

Quantities

15 x 25 Kg bags of Irish Cement, together with just over 1.5 tonnes of damp sand will produce just under 1 cubic metre of screed. This is sufficient material for approx. 25 square meters of 40mm thick screed.

Remember

- Traditionally laid sand cement screeds are not intended to act as wearing surfaces.
- Use a clean course concreting sand. Avoid fine mortar sands.
- Use a 4:1 sand:cement mix batched by weight.
- For a screed thickness greater than 50mm, a concrete screed is recommended over a sand/cement screed.
- Screeds should not be laid when overnight frost is expected.
- Cure all screeds under polythene for 7 days.

Storage

Bagged cement should be stored on a raised platform in dry conditions, covered with plastic sheeting. Bags should not be stacked higher than about 1.5m.

Care in use

A health and safety data sheet, giving practical guidance on handling cement, is available from our Technical Marketing department, or on our website.

Irish Cement Series

- 1 **Mixing and Placing Concrete**
- 2 **Blockwork and Plastering**
- 3 **Precast Concrete Paving**
- 4 **Floor Screeds**
- 5 **Concrete on the Farm**

Advice and Information

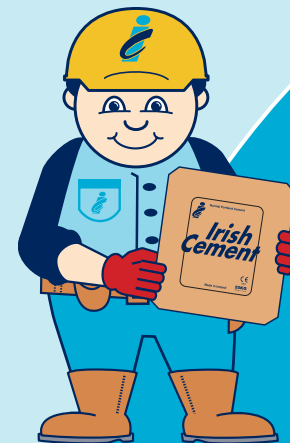
Technical Marketing Department
Irish Cement Ltd, Platin
Drogheda, Co. Louth

Tel 041 987 6464

Fax 041 987 6400

E-mail info@irishcement.ie

Website www.irishcement.ie



4

Using Irish Cement

Floor Screeds



Floor Screeds

What is a floor screed?

A sand cement floor screed is a layer of mortar made with Normal Portland Cement and clean sharp concreting sand, which is cast in situ onto a prepared base slab. The screed may be left as finished, or floated to produce a smooth surface on which to lay the specified flooring or finish.

Sand cement screeds are not intended to act as wearing surfaces. They should only be specified where placing and finishing of the concrete floor to acceptable standards is difficult.

With floor screeds, the standard of materials and workmanship will greatly effect the quality of the final material. This information leaflet outlines the simple rules which, if carefully followed, will ensure that the floor screeds are of good quality and will give a lifetime of trouble free service.

Materials

Cement

Cement should be Normal Portland Cement manufactured to I.S. EN 197-1:2001.

Sand

Sand should be clean and sharp. Fine mortar sands produce cement balling in the mixer resulting in an irregular dispersion of cement throughout the mix.

An excessively fine or dirty sand will result in a screed of insufficient strength and durability with increased drying shrinkage and curling.

The Mix

A sand:cement mix of 4:1 batched by weight is generally recommended for screeds.

For screeds of over 50mm thickness, a concrete screed may be used (10mm maximum aggregate size). Such a screed would be laid as would concrete, i.e. with a higher workability than a sand/cement screed.

Excessive water in a screed will reduce the final strength and should be avoided. Insufficient water however, will make compaction increasingly difficult. A simple test to check for the correct water content is as follows:

Press a ball of the mixed screed material in the hand. Only a little excess water perhaps a drop or two should be squeezed out. Open the hand, and the screed material should be moist enough to hold the ball together but not too dry to let it crumble apart.

Mixing

Forced action mixers are best for screed mixing. Tilt drum mixers tend to encourage cement balling, especially with fine sands.

Bay Sizes

Long strips of screed will unavoidably crack at random intervals as they dry and shrink. Small bay sizes will prevent the occurrence of random cracking, but bay edges may curl. With thin screeds, random cracking may be less objectionable than steps at curled bay edges.

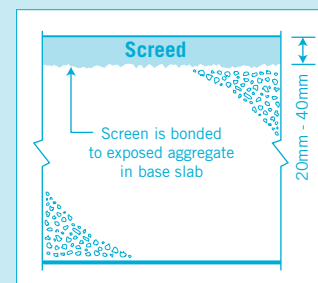
Placing

Screeds may be specified as bonded or unbonded.

Bonded

A bonded screed is generally 25-30mm thick. The concrete base slab on which it is laid should be mechanically roughened and cleaned, soaked overnight with water, then scrubbed with a 1:1 sand/cement grout.

The screed should be cast onto the freshly grouted surface within approximately 20 minutes (9 or 10 minutes in warm conditions). A bonding agent may be used to assist bonding to the base slab.

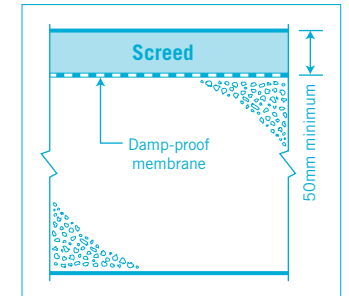


Bonded Screed

Unbonded

In the case where the concrete will not provide a good key, or where mechanical scabbling is not possible, an unbonded screed of 50mm minimum thickness is used.

The screed is placed on a layer of damp proof membrane which separates it from the main slab. The increased risk of curling associated with unbonded screeds may be reduced by increasing the thickness, hence the self weight, of the screed.



Unbonded Screed

Compacting & Finishing

Hand compaction of screeds may be carried out using a screed board with a vertical chopping motion. The compaction will be made much easier and more efficient with the use of a hand rammer, a roller, or a mechanical plate vibrator.

A wooden or steel float may be used to finish the screed. Steel trowels should not be used until all bleed water has evaporated from the surface.

Curing

Screeds should be cured as soon as possible after laying by covering them with polythene sheeting. This ensures that all the water remains in the mix allowing the full strength of the screed to develop. After curing, screeds should be allowed dry out naturally. Accelerated drying will increase the probability of drying shrinkage cracks.