

PLANNING

Labour Resources

Make sure you have enough labour for the job size. Typical finishes have the following labour output production.

Floating

- Wood float - 3 to 4 m²/hour
- Hand steel float 3 to 4m²/hour
- Power float - 6 to 8m²/hour

Power Trowelling

- 1 pass - 6 to 8m²/hour
- 2 passes - 10 to 12 m²/hour

Equipment

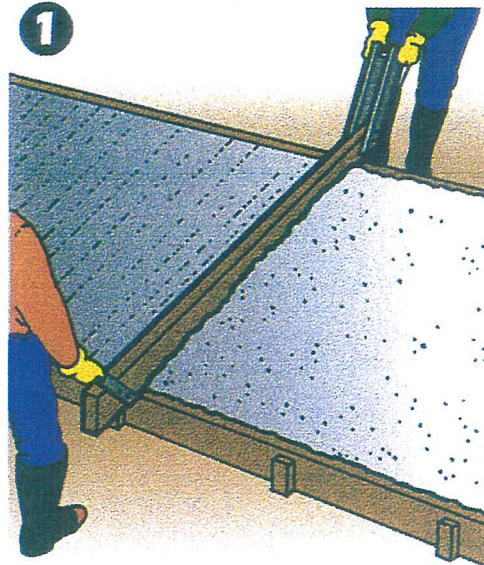
Make sure you have enough equipment for the job. Make sure you know where to get replacement gear for power equipment.

Typical gear list:

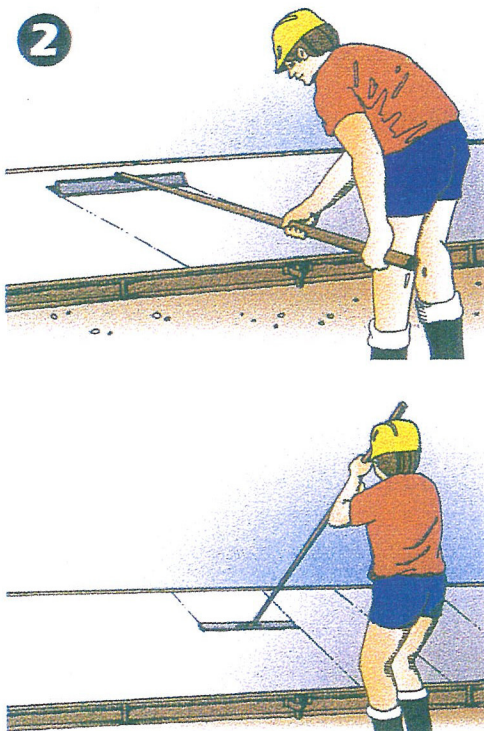
- Square Mouthed shovels.
- Concrete Rakes
- Straightedge
- Edging trowels
- Power Finishing
 - Float
 - Trowel
- Hand finishing
 - Bull float
 - Wood float
 - Steel Trowels
- Special broom to suit a textured finish.
- Special finishes: you will need to check you have all the special gear, such as imprinting stamps, etc.

WEATHER

- Do not concrete slabs that are exposed to the weather if rain is forecast. It is virtually impossible to repair a rain-damaged surface.
- Have some sheets of polythene available to cover the slab if you do get caught by a shower of rain.

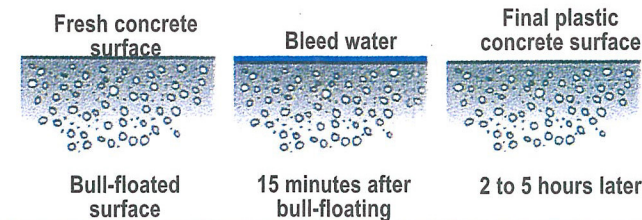


SCREEDED FINISH (U1): This is the simplest finish to produce - the surface is formed with a hand tamping beam during the placement and compaction of the concrete.



FLOATED FINISH (U2): Concrete surface being levelled with a "bull float". On the forward stroke the float is pushed with handle lowered, on the returns stroke the float is pulled with the handle raised.

BLEED WATER: Water known as bleed water will come onto the surface of concrete within 15 minutes of compacting the concrete. No finishing work can start until this water has evaporated.



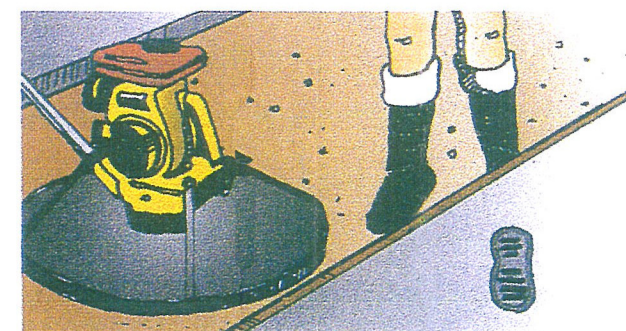
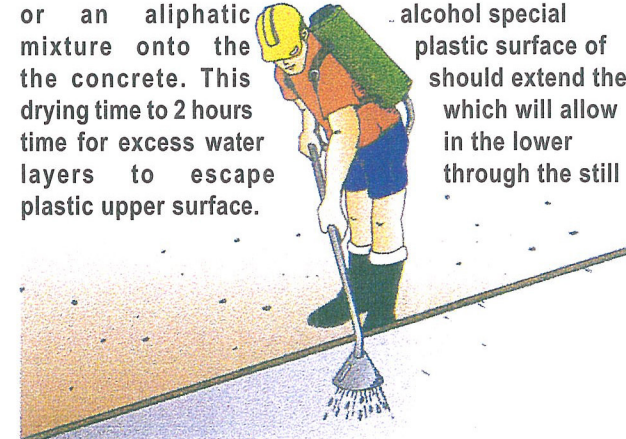
WAITING TIME

Winter

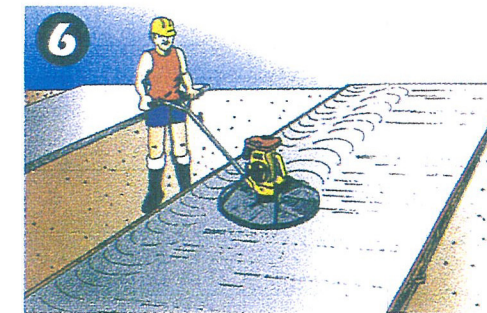
- In cold weather the waiting period could be up to 5 hours.
- The wetter the concrete, you use the longer the wait.

Summer

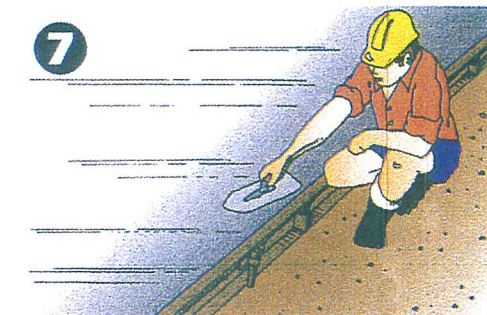
- In hot weather, the waiting time could be two hours.
- If it is drying faster than two hours, then plastic surface cracking is likely to occur.
- To stop the rapid drying, mist spray with water or an aliphatic alcohol special mixture onto the plastic surface of the concrete. This drying time to 2 hours time for excess water layers to escape plastic upper surface.



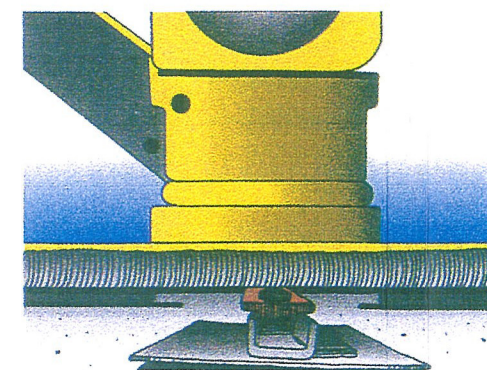
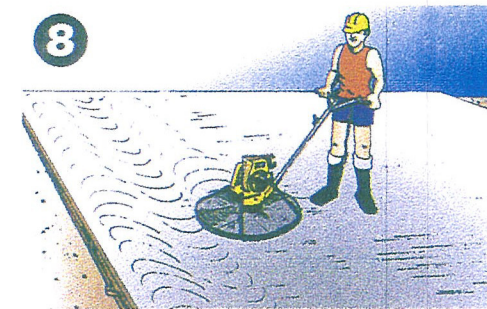
FOOTPRINT Concrete is ready for power floating when standing on the concrete creates an imprint not deeper than 2-3mm.



POWER FLOATING a slab surface.



HAND TROWELLING: The finish near edge is improved with steel hand trowel.



POWER TROWELLING can start when the surface has dried and is not sticky to the palm of the hand. The close-up view is of the trowel blade tilted during final stages.

THE PROCESS

- The basic steps are shown in the numbered sequence 1 to 8.
- There must be a waiting period for bleed water to evaporate from the slab surface.
- Be warned that in the summer, evaporation can be too rapid leading to plastic cracking.
- In the summer, surface stiffening may still leave the lower parts of the slab in a plastic state. This can lead to problems of a rolling surface while trying to finish.
- As soon as the concrete has hardened enough to avoid surface marking, usually after 2 passes of steel trowelling, start the curing process, using for example a membrane spray. See Curing Poster No 6

TYPES OF FINISHES

Make sure you understand the specification requirements in NZS 3114 before you start. The finish designations in NZS 3114 are:

- U1** Screeded Finish - see Step 1
- U2** Floated Finish - typically bull floating after the U1 finish.
- U3** Trowelled Finish - developed from a U2 finish after bleed water on the surface has evaporated.
- U4** Vibrating steel beam - surface left untouched from beam.
- U5/6** Broom finishes - different textures.
- U11** Early Age Grinding - usually applied to a U2 finish 36-48 hours after completing.

Note: there are other special finishes in NZS 3114; those using the letter E are Exposed Aggregate finishes.

SLAB PROTECTION

- Have the curing process decided before you start the job - See Curing Poster No 6
- In summer, make sure you can apply a mist spray of water or a special aliphatic alcohol to slow down the surface evaporation of water. This is very important with special concretes often used on commercial/industrial floors.
- In winter or in summer where there can be a big change in temperature between day and night, make sure you cover the slab.



THE NEW ZEALAND
READY MIXED
CONCRETE
ASSOCIATION INC.

SAFETY ON SITE:

Suitable protective clothing should be worn when handling wet concrete

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