

## ECOSCREED STANDARD CODE 6 Energy Saving Zero Carbon Flowing Screed

**A 100% RECYCLED ZERO CARBON ENERGY SAVING M13  
CALCIUM SULPHATE INTERNAL FLOWING FLOOR SCREED  
( Saves up to £2.00/m<sup>2</sup>/year on energy costs and 1000kg of  
Co<sub>2</sub> /m<sup>3</sup> of screed aid compared to any other type of screed)**

### Description

**ECOSCREED STANDARD CODE 6** is a pre-mixed, bulk flowing floor screed based upon a special hard alpha-hemihydrate variety of calcium sulphate. The screed is 100% recycled incorporating recycled glass/ceramic as a complete replacement for natural sand. The glass ceramic sand is combined with a 100% recycled calcium sulphate binder derived from the de-sulphurisation process at UK power stations.

**ECOSCREED STANDARD CODE 6** requires less energy to heat up than conventionally sanded screeds and is the most eco-friendly screed on the UK market today.

**ECOSCREED STANDARD CODE 6** can be laid thinner than conventional screeds and up to 1000m<sup>2</sup> per day at 50mm can be achieved, thereby making it highly competitive in both overall time and cost savings compared with conventional sand and cement screeds. It should be installed either as an un-bonded screed or as a floating system in both new and refurbishment projects.

**ECOSCREED STANDARD CODE 6** is ideal for use where under floor heating and cavity floor systems are being installed, as the very fluid nature of the flowing screed allows full encapsulation and contact with the heating pipes and cavity floor elements. The screed is not designed as a final wearing finish.

**ECOSCREED STANDARD CODE 6** conforms to BS.EN 13813 the European Standard For Flowing Screeds and is delivered in bulk format direct to site via our 14 cubic metre capacity mobile mixer pump trucks. The product is only mixed and placed once the vehicle has arrived on site.

**ECOSCREED STANDARD CODE 6** is suitable for all types of floor covering but should generally not be used as the final floor finish. Once laid, the screed should not be exposed to excessive drafts. It is recommended that prior to the laying of final tile finishes that the surface should be primed prior to the use of cementitious tile adhesives.

**Application** : (Ambient temperatures should exceed 5 degrees centigrade.)

- *Unbonded*

- o Minimum thickness of 30mm.
- o Fix 10mm border edging strip to all walls.
- o Use lapped single sheet polythene not less than 500 gauge.
- o Use unfolded polythene on rolls (folds act as crack inducers).
- o Tape all overlapped polythene edges except at border edge.

- *Floating*

- o Minimum thickness of 40mm.
- o Polythene to be placed on top of insulation.
- o Insulation to be laid in accordance with the manufacturers recommendations.

- *Under Floor Heating System*

- o Minimum screed thickness clearance over the top of the pipes to be 25mm.
- o Heating pipes should be fully secured to prevent lifting.
- o Heating pipes, as a general rule, should be pressure tested and water filled prior to screeding taking place.

- *Thin Section Coverings*

- o If there is a requirement for direct fixing of thin section final finishes, such as vinyl, linoleum, etc. then the floor may need to be lightly sanded when sufficiently dry to remove any surface imperfections.

- *Need For Joints*

- o Underfloor Heating: Install a 10mm expansion joint around perimeter walls and around columns and use a maximum bay size of 300m<sup>2</sup>. A joint should be installed between two independent heating circuits.
- o Joints are needed when the length to width ratio is less than 6:1 or where continuous areas exceed 40m in length.
- \* A bay joint is required if the screed area exceeds 1000m<sup>2</sup>
- \* As with all floors continue all construction joints through the screed.

- *Reinforcement* - No requirement for reinforcement

- *Curing* - Protect from draughts

- *Compressive Strength* - 10N/mm<sup>2</sup> @1day 15N/mm<sup>2</sup> @7days 25N/mm<sup>2</sup> @28days

- *Flexural Strength* - 2 N/mm<sup>2</sup> @ 1 day 3 N/mm<sup>2</sup> @ 7 Days 5 N/mm<sup>2</sup> @ 28Days

- *Yield* - 1.80 kg/mm/m<sup>2</sup>

- *Mixing Water* - 4.5 litres per 25kg bag

- *Shelf Life* – Bagged product 6 months

## DRYING TIME

Under ideal conditions (a warm, well ventilated room) the ECOSCREED STANDARD Code 6 dries at a rate of 1mm/day up to a maximum thickness of 40mm and then at a rate of 1/2mm/day for thicknesses above this:

eg 50mm thickness = 40 + 20 days = 60 days

Drying times can be improved by the provision of good ventilation, open windows and doors in good weather, the use of closed system dehumidifiers (after 7 days) and by forced drying of the screed using under floor heating.

The moisture content of the screed should be 0.5% for impermeable finishes, tiles and timber and 1.0% for carpets.

## FORCE DRYING

Forced drying of **ECOSCREED STANDARD CODE 6** can be accomplished by commissioning under floor heating systems in accordance with BS 1264 : 2001 Part 4 Clause 4.4 as early as 7 days after the screed has been placed.

Raise system water temperature in 4 – 5 oC increments from ambient to 20 – 25oC, maintain for a minimum of 3 days and then gradually increase the temperature again in 4 – 5oC increments to maximum operating temperature which should be maintained for a further 4 days (water temperature not to exceed 55oC for M13 screeds) prior to returning to ambient temperature in readiness to receive floor finishes.

**NB** Please note it maybe necessary to commission UFH system for greater than the 7 day commissioning period to enhance the drying. The time that is required for force drying is directly proportional to the age and thickness of the screed at the time of commissioning. In all cases it is important to remember that adequate ventilation is required to maintain good drying conditions.

The screed must be dry before the application of the floor finish and failure to follow this procedure prior to the application of subsequent impermeable resilient floor finishes is likely to lead to failure of the floor finish at a later date.

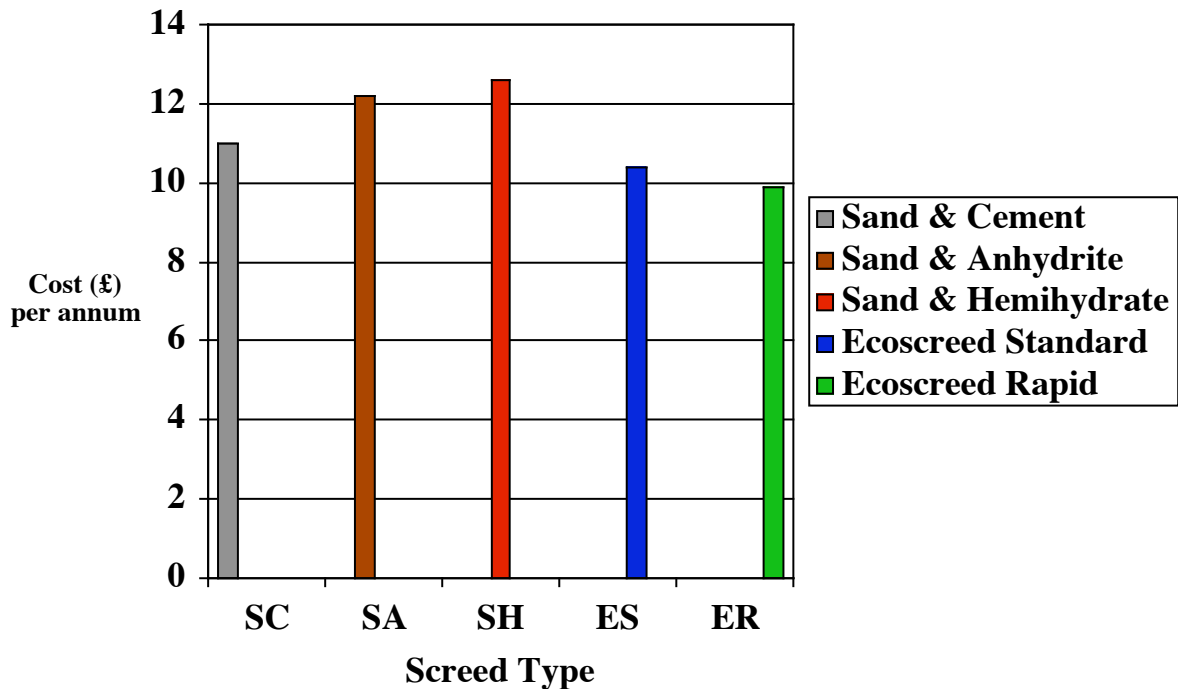
Once proven to be dry it is important that the surface of the **ECOSCREED STANDARD CODE 6** screed be protected from accidental spillages and leaking fixings. Should these occur then the screed will require further drying to attain the required moisture content and in the worst case of full saturation then the drying times will be as with freshly placed screed leading to possible delays in the construction schedule.

## Benefits For the Client & Architect For the Contractor

- Maximum strength of 30N/mm<sup>2</sup> • Fully pumpable system saves time
- Reduced contract costs through time saved • No curling or shrinkage cracking
- No reinforcement required • Rapid occupancy of buildings
- Ideal for under floor heating systems due to self compaction.
- Eco-friendly containing 100% sand replacement by ceramic sand
- Delivered by bulk mobile mixer pump truck • No need for reinforcement
- No mechanical compaction needed • Screed laid with minimum joints
- Mixed fresh on site • Metered quantity, you get what you pay for

## Energy Saving Due To Thermal Properties Of Glass : £2/m<sup>2</sup>/year saving

### Comparable Energy Cost Per Year of Different Screed Types



## Energy Saving Due To Screed Thickness

When dealing with a substance being heated up (ie. a screed encapsulating under floor heating pipes) the amount of heat energy (**q**) gained or lost is equal to the mass of the substance (**m**) multiplied by the Specific Heat Capacity(**Cg**) multiplied by the change in temperature (final temperature **Tf** - initial temperature **Ti**)

$$q = m \times Cg \times (Tf - Ti)$$

Typically specifications require screeds over under floor heating pipes to be generally 65mm for Sand & Cement screed and only 50mm for Flowing Screeds:

**ECOSCREED STANDARD CODE 6** = 1m<sup>2</sup> x 1.80kg x 50mm = 90kg/m<sup>2</sup> @ 50mm

Heat energy **q** required to heat up 1m<sup>2</sup> at 50mm **ECOSCREED STANDARD CODE 6** floor from 0oC to 20oC = 90000 gms x 0.9037 J/g C x 20 = **1,626,660 Joules**

**Sand & Cement** = 1m<sup>2</sup> x 2.2kg x 65mm = 143kg/m<sup>2</sup> @ 65mm

Heat energy **q** required to heat up 1m<sup>2</sup> at 65mm Sand & Cement floor from 0oC to 20oC = 143000 gms x 0.9914 J/g C x 20 = **2,835,404 Joules**

**Therefore it takes 1,208,744 Joules less energy to heat up 1m<sup>2</sup> of ECOSCREED STANDARD CODE 6 floor from 0oC to 20oC compared to a Sand/Cement screed.**

The Energy Saving Screed Co Ltd provides the above data in good faith, without warranty and as a guide to typical values only. The company reserves the right to alter the data at any time. Strength is dependent upon the binder quantity used per cubic metre of screed and no liability can or will be accepted for any strength variations or loss or damage arising from subsequent water damage after the screed has been laid. We refer also to our standard Terms and Conditions of Sale that are available on request. **This data should not be taken as a specification.**

