RUSSWOOD
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FLOORING • CLADDING • DECKING

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Getting the best from your new Russwood floor
Installing a Wooden Floor on a Slab or Screed - Avoiding Costly Mistakes

1 Preparation

The boards should be brought to the site where they are going to be installed and stored there for at least three weeks, in conditions as close as possible to those within the finished occupied building.

The packs should be unwrapped and boards supported over their full length.
The boards should be stacked at least 50mm above the base to allow air to circulate.
All wet trades should have been completed, and dry, before the boards are brought to site.
The temperature and humidity in the building where the floor is to be installed should be as close as possible to those that will be present during the service life of the floor.

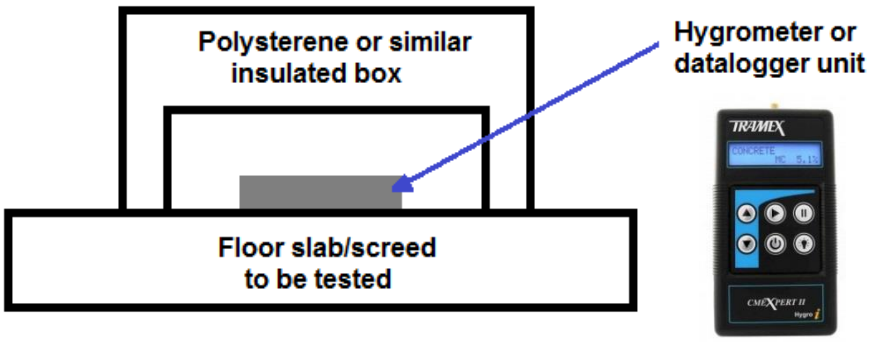
2 The Base Floor Slab

It is ***essential*** that the floor slab is completely dry before installation. This means that if it is a new floor, it must be given enough time to dry out. It also means that there are no on-going moisture sources that will allow the floor slab or screed to get wet.
To confirm that this is the case the base slab and screed must be tested to ensure that the whole sub-structure is completely dry.

The easiest way to do this properly is to test the "water activity" of the base. This is done by measuring the relative humidity in insulated pockets above the base. A hygrometer unit is placed in an insulated chamber above the base and allowed to come to equilibrium. (See the sketch) This takes about 72 hours. It is also important to measure the temperature, or else the results are not comparable.

This should be done at several locations around the slab/screed. A typical test arrangement is illustrated below.

The floor should not be laid if any of the tests show a reading of more than 65%RH.



There are various manufacturers of suitable equipment. “Protimeter” and “Tramex” instruments are commonly used. Digital data loggers are also a convenient way of conducting these tests and have the added advantage of taking multiple readings of both temperature and relative humidity, at regular intervals, continuously over the test period.

Electrical moisture meters (with prongs) provide a convenient way of taking a number of readings in a short time with minimal damage. However care must be taken in the interpretation of the meaning of readings, and how the readings reflect moisture conditions within different building materials. Electrical moisture meters are capable of providing a quantitative reading of moisture only on wood. Readings from any other surface such as a floor screed do not provide a true measure of % moisture content, and should only be regarded as an approximate guide.

(The floor slab over which the screed has been laid must incorporate a damp proof membrane, property detailed and made continuous with the wall damp proof course as described in BS8102).

3 Type of Floor Slab and Screed

Floor slabs and screeds were traditionally made from sand and cement mixes. Many still are. However in recent years, screeds made from calcium sulphate have become more common. These are commonly known as “anhydrite screeds” or perhaps “alpha-hemihydrate screeds”. Such screeds are normally laid on top of a concrete floor slab.

The main difference from a practical perspective is that this type of non-cementitious screed requires about one third more water in the mix, and therefore can take longer to dry out. However they can, and must be tested in exactly the same way as shown in section 2.

A further complication is that during curing this type of screed often forms an impervious crust or film on the surface called “laitance”. This is a coating of fine particles on the surface that form naturally as the screed cures. Laitance can normally be removed by light abrasion a week or so after the screed is installed. If this is not removed, the screed will dry out more slowly than normal. The commonly accepted “rule of thumb” is that the screed will dry at about 1mm per day for screeds of 40mm and thinner and an additional 2 mm per day for thicknesses greater than that. (These figures assume that good drying conditions are present, and maintained: i.e. 20˚C and 65%RH) Thicknesses beyond 75mm may require individual monitoring. Once dry, the screed should be protected from spillage of liquids that may cause it to be re-wetted. Any water ingress to the screed can result in permanent damage.

4 Underfloor Heating and Wood Flooring

Water-supplied underfloor heating systems have become increasingly popular in recent years. They are often overlaid with an “anhydrite” –type screed, due to the free flowing nature of the screed mix and ease of installation. They are often used in thinner depths, and as a result may appear to dry quickly, especially if tested using a conventional electrical moisture meter. If the heating is used too early and the floor fitted before the screed is fully dry, then floor will swell and buckle. The underfloor heating has to be carefully commissioned, and the screed confirmed as dry (by proper testing) before the floor is fitted.
The heating should be fully commissioned before the floor is fitted, and tested to ensure there is no leakage from the pipework into the screed.

If it is envisaged that there will be periods during the service life of the floor when the heating will not be in use, it may be necessary to leave additional space around the perimeter of the installation, to accommodate the natural movement of the boards that will take place during these periods, and after the heating is switched on.
When underfloor heating is used it is normal for the floor to be laid directly onto the surface of the screed. This allows better transmission of the heat into the room. There are special adhesives manufactured for this purpose. The adhesive must not act as a vapour barrier, its only function is to bond the wood to the screed. “Sikabond” is an example of a suitable adhesive. Sikabond recommend using Sika Primer MB to prime the concrete prior to application of the adhesive.