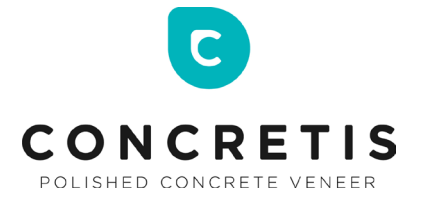


# CONCRETIS PCV

POLISHED CONCRETE



# Concrete Placement Recommendations for Mechanical Polished Concrete

The following guidelines are provided by Concretis PCV to highlight important factors in the concrete handling and placement process that can significantly affect the finished quality of Mechanical Polished Concrete.

Mechanical Polished Concrete can be performed on a range of concrete slabs and as per the Australian Standards a minimum of 32mpa concrete is recommended.

The main factors that will directly affect the eventual floor finish are flatness and aggregate dispersion. Accounting for the following variables will assist Concretis in delivering a streamlined approach to your project and a superior quality final finish.

## Concrete Supply and Testing:

1. Detailed batching records are to be maintained for the project to ensure consistency in supply
2. The concrete supplier should ensure that no water is added to the mix by agitator drivers outside the specified cement water ratio
3. The builder should arrange to have an Australian Standards slump test conducted at no greater than 80mm. Concrete outside this tolerance should be rejected.
4. The concrete supplier should ensure that the concrete for each pour is from the same batching plant. If back up plants are to be used, they must all be using the same materials as the primary plant.

The use of moisture curing and curing compounds does slow down the curing process and therefore reduces the chances of the concrete cracking. But please note that curing compounds should only be used on floors that are going to be a fully exposed finish as the curing compound will leave a stain on the concrete surface.

The concrete placement is a critical part of a Mechanical Polished Concrete process. Concrete is required to be a Class 1 finish.

For a no/partial exposure floor the flatter the concrete surface the less aggregate will be exposed during the polishing process.



# Full Depth Exposure

(for new or old slabs)

Full Exposure is when the maximum possible exposure of the aggregate is sought.

The finish is beautiful however the evenness of aggregate exposed is totally reliant upon the quality of the concrete and slab placement.

Full exposure can be achieved with a remarkable consistency of aggregate density if the slab is prepared by an experienced concreter who understands the finishing required. It is not difficult to achieve with a professional poured slab where the concreter knows how to prevent screed bar marks, footprints and bare edges where the stone has been pushed too low.

A consistent slump of concrete mix with each load of concrete delivered will also help to ensure a consistent density of exposure.

If you, your architect, or designer really desire this look it is important to understand these principals. Most experienced concreters will be able to deliver a concrete slab along these lines should you request it.

We cannot STRESS enough how important it is to have a good concreter as we cannot be responsible for the standard of the slab and as such cannot guarantee that some screed marks, some areas of lower exposure than desired, or footprints may be visible.

The slab should be flooded with a curing compound at 5sqm/litre at placement stage.

The slab should not be poured on a wet day as this will not allow your concreter to finish the slab to a high standard.





# No/Partial Exposure

(for new or old slabs)

The placement of the concrete slab must be absolutely perfect to achieve a No/Partial Exposure finish. This is where the least possible exposure of the aggregate is sought. The finish is totally reliant on the quality of the concrete slab and the placement.

If you, your architect or designer really desire this look then it is vital that you understand the complexities of achieving your expectations.

It all starts with the concreter and the slab - we cannot stress enough how important it is to have a good concreter who understands this process.

As per the Australian Standards a minimum of 40mpa concrete is recommended. The slab must be flat and highly burnished, achieved by as many passes as needed with a powered trowel (helicopter) by the concreter. Screed bar marks and footprints must be removed. The concreter needs to burnish as close to the edges as possible, otherwise an uneven finish will result.

Evenly vibrating the slab during the pour assists the aggregate and sand to sink, leaving more cream on the surface and reducing the chances of stone being visible when the polishing process commences. Even with these steps there is no guarantee that some degree of aggregate or sand will not be exposed in some areas.

NOTE: The concrete slab should not be poured on a wet day as this will not allow your concreter to finish the slab to a high standard.

As an uneven burnish will result in an uneven finish we will need to inspect your slab before we start our polishing process and report the outcome to you or your authorised representative (builder).

It is important to understand that a concrete polishing company cannot remove the marks that can be left by a concreter, or any stains/marks on the surface of the concrete slab, without grinding further into the surface (taking you into a full exposure finish). Similarly if the concreter leaves any small dips in the surface of the concrete slab these will be highly visible in the finished product. As mentioned above we are not responsible for the standard of the slab and as such cannot guarantee that any screed marks, footprints or some areas of more exposure than desired may result.

Regrinding and polishing to a light exposure floor to remove these marks will require the entire polishing process to start from the beginning, adding to the cost of the floor. We would always advise any additional costs to complete this re-polishing process before starting. And we would require a confirmation from our clients in writing agreeing to the additional costs of the process.



# Helicopter and Screed Marks

A No/Partial Exposure polished concrete floor can be a desired look for those wanting to see very little, if any, aggregate in their floor. A plain grey concrete floor with very light exposure here and there can look stunning, however in 1 out of 5 slabs the end result might not always be what the home or business owner expected.

The reason for this is because the quality of finish that can be achieved is very dependant on the workmanship of the concreter who poured and finished the slab.

Any blemishes or natural flaws that occur as part of the trowelling process will be visible. Any further grinding (for example to remove marks) will result in patches of exposed aggregate.

The types of natural flaws that will be visible might include trowel and screed marks, different coloured concrete areas and random areas of denser aggregate exposure. Helicopter marks, boot prints, light grey patches and streaky lines may also appear in the floors. The amount of marks depend on the skill of the concreter who finishes the slab and has very little to do with the concrete polishing process.

Sometimes these marks only emerge towards the very end of the polishing process. Regrinding and polishing to a light exposure floor to remove these marks will require the entire polishing process to start from the beginning, adding to the cost of the floor. We would always advise any additional costs to complete this re-polishing process before starting. And we would require a confirmation from our clients in writing agreeing to the additional costs of the process.

So it is very important to hire a concreter who understands how perfect their workmanship must be if the floor is to be a no/partial exposure finish. It is vital to understand that a concrete polishing company cannot remove the marks that can be left by a concreter without grinding further into the surface.



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