READY Floor

Placing and Finishing

SUBBASE/SUBGRADE:

It is important that the support provided to a slab from the subgrade/sub base is as assumed in the design. For this reason it is essential that the subgrade and any sub base always be prepared in accordance with the recommendations of a qualified geotechnical engineer or soils consultant in order to achieve the values for CBR or modulus of subgrade reaction used in the slab design. The prepared subgrade/sub base should also extend past the edge of the formed slab and the finished levels selected such that water drains away form the slab edges. For domestic or other slabs designed in accordance with NZS3604, the slab should be supported on 'good ground' (as defined in NZS3604) and prepared in accordance with this standard.

PLACING

As when placing all concrete there is a need for good practice to be followed if cracking is to be avoided and a durable ground slab is to be provided. Particular attention should be paid to the following:

- Ensuring the concrete is vibrated and well compacted, placed, finished and cured to give a high quality surface finish that is not prone to dusting.
- Eliminate thickenings at slab joints and edges to reduce shrinkage restraint or alternatively select joint locations to accommodate them.
- Isolate internal shrinkage restraining elements such as columns, pedestals, etc. by using isolation joints or advantageously locating control joints.
- Install saw cuts as early as possible, ensuring the concrete has sufficient strength to avoid ravelling to the edges of the joints or pulling out of fibres and/or aggregate.
- Avoid early drying by applying evaporation retarders (aliphatic alcohol) and straight after finishing apply effective curing using water or membranes.

FINISHING

When finishing READY Floor there is no difference in the equipment used to conventional concrete and the only real difference is in regards to timing if you are going to achieve a relatively fibre free surface.

Steps are as follows:

1. Screed off concrete to finished levels using normal screeding tool.
2. Bull float to push down aggregates and fibres left at surface during screeding operation. An extra pass or two with the bull float is recommended with SFRC in order to get 2-3mm of paste at the surface of the concrete to cover the fibres and coarse aggregates.
3. Finish the edges of the placed concrete with a steel trowel and the internals with helicopters or by hand where access is limited.

4. Squeegeeing surface water from concrete prior to finishing may lead to increased incidence of fibre on the surface.

PLEASE NOTE: The timing when stage three is started will determine the number of fibres at the surface of the concrete.

DO NOT GET ON THE CONCRETE TOO EARLY WHEN FIBRES ARE USED IN THE CONCRETE, TYPICALLY CHOOSING TO FINISH LATER THAN NORMAL.

SAW CUTTING

Where saw cuts are to be provided to control cracking the type of saw cutting to be used should vary with the location of the freshly placed and finished slab (indoors/outdoors).

Concrete slabs cast indoors are typically not subjected to sudden and significant changes in the prevailing ambient conditions, so it is quite normal to wait between 24 and 48 hours before saw cutting when a conventional wet blade is undertaken. Cutting should, however, always be undertaken prior to the commencement of any random cracking. The stronger the concrete is when cut the less likely will be the occurrence of any ravelling to the edges of the joints or pulling out of fibres and/or aggregate.

Concrete slabs cast outdoors can experience sudden changes in ambient conditions, with rapid overnight cooling on the day of the pour having the potential to cause random cracking. i.e. the restraint stresses built up in the slab due to restrained thermal shrinkage exceed the tensile strength of the still green concrete. This is most likely to occur when cold nights follow mild sunny days and the placed concrete has delayed setting times and a slow rate of strength gain.

It is therefore recommended that slabs cast outdoors are cut the same day using saws specifically designed for cutting "Green" concrete. Manufacturers of the "Soff-Cut" saws make available a range of blade types that are colour coded. For steel fibre reinforced concrete it is recommended that the "softer free cutting" blades such as the Series 2000 (Green) or Series 1000 (Purple) blades with a new skid plate be used and that the concrete be left about 1 hour longer than normal before cutting i.e. when the concrete surface can no longer be dented with a fingernail.

DO NOT FINISH TOO EARLY TO ACHIEVE A FIBRE FREE SURFACE

UNDERTAKE SAW CUTTING AT THE RIGHT TIME TO AVOID RANDOM CRACKING