



FlexiDry[®]
Global Ltd

INNOVATORS IN SCREED SCIENCE

**An advanced and
highly adaptive
fast-drying screed**

F0 F1 F2 F3

- Drying times are **NOT** dependant on a controlled environment
- No curing under polythene – removes H&S risks
- Removes the need for liquid surface DPMs
- Foot traffic after 12 hours



FlexiDry[®]

Tel: 0845 555 5656

www.flexidry.com

An advanced and highly adaptive fast-drying screed additive

FlexiDry® is an advanced and highly adaptive screed system which can be used on a wide range of floor applications. This new innovation in screed science has been specifically designed to deliver optimal performance and quality on a number of fronts:-

Unique advantages of the **FlexiDry®** Screed System

- Variable dry times of 3, 7, 14 & 21 days which are NOT dependant on controlled temperature of 20°C & 50% RH
- Does not require curing under polythene for 7 days after installation removing H&S risks on site
- Removes the need for liquid surface DPMs
- Light foot traffic after 12 hours
- Greatly reduced shrinkage due to the highly controlled drying process enabling much larger bay sizes
- Better compressive and bending strength properties
- Major cost savings due to the ability to dry the screed in-line with the actual project timescales required to best meet completion dates. This can potentially lead to significant cost savings
- Increased compressive strength (25N/mm² or 30N/mm²)
- Better compaction enables improved thermal conductivity (perfect with UFH systems).
- Allows reduced thicknesses on top of insulation and UFH systems and therefore uses less screed, so less cement and better for the environment
- No need for mesh reinforcement



Disclaimer

All efforts are made to ensure the information is correct at time of publication and is not intended as a particular specification. Description is for guidelines only and responsibility for any loss, damage or injury whatsoever, will remain outside our responsibility.

How **FlexiDry®** Works

The water/cement value expresses the mass ratio to the cement content of the effective water content within the screed. Therefore the effective water content is the difference between the total water amount in the fresh screed and the water content that is absorbed by the aggregate. The cement needs a certain amount of water for fully setting (hydration). The chemically bonded water is named hydrate water and is about 18-20 % of the cement weight. To produce the cement gel, one needs a water amount that is larger than the chemical bonded water amount. The gel water which is physically bonded is about 15% of the cement weight. Combined with **FlexiDry®** a further part of water molecules is bonded and therefore the chemical and physical bonded water gets fixed. For a full hydration of the cement about 33-35 % of the cement volume is necessary which equals to a water/cement value of 0.33-0.35.

With a water/cement value above 0.35 excessive water remains in the capillary pores and drains. This "excessive" water is responsible for all known disadvantages among others to include porosity, shrinkage and curling of the screed. By using **FlexiDry®** the water amount per mixture is 50 kg of cement depending on workability and remaining moisture of the sand between 9 and 20 litres of water. The analytical water/cement value of 0.35 is at 17.5 litres of water. As further water is bonded and the hydration is accelerated one can understand the shortened time frame to reach workability. With a CM measurement capillary and gel water, react depending on measuring time. After 10 minutes of read-off time about 1% of gel water will react to acetylene gas with calcium carbide. Subtract 1.2% until age of screed of 8 days and 1% until age of screed of 14 days from the measurements.

Consolidation

The necessary water needed for hydration is embedded at the start in the system and is available for the system for hydration. That means within 25-30 days a bulk of the bonded water is transformed into hydrate products. Especially in the third hydrate phase, the transformation into cement stone takes place. Our measurements showed that about 0.6%-0.75% of the one percent are used for producing cement stone within the time frame. A smaller part is delivered by diffusion. That means that the bonding forces of molecules tend to get weaker. The maker of **FlexiDry®** accepts the warranty for the promised features and the effect of the **FlexiDry®** Form.



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