



FlexiDry®
Global Ltd

INNOVATORS IN SCREED SCIENCE



Product Data Sheet

*for accelerated dry times
of 7, 14 & 21 days*

Tel: 0845 555 5656 www.flexidry.com

Description

A unique additive enabling accelerated drying and hardening of floor screeding systems. Suitable for bonded, unbonded, floating and heated screeds. Light foot traffic can be achieved within 12 hours and suitable for final floor coverings within the timescales stated on the dosage chart.

Typical Use

Typically used as a levelling screed to receive finished floor coverings such as tiles, wood flooring, laminate, PVC, natural stone, carpet and a variety of other floor finishes.

Benefits

- Foot traffic within 12 hours
- Apply final finishes within 7-21 days depending on dosage
- Easy compaction giving more consolidated molecular structure
- Very low shrinkage allowing larger bay sizes
- Stable performance on underfloor heating
- Mixed economy of scale (costs) as one product can be adjusted to facilitate dry times
- Better durability
- Water repellent
- Compatible with cementitious compounds and adhesives
- Thinner screeds can be applied
- Logistical advantage due to low volume requirement

Dosage

F₁ (7 days): 175ml of **FlexiDry**[®] per 25kg of Cement

F₂ (14 days): 125ml of **FlexiDry**[®] per 25kg of Cement

F₃ (21 days): 85ml of **FlexiDry**[®] per 25kg of Cement

Mixing of Material

Materials should be mixed in a forced action mixer such as a screed pump or pan mix. The correct dosage of **FlexiDry**[®] should be dispersed in a water bucket and added to the correct sand and cement grades. Mixing time should be approximately 2 minutes, ensuring a good distribution of product and water, adjusted to facilitate trowelling. See dosage chart above for **FlexiDry**[®] quantities. Materials to be read in conjunction with BS8204:1 2003 and relevant codes of practice.

Laying of the Screed

Screeds are to be mixed, compacted and finished within the open working time and should not be re-agitated. A specialist floor screeding contractor is recommended for the successful application and read in conjunction with BS8204:1 2003.

Compaction of Screed

The screed should be worked and well compacted. Thickness greater than 75mm would need to be applied in layers of 50mm. Apply the base layer, then roll to compact and rake to provide key for additional layer(s).



F₁ **F₂** **F₃**



Reinforcement

Fibre or steel mesh reinforcement as required.

Steel or SBR slurry bond to vertical dayjoints.

Perimeter Expansion/Contraction

10mm polyethylene strip should be used around the perimeter and any columns or fixed points that reflect through the finished screed.

Bay Sizes

Bay sizes should be read in conjunction with final floor finish guides and pre-determined on the drawings. To be read in conjunction with correct codes of practice.

Temperature and Humidity

Low or extremely high processing and underground temperature and/or high humidity may result in longer drying and setting times. By acceleration of the hydration the different building site conditions are almost regulated. Relative humidity of the air is essential and a general test should be done to check the remaining moisture ahead of working with steam-proof toppings.

Safety Information

See separate safety data sheet.

Product information

Material	Additive, modified polycarboxylate in water
Bulk density	Approx. 1.1 g/cm ³
Shape	Liquid
Colour	Black/brown
Label according to Hazardous good regulation sheet (GGVS) Hazardous material regulation (GefStdN) Further information see Safety information	Non-hazardous goods Irritating
Storage	Keep between 5°C and 30°C
Shelf life	At least 9 months from delivery date
Packaged size	Plastic drums of 5 and 20 litres
Consumption	See Dosage Table (mixed)
Consistencies	Mix to an earthy consistency
Recommended thickness	Minimum – 25mm for bonded screed; Minimum – 40mm for unbonded screed; Minimum – 60mm for floating and heated screeds. Minimum over pipework – 30mm
Working temperature	+5°C to +30°C
Mixing	Forced action mixer Pan/Screed Pump
Pumping	Pneumatic
Mortar-consistency	Adjust to facilitate trowelling
Open working time	Approx. 60-90 minutes depending on dosage
Light Foot Traffic	12 hours
Dry Time F₁	7 days
Dry Time F₂	14 days
Dry Time F₃	21 days

A unique additive enabling accelerated drying and hardening of floor screeding systems.



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*[®] Formula.

Testing of the screed

Moisture testing: The recognised testing method for *FlexiDry*[®] floor screed is the CM Moisture Test Method which should always be carried out before laying sensitive floor coverings. This can be completed with either a Tramex CRH Meter (non -destructive) or using a Calcium Carbide Moisture Tester (destructive).

Strength testing: The recognised testing method for *FlexiDry*[®] Floor Screeds is a BRE Drop Hammer Test in compliance with the current standard of BS8204:1 2003.

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.



INNOVATORS IN SCREED SCIENCE

Tel: **0845 555 5656**

www.flexidry.com