

6143 CONCRETE GRIND AND SEAL

1. General

This section relates to the quality concrete finishing for new and existing concrete surface. Grind and seal is suitable for standard concrete and designed aggregate and solid additive mixes (glass, crushed shell, stainless steel etc).

1.2 Documents Referred To

Documents referred to in this section are:

NZS 3114 Specification for concrete surface finishes

1.3 Provide sample

Where a special aggregate mix is to be used, it is recommended that a sample be made with the specified blend, allowed to cure for 14 – 28 days and be Ground and sealed to the desired finish for approval prior to pouring the slab.

In all other cases, a small section of the slab (possibly an area that will be later covered) can be ground and sealed to the desired finish for approval.

1.4 Variables – how to specify finish.

Depth of Grinding should be specified as **L, M** or **H**. A **Light** grind is 1-2mm, **Medium** grind is 3-4mm and a **Heavy** grind is 5-6mm surface removal. *The deeper the grind, the larger the aggregate chips that are revealed, and the more consistent the scattering of aggregate.*

Gloss Level should be specified as **Matt, Semi-gloss** or **Gloss**.

A sample specification– GS-M-Semi-gloss (*Grind and Seal, medium depth grind 3-4mm, Semi-gloss sealer*)

2. Products

2.1 Topical sealer

Grind and seal floors are finished with a topical sealer. Sealers can be solvent or waterbased acrylics or clear epoxies. Acrylics show less scratching, but wear quicker, Epoxies show more scratching, but last longer. Some epoxies can yellow slightly with UV exposure.

Stain resisters and polished can be applied over sealers for easy care and added slip resistance. Polyurethanes are not recommended for concrete.

Supplier – Flooring Wholesale – 09 525 0652.

2.2 Slurry

A slurry coat may need to be trowelled over the surface to fill excessive aeration of the concrete. Slurry can be made with clean grinding dust, Portland cement and Lokcote or Cemkey. This is applied after 60-70 grit or 100-120 grit grinding.

2.3 Grout

All saw cuts should be filled with a Ardex A46 before any grinding takes place. This will help prevent the edges collapsing and aggregate pulling out.

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2.4 Creteshield SR

Creteshield SR is a surface stain resistor and polish. It helps prevent staining agents from effecting the concrete and also increases slip resistance. Creteshield SR is applied after the floor is buffed and has a final vacuum.

Supplier – Concrete Care Ltd – 0800 733 566 – www.concretecare.co.nz

3 Execution

3.1 Concrete specification/finishing

Concrete should be at least 22.5 MPa.

Concrete should be finished to a U3 (NZS 3114). Care should be taken to make sure the slab is as flat as possible. Screeds must not be left sitting on the surface while the concrete is wet, this will push aggregate below grinding depth and leave "bald" lines in the floor.

Grinding Contractor should inspect floor and advise on suitability for Grind and Seal finish.

3.2 Protection

Any delicate surface should be protected from concrete dust, or slurry if wet grinding is undertaken. All electronic devices should be removed or covered, bench tops etc should be covered with drop cloths. Zipwall dust barrier system should be used to prevent dust transfer to other areas of the site. Zipwall available from www.gotitonline.co.nz
If the site has lots of clay, it is advisable to cover the clay with sand to help prevent transfer and staining of the concrete.

All sub contractors should be advised that the concrete is to be the finished floor and care is required.

3.3 New construction

For new construction the first stage of grinding should be completed 7-10 days after the slab is poured. This will allow the concrete to cure, but still be soft enough to easily remove the surface and expose the aggregate (if desired). This usually happens before any framing is started. The coarse grinding (metal bonded) is done at this stage.

3.3 After close in

For existing dwellings – first stage of grinding should be undertaken when the building is as bare as possible, preferably without wall linings. If wall linings are left in place and skirting boards are not removed, expect dull edges. Existing buildings can be completed in one stage.

New buildings – Stage two should take place after the roof is on, walls are up but not lined, external cladding is on, joinery is in. At this stage concrete slurry coated if required and ground off. Floor is diamond ground to 120 grit and sealer is applied. Usually 2- 3 coats are required.

External concrete must have an antislip additive in the final coat of sealer.

Floor should be covered with 250 Micron Polythene – can be stapled to framing.

3.4 Finishing

Once building is completed (plastering, painting etc), except for other floor coverings and fittings, polythene can be removed by running a sharp knife around the skirting boards. The floor is then buffed and vacuumed, Creteshield SR now be applied with polish spreader or micro fibre mop. Floor may need to be buffed one more time.

3.5 Clean up

Remove all waste from site.

10 Preferred Supplier

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N.B this is not an official masterspec specification, but rather a clarification of Spec 6141.
Can be downloaded from www.concretecare.co.nz – free for distribution and use.