product advice, training or on-site support.



+ Features & Benefits



ALL IN ONE

Carefully engineered to incorporate all the necessary components for exceptional screed performance.



QUICK & SIMPLE INSTALLATION

Cover larger areas in less time, significantly increasing your productivity. With up to 1,000 m² per day with a crew of three.



VERY LOW SHRINKAGE

Reduced shrinkage of between 300 and 500µm/m, provides lasting structural integrity and high performance over the screed life cycle.



UNDERFLOOR HEATING

Provides full encapsulation of heating pipes, improving thermal conductivity over traditional, semi dry screeds.



EXTENDED WORKING TIME

With a 2 hour working time, you can take your time to achieve the desired results.



USE LOCAL MATERIALS

Designed to be used with your local aggregates, fillers and cements, saving on transport costs and CO₂ emissions.



SR1 SURFACE REGULARITY

FLOWPLUS easily achieves a floor flatness of SR1 under BS 8204, so you can create flawlessly smooth and level floors.



NO CURING NEEDED

No additional curing necessary under standard conditions. Meaning no covering foil or extra work spraying a curing admixture.



LAB TESTING

Customised initial type testing by ARDEX labs. We'll make sure you get the perfect design mix for your project.



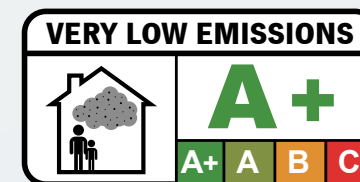
SUITABLE FOR WET AREAS

Suitable for internal dry, and wet areas such as wet rooms, plant rooms and bathrooms etc.



LOW LAITANCE

Reduced laitance, and dust formation, means less post set preparation.



Achieves A+ criteria for sustainability and extremely low VOC's to ISO 16000 standards.

+ Mix Design

MIXING MODEL FOR 1M³

Application	Concrete batching plants or mixing mobiles.
Cement	300kg
Filler (Limestone)	250kg
Sand/Aggregate	1,350kg (<8mm)
Water	280 litres
FlowPlus 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. 1.0 N/mm ²
Shrinkage	Approx. 0.3 – 0.5 mm/m
Fire Rating	Class A1
Thermal Conductivity	Minimum of 1.8W/mK
Workability Time	Up to 3 hours after batching
Wet Density	Approx. 2.20kg/litre

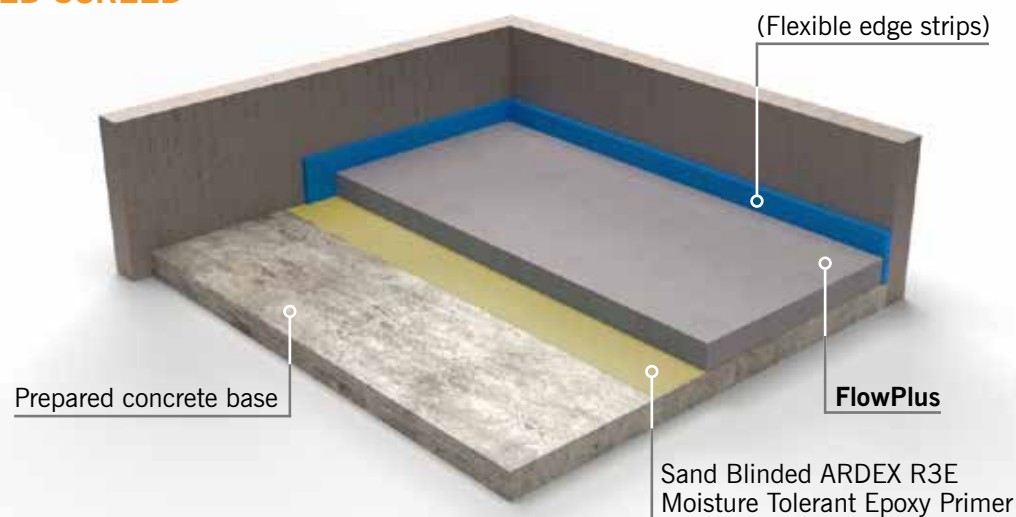
This mixing model shows an average screed mix, the exact model will be calculated following ARDEX lab tests using the selected local materials, together with an initial test at the actual batching plant with close monitoring by an ARDEX regional representative.

FLOWPLUS leads to a large saving in water that has to be taken into account. The maximum water-cement ratio (300L/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 an additional water into the rotating drum of the mixer truck or add pure phosphate based retarders in the mix.

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

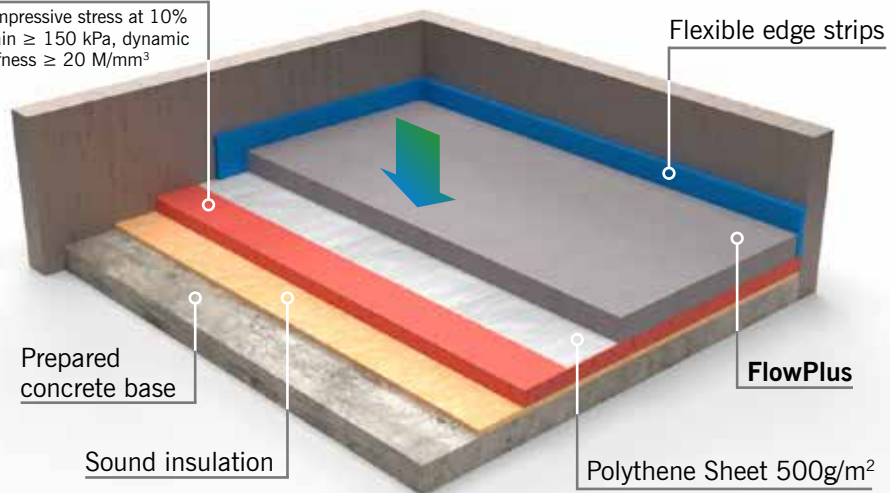
BONDED SCREED



FLOATING SCREED:

Thermal Insulation

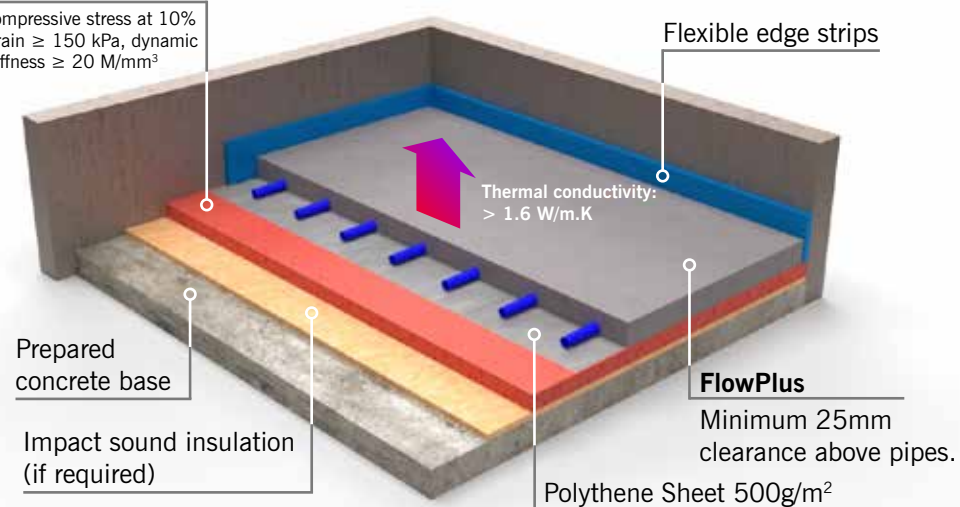
Compressive stress at 10% strain ≥ 150 kPa, dynamic stiffness ≥ 20 M/mm³



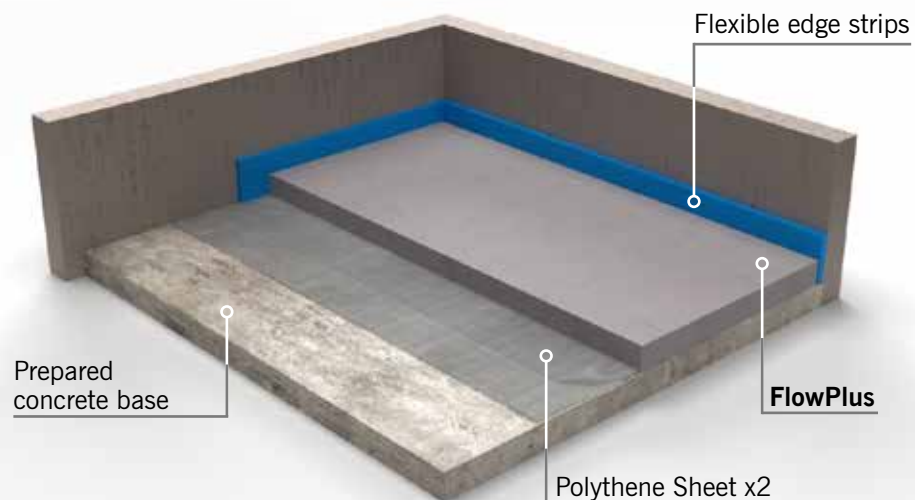
FLOATING SCREED WITH UFH:

Thermal Insulation

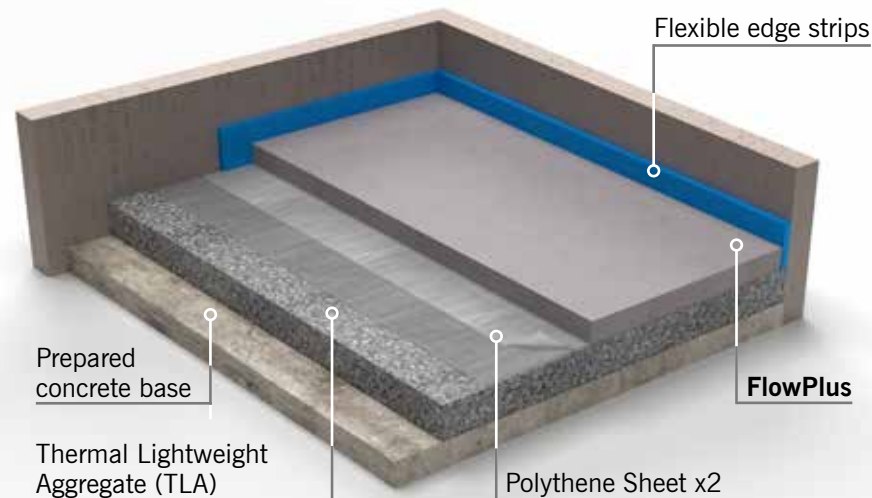
Compressive stress at 10% strain ≥ 150 kPa, dynamic stiffness ≥ 20 M/mm³



UNBONDED SCREED:



SCREED ON THERMAL LIGHTWEIGHT AGGREGATE (TLA):



+ Application



CONSIDERATIONS

- + Substrates 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.
- + With a crew of trained installers, areas of up to 1,500m² per day can be realistically achievable.

FLOW TEST

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.

THICKNESS		
	Domestic:	Commercial:
Floating on insulation (50mm minimum)	≥ 40mm	≥ 50mm
Unbonded on Polyethylene	≥ 40mm	≥ 45mm
Underfloor Heating	25mm above pipes	30mm above pipes
Bonded Thickness	≥ 20mm	≥ 20mm

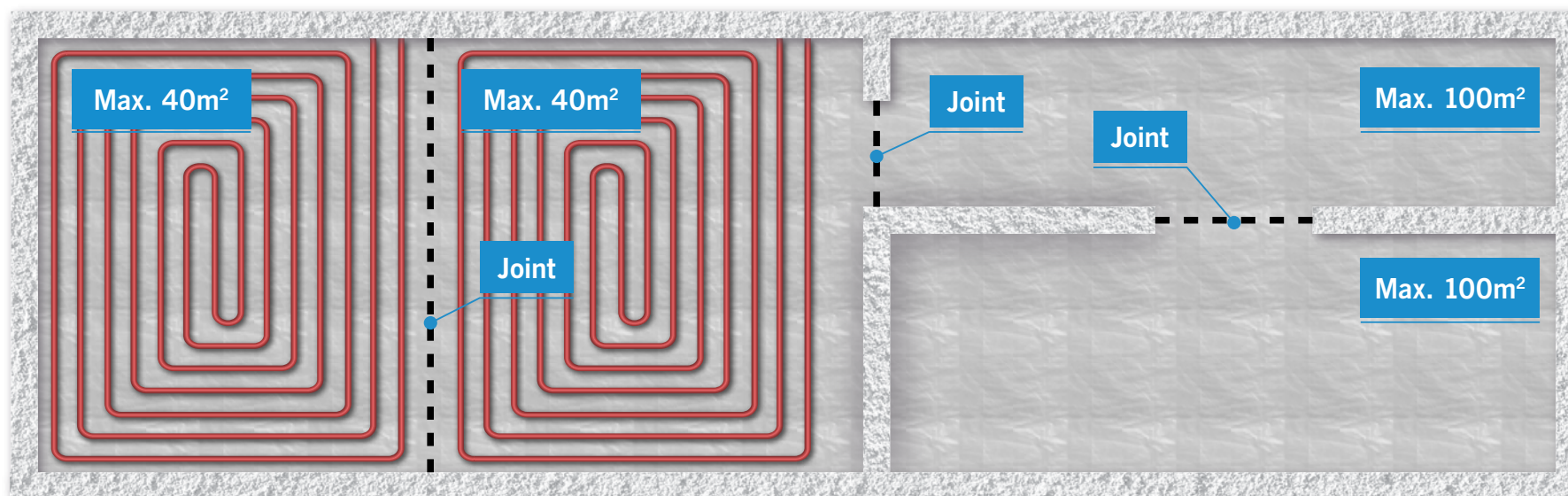
All information refers to screed with a strength of CT-C25-F5.

SCREED DEPTH

Mix and place FLOWPLUS in one layer to meet the defined levels and thickness. 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.

The maximum thickness should be no more than 80mm, as thicknesses over this could impact drying times.

BAY SIZES & EDGE STRIPS



BAY SIZE	
Floating Domestic	≤ 100m ²
Floating Commercial	≤ 100m ²
Unbonded	≤ 100m ²
Underfloor Heating*	≤ 40m ²

* For heated screeds, each heating circuit should be separated by an independent movement joint.

Recommended bay sizes of 100m² for unheated screeds and 40m² 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.

Edge strips should be used for all types of screed, with the exception of bonded screeds. The compressibility of the edge strips should amount to at least 8mm, where the compressibility has to be greater at larger surfaces. 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.

+ Application

AFTER CARE & DRYING



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.

DRYING AND RH VALUES

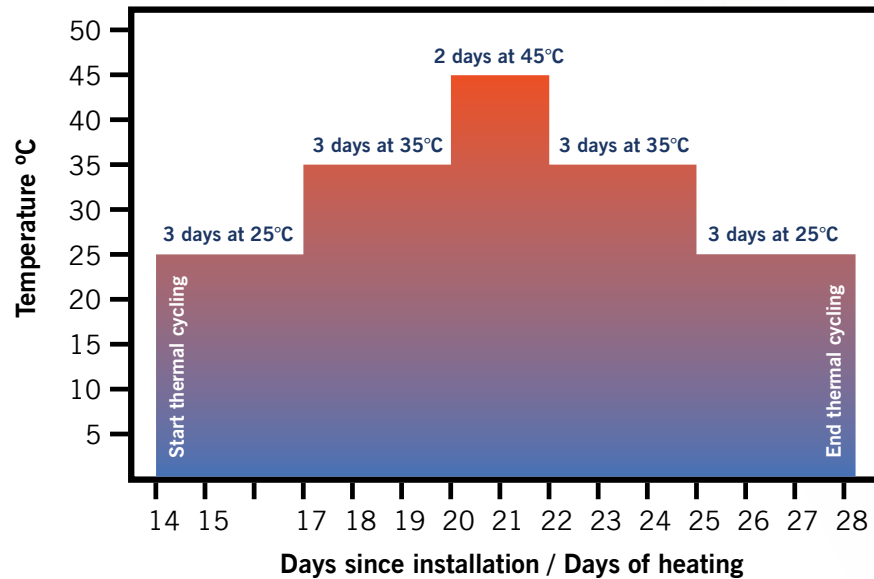
Residual humidity of the screed:	Drying period:
5 CM-%	Approx. 7 days
4 CM-%	Approx. 16 days
3 CM-%	Approx. 28 days
2 CM-%	Approx. 45 days

The specified values above apply for 50mm 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-%.



COMMISSIONING UNDERFLOOR HEATING



Commissioning of the underfloor heating must not take place until the screed has undergone a minimum of 14 days curing time under normal drying conditions. The water temperature flowing through the pipes must be carefully controlled during a thermal heat cycle, as follows:

3 Days at 25°C, 3 Days at 35°C, 2 days at maximum operating feed temperature e.g. 45°C, then back down to 3 Days at 35°C and finally 3 Days at 25°C.

The UFH water circuit temperature must not exceed 45°C. Installation of floor finishes must not take place until the screed has undergone this thermal cycle and is completely dry.





FORMULATION SUPPORT

We test your locally sourced cement, sand and fillers to ensure the mix gets the results you need.



SITE SUPPORT

We can help you with site assessments, offer one to one support and general guidance to help achieve the best from your projects.



SPECIFICATION SUPPORT

The ARDEX Specification Team can provide advice on specifications, not only about screeds but complete flooring and tiling systems.



TECHNICAL ADVICE

We're on hand to offer advice and product recommendations in line with British Standards codes of practice.

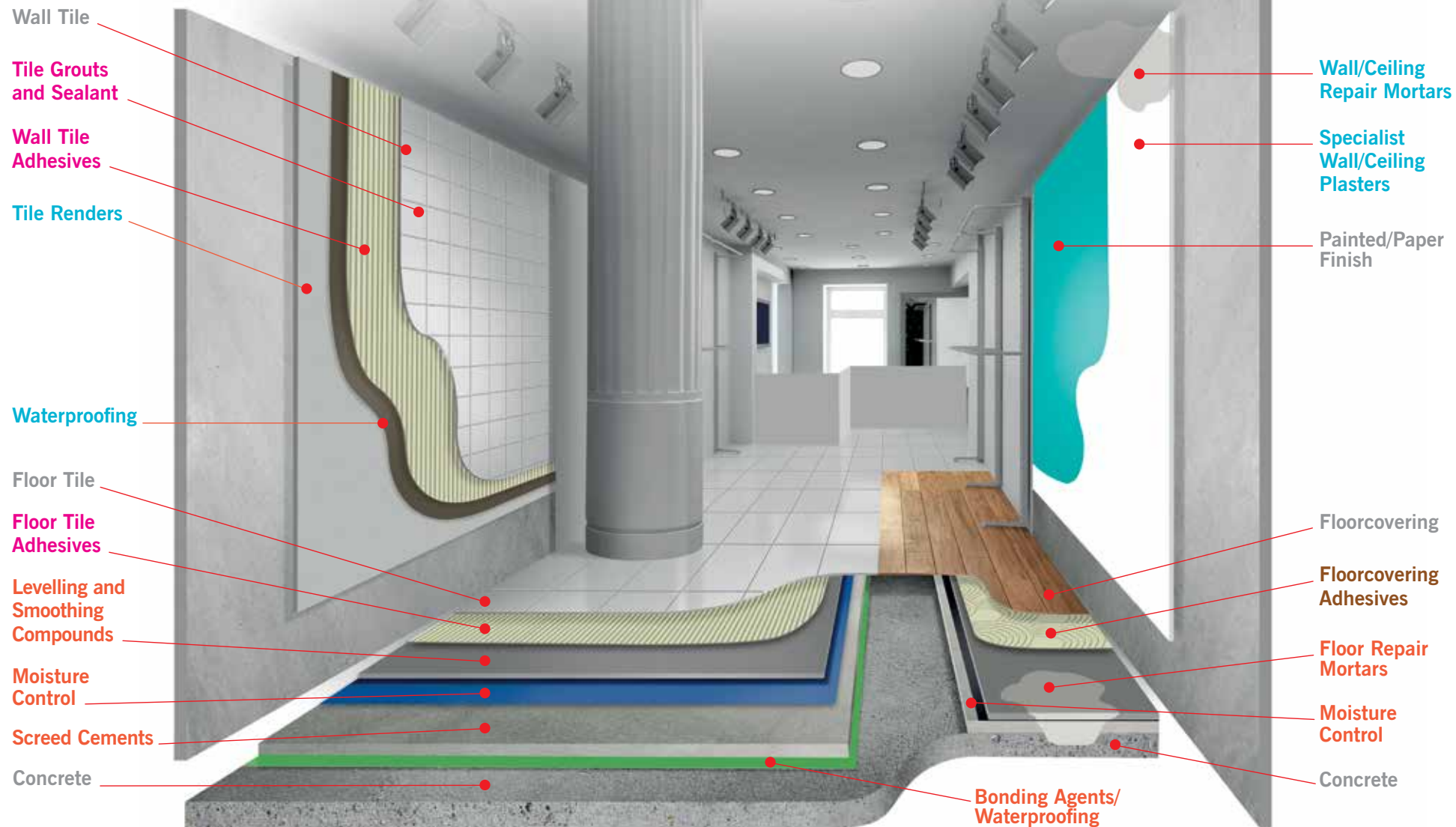


ON SITE TESTING

Our team is available to perform on-site testing such as the BRE ISCR test, or subsequent moisture testing to judge the screed readiness to receive final flooring.



+ ARDEX Fast Track Building Products Range





With a legacy of over 70 years since it was founded in 1949 in Germany, ARDEX has established itself as a leader in high-performance building chemicals across the whole world. Favoured by installers and wholesalers alike, ARDEX remains an independent family-run business, with its founding commitment to uncompromising quality remaining steadfast.

Strong internal growth and carefully considered acquisitions put the ARDEX Group on the map with 67 subsidiaries, and 4,000 employees in over 50 countries on all continents – boasting a virtually end-to-end presence in our core market of Europe. With more than 18 major brands across multiple construction sectors, the ARDEX Group generated a total turnover of more than 1,095 million euros in 2022.

ARDEX's vast experience of materials and working methods, helps us develop product systems known for ease of use, speed, and coverage.

Founded in 1981, KNOPP GmbH, located in Dettelbach, Germany, stands at the forefront of concrete and screed solutions, with a range of innovative screed admixtures positioning KNOPP as pioneers in the field. With a portfolio of premium products and an unparalleled reputation for innovation, KNOPP has become a leading brand throughout the world.

Acquired by ARDEX in 2017, KNOPP continues to expand across Europe and Asia. Particularly notable is KNOPP's expertise with semi-dry concrete and mortars, resulting in their distinctive solutions for dry cast concrete block production technology and floor screeding.

KNOPP strives to improve performance, efficiency and quality in 4 core product categories:

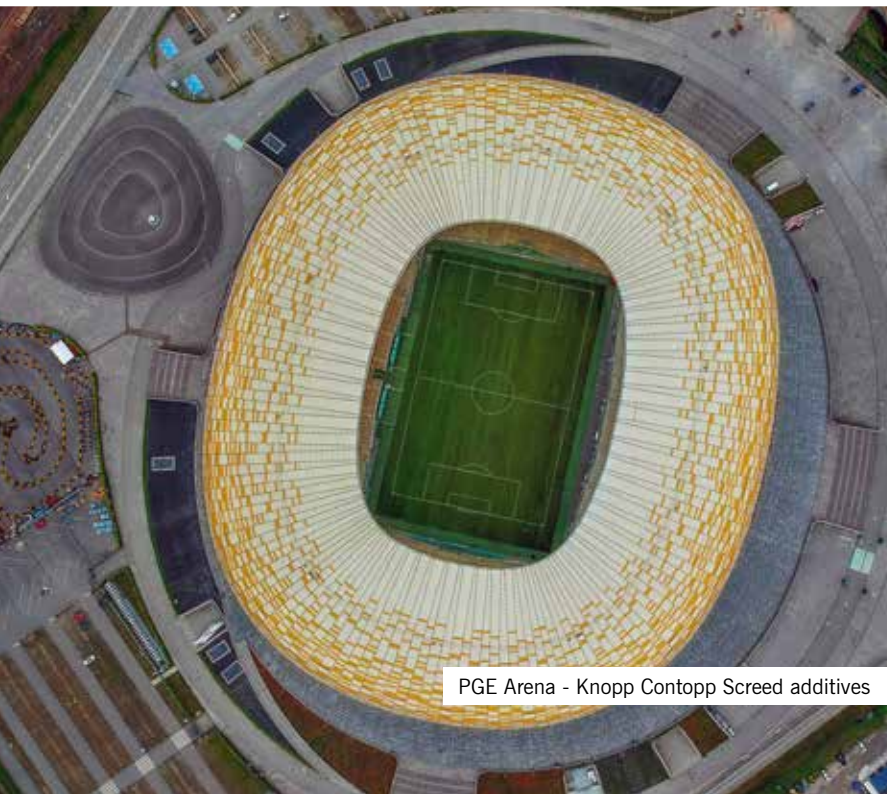
- + Admixtures and curing aids for cement screed.
- + Anhydrite binding agents.
- + Concrete admixtures.
- + Construction resins and coating products.



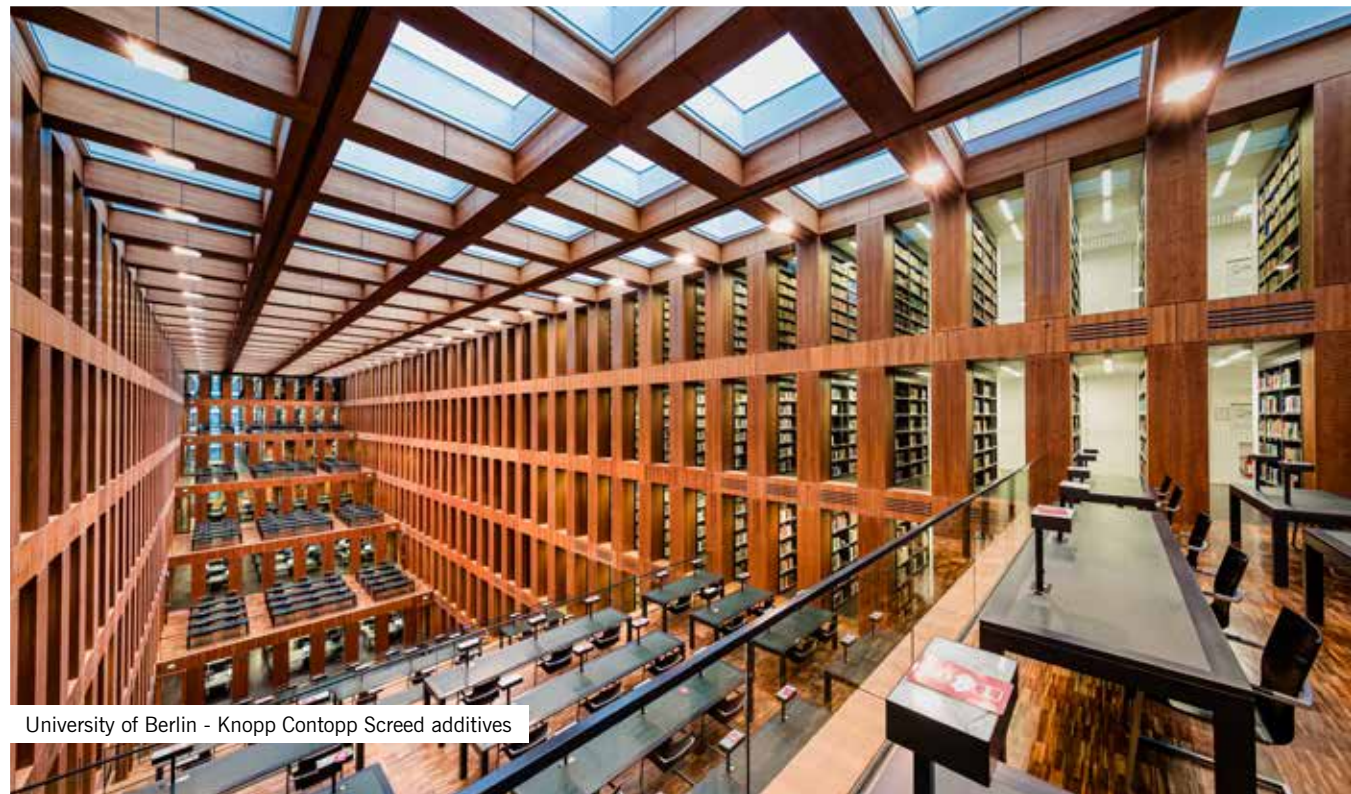
Burj Khalifa & The Dubai Mall - ARDEX Screeds & Levelling Compounds



Lords Cricket Ground - ARDEX Screeds



PGE Arena - Knopp Contopp Screed additives



University of Berlin - Knopp Contopp Screed additives

+ CONTACT US



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