



STEP BY STEP

Grinding and polishing a concrete floor

The order of work from bare slab to burnished sealer, with the Concrete Care tooling and chemistry for each step.

Before you start

CHECK THE SLAB

- Hardness sets the bond: hard floor, soft bond; soft floor, hard bond.
- Paint, epoxy or adhesive on top: strip it first with polycrystalline diamond (PCD) tooling.
- If an old coating could contain asbestos, treat it as if it does: have it tested before grinding. Employers have a legal duty to identify it first (S.I. No. 386 of 2006, reg. 12).
- A planetary grinder stops 100 to 300 mm short of every wall. The margin and any stairs are hand-held work: no walk-behind machine does stairs.

DRY OR WET GRINDING

- **Dry grinding gives the better finish.** An **M-class dust extractor** on every pass; H-class over unknown old coatings.
- Wet grinding trades dust for slurry, a slip hazard. The slurry should not go down the drain.
- Grinding releases **respirable crystalline silica (RCS)**. Limit: 0.1 mg/m³ over 8 hours (HSA Code of Practice 2026, under S.I. No. 122 of 2024 as amended).
- Respirator (RPE) while grinding: disposable FFP3, or a half or full face mask with P3 filter (HSA). Eye and ear protection; goggles and gloves for chemicals.

1 Grind with metal bond



- Easy Fit metal segments, six bonds from extra-extra-soft floor (XXSF) to extra-extra-hard floor (XXHF). Grind at 30, then 80; fill (step 2); then 140. The 16 grit is for prep contractors laying another system on top.
- Pick the look first: cream, salt and pepper or exposed aggregate; the early metal passes set how much shows.
- A grit is done when the previous grit's scratch is gone across the whole floor.
- Segments that turn smooth and shiny while the machine slides and the dust stops are glazing: the bond is too hard, so go softer. Segments that wear down in hours are too soft: go harder.
- Metal ends at 140. Optional ceramic transitional pucks, 30 to 200 grit, bridge to resin on the same rule: hard floor, soft bond.

2 Fill holes and cracks, after the 80 grit pass



- Pores and fine cracks: Hypergrinder HG-100 Grout Filler. Mix it about 1:1 with clean dust from the 80 grit pass, never the first pass, so it takes the colour of the floor. It stays flexible, so the next grits grind it without breakouts.
- Larger holes and cracks: the Hypergrinder Concrete Grout and Crack Repair kit. Its hardener is a suspected carcinogen and a respiratory and skin sensitiser: wear the protection its safety data sheet specifies.

3 Densify, part-way through the resin



- UltraLit Hard Premium, a lithium densifier, reacts with the concrete to form calcium silicate hydrate in the top layer, which hardens the surface and cuts dusting.
- It goes on mid-resin (step 4), after the 120 or 220 pass, both common; the TDS window is 100 to 400.
- On a clean, dry floor, spray a single coat with a low-pressure sprayer, enough to cover but never to puddle. Spread it with a microfibre pad wetted with the densifier.
- Keep the surface wet for 10 to 15 minutes. Patches that dry in under 10 minutes take one more layer.
- Drying typically takes 1 hour at most; the full reaction can take up to two weeks. Coverage on honed or polished concrete: 10 to 20 m²/L.
- Apply only when it will stay above 2 °C for at least 4 hours. Wash any overspray off metal, glass, wood, paint and brick with clean water straight away.

The grit sequence, Condor Green ladder

GRIT	30	80	140	30 to 200	60	120	220	400	800	1800	3000
	■ metal bond, step 1			□ ceramic, optional							
							Matt	Satin	Gloss	High gloss	

Densify, step 3: after 120 or 220

4 Polish with resin



- Swap the metal for 75 mm resin pucks on the same Easy Fit stations: Condor Green steps 60, 120, 220, 400, 800, 1800, 3000. Jumper Universal adds 30 and ends at 3500.
- Keep the machine moving. Parked, or run dry too long, the resin glazes and stops refining.

- Climb one grit at a time. Skip a step and the fine puck cannot clear the coarse scratch; it polishes into the shine. Drop back a grit and climb evenly.
- Stop after the 120 or 220 to densify (step 3). The last grit sets the finish: see the grit sequence on page 1.

5 Seal and burnish



- UltraLit Gloss Plus for shops, offices and showrooms; Gloss Shield for warehouses, forklift routes and food areas. Interior only; protect from frost.
- Floor at 200 to 400 grit or finer, clean and dry; new concrete cured 28 days.
- Spray a thin first coat, no puddles, and spread it with a microfibre pad wetted with the sealer: 25 to 40 m²/L.

- Apply only when it will stay above 2 °C for at least 4 hours.
- Once dry, burnish on pads without diamonds with a high-speed burnisher (HY1500C), heating the floor to 32 °C.
- Second coat at 40 to 80 m²/L and burnish again; a third at the same rate if needed.
- Ready for traffic once dry, typically within 1 hour. No water for 72 hours; full water and stain resistance at 7 days.

6 Aftercare



- Aftercare is light: a dry dust mop or microfibre pad keeps the shine, and a microfibre mop and water is all a wash needs.
- The first wet clean waits 7 days, for full water and stain resistance. No acidic cleaners (pH below 7); wipe up spills, as some acids stain.

- A cleaning machine is optional, for a deep clean: an auto scrubber improves the shine; SupraShine pads and water keep the gloss, wet on a scrubber, just damp from 800 grit up on a burnisher.
- No stripping and no build-up: a fresh coat of sealer goes straight on.

Concrete surface profile (CSP)

ICRI 310.2R-2013 grades prepared concrete from CSP 1 to CSP 10. Its Table 7.2 lists grinding at CSP 1 to 2.



ICRI'S REFERENCE CHIPS

- CSP 1, acid-etched: near smooth.
- CSP 2, ground: what a metal-bond grind leaves.
- CSP 3, light shot blast: past a grinder's reach.

COATING INSTEAD OF A POLISH?

Follow the CSP on its datasheet. Sealers up to 76 µm: CSP 1 to 2. High-build, 0.25 to 1.0 mm: CSP 3 to 5, which is shot blaster or scarifier work.

Time and cost: a 100 m² example

Irish contractors quote EUR 90 to 150 per m²: EUR 9,000 to 15,000 on 100 m². A full kit from us starts at about EUR 2,300 inc VAT, a saving of up to about EUR 12,700.

Contractor rates: PMAC and Selfbuild Ireland. Kit: Concrete Care, 2026-10-22. On 100 m², allow up to a week, plus the waits in steps 3 and 5.

Which machine: pick by floor, then check the power on site

Three-phase is always preferred, for consistent performance. Two-head machines (Xingyi GX 580) are not recommended for a full polish.

	Floor	Machine class	Fleet	Working width	Phase
	Edges, corners, stairs	Hand-held angle grinder; variable-speed polisher	Metabo 125 or 180 mm, Nakaya cowl	125, 180 mm	1, 110 or 230 V
	Small rooms, margins	Single-disc grinder	HTG 250D, HTG 250VS, Xingyi GX 250, CG250	250 mm	1 (CG250: 3)
	Domestic: garages, houses	Planetary, 3 or 4 heads	HTG 460 (230 V), HTG 600 (230 V or 400 V)	456 to 600 mm	1 or 3
	Warehouses, retail slabs, car parks	Planetary, 3 or 4 heads	HTG 550 Ultra, HTG 680 SP, Xingyi GX 720 and 800LE+	550 to 800 mm	3 (550 Ultra: 1 or 3)