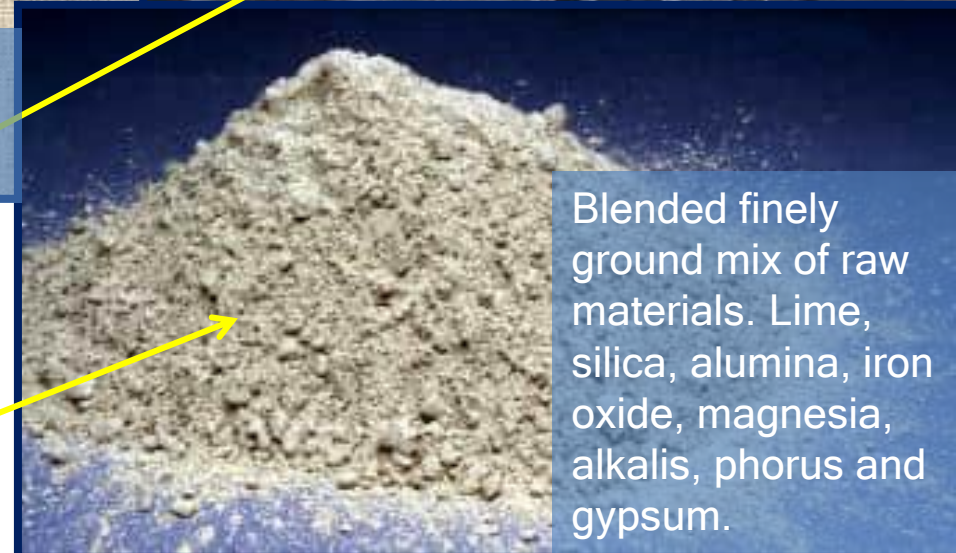


23276 DKO Timber and concrete substrates Video acknowledgement - Firth Ribraft

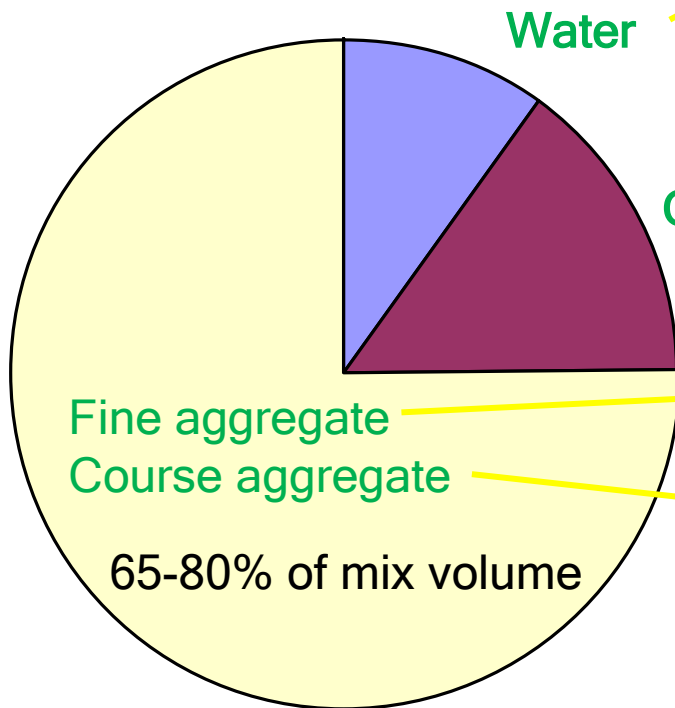
What is in concrete

Fine and coarse aggregates that are bonded together with cement paste

Add mixtures can be added to help the concrete to set faster or slower...enable pumping on high rise buildings, form ramps



Blended finely ground mix of raw materials. Lime, silica, alumina, iron oxide, magnesia, alkalis, phorus and gypsum.



Concrete placing

Concrete sets hard by **chemical reaction between the water and cement.**



As the concrete is placed the water will rise to the top.



When the water has dissipated the surface is finished with a steel bladed power float



Making a Ribraft floor



Concrete curing

It might take 28 days for the concrete to cure but it does not mean it will be dry.

2/3rds of the water used, must come out of the concrete for safe installation for floor coverings.

How long will this take?



25mm per month after the building is closed in

Shrinkage cracks can occur if the water evaporates too fast

Water evaporation slowed with a water sprinkler

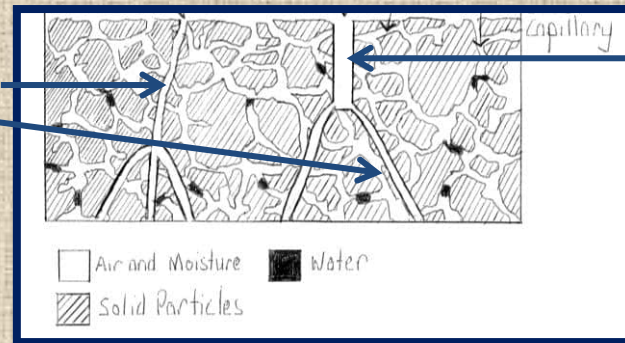


Least preferred method. A curing compound (wax) slows evaporation. Problems?

Concrete joints

Movement Control joints (contraction joints) are cut to control the cracking as the water moves out of the concrete

Cracking



Control joint cut

Tied or construction joint is a joint between concrete pours

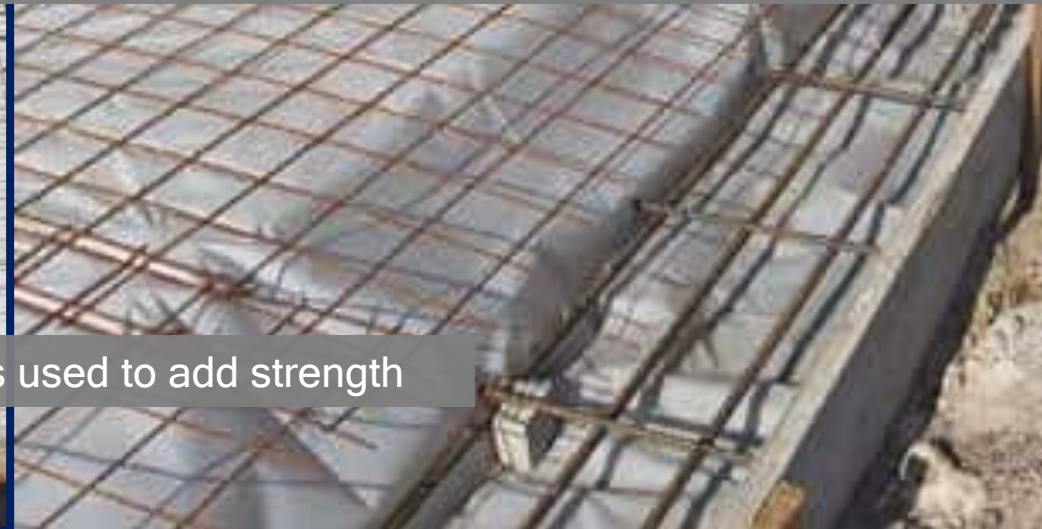


New technology ribraft floors, 300mm raft created with 100mm top. Most floors are not cut unless the slab is an odd shape

Older ring foundation, houses 100mm thick slab. Within 12 hours the concrete will be cut to control cracking. Approx every 3 metres

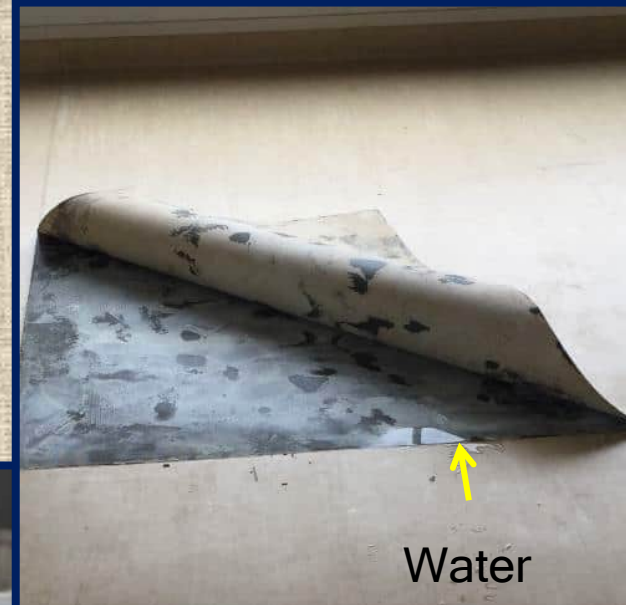


Steel mesh is used to add strength



Damp-proof membrane

A Polythene Damp-proof membrane is used to control moisture rising up through the concrete floor



Concrete floor slab types

Suspended concrete floor slab



On-ground concrete floor slab



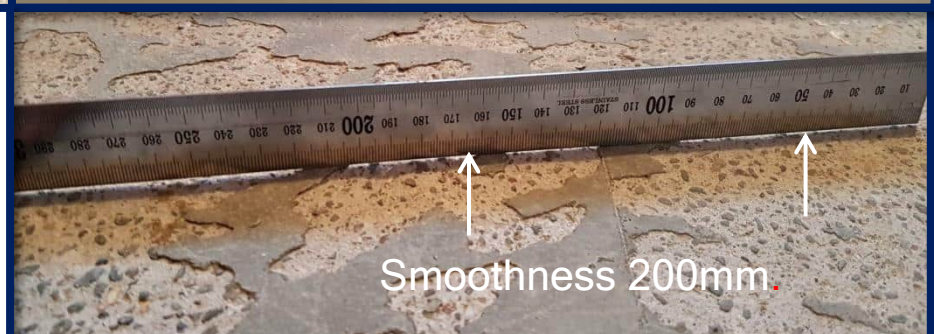
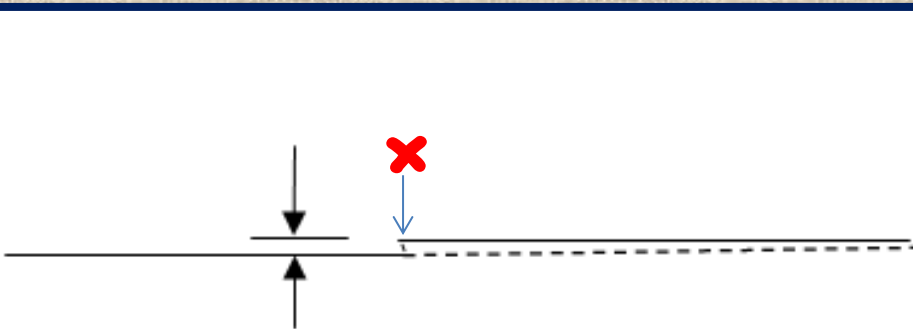
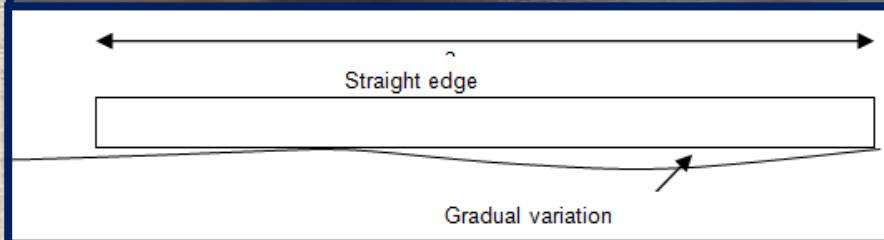
Concrete finishes

U3 is a steel blade finish for the concrete industry.

Flatness- gradual deviation of no gaps greater than 5mm for general carpet areas

Vinyl areas should be 3mm but is very difficult to achieve

Smoothness (abrupt deviation) is no gaps 0mm



Preparing concrete

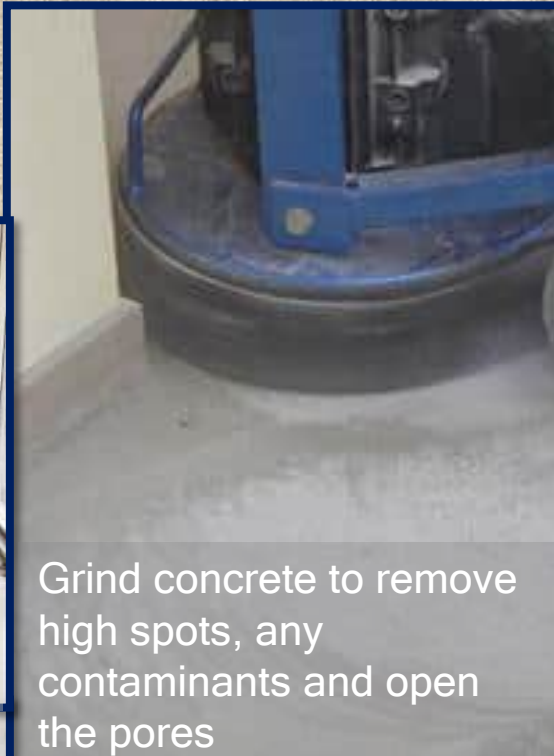
Cementitious compounds

1. Self levelling
2. Repairing/filling compounds
3. Fine feathering compounds

Applying a moisture barrier over concrete for a timber installation or a floor with moisture problems

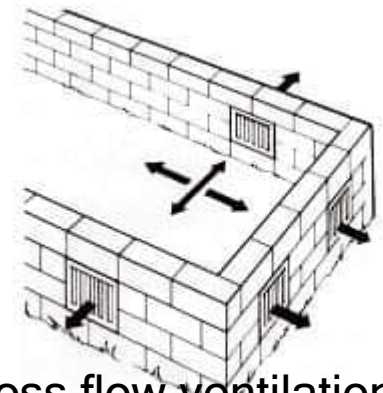
Applying a moisture treatment system for a floor with moisture problems

Fine feathering compounds have a built in primer



Timber Structure

- Joists
- Bearers
- Piles



Cross flow ventilation



The substrate is fixed to the joists. This may be tongue and groove planks or structural sheeting e.g. particle board

Joists lay at right angles over the bearers

Bearers bridge the piles

Piles are inserted into the ground

Earth

Clearance between substrate and ground is critical as it allows air circulation to prevent unwanted moisture build up that will cause rotting, musty smells, mould growth, floor coverings to lift, floor boards to cup etc.

Timber floors

T&G

Structural sheet



T&G Tongue & Groove

Moisture content of timber substrate not above 15%



Plywood- thin ply's of timber glued together



MDF- fine particles glued and compressed with wax and resins

Board underlayment - minimum 4.75mm, generally around 6mm



Strandboard- thin flakes of timber coated in resin that are glued and compressed

Particleboard - small chips of timber particles glued and compressed with wax and resins

