

# A GUIDE TO AVOIDING PROBLEMATIC SURFACE BED (FLOOR) CONSTRUCTION



## BASE PREPARATION

- To be brought up in layers of 150 mm thick with a minimum of 93% MOD AASHTO.
- Dampen the base **JUST** prior to commencing concreting. Do **NOT** pool the surface with water.
- Use approved clay free G5 sub base material.
- One should at all times avoid the use of plastic underneath the concrete unless there are other considerations.
- Generally avoid the use of reinforcement except in odd shaped panels.

## CEMENT & CONCRETE

- Use Cem I or Cem II A or B 32.5R or higher.
- Use a concrete strength of a minimum of 30 MPa.
- Slab thickness to be 150 mm minimum.

As a rule of thumb remember that increases of 25 mm in floor thickness will double the workload/ life of the slab.

## GENERAL

- Always pour indoor slabs after the roof has been erected and the sides sheeted.
- Precautions should be taken where the concrete will be exposed to areas of direct sunlight and draughts i.e. doorways.
- It is advisable to finish outdoor slabs with a broom finish ASAP and then to implement curing as soon as possible.
- Isolation joints and **NOT** saw cut joints should be constructed around columns.
- Neither cement nor water should be added to the surface during finishing.

## AFTERCARE

- Curing should be either by use of plastic, fog sprays or *RESIN* based curing compounds.
- Joint sawing should take place as soon as possible without excessive spalling or raveling occurring, but before cracking occurs (within 24 hours of casting).
- Cut joints to be a minimum of a  $\frac{1}{4}$  of the slab thickness.
- Limit rectangular panels to no more than 1,3 times the short side.

If the rate of evaporation exceeds the rate of bleeding the concrete is likely to crack.  
Be aware of hot dry wind, high temperature and direct sunlight

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Please note that the advice herein expressed, and reviewed by Mr. Bryan Perrie of the C & CI is in no way comprehensive but is intended to promote better floor construction practices in South Africa.