

1.04 GP GROUT-PLUS DROSSBACH DUCT GROUTING

**This is a general methodology; for project-specific methodologies, please contact us.*

STANDARD PROCEDURE:

Grouting vertical Drossbach ducts in installed precast panels with Rockbond GP Grout-Plus

1 Pre-start / Checks

- Confirm design intent: duct size/length, bar sizes and embedment, required grout type (non-shrink/expanding), strength, and any special inspection/volume recording requirements.
- Access & safety: working at height, exclusion zones, stability/bracing of panels, and safe access to top and base of joint.
- Environmental limits: avoid grouting if substrate is very hot/cold or if conditions will cause rapid drying, freezing, or washout (rain/wind).



2 Materials & Equipment

- Grout: Rockbond 1.04 GP Grout-Plus, high-flow/non-shrink grout suitable for "restricted" sections/ducts.
- Mixing: clean pail/drum, measured water, mechanical mixer (paddle/ribbon), timer.
- Placing: grout pump or gravity feed hopper, injection hose sized to suit ports, clamps.
- Vent/ports: top vent points, plugs/caps, and sealing materials (foam/backer rod, mastic, epoxy putty as appropriate).
- QA: log sheet, thermometer (optional), cylinder/cube moulds if required.



3 Duct & Joint Preparation

- Clean out ducts: remove debris, laitance, wire ties, loose concrete, standing water, and contamination (oil/dirt). If needed, blow/vacuum out.
- Check continuity: confirm ducts are open from bottom to top and that bars are correctly located.
- Seal leakage paths (critical):
 - Seal panel-to-panel joint gaps where grout could escape.
 - Seal around duct ends/ports, lifting inserts, cracks, or unintended openings.
 - Ensure the base of the duct is sealed so grout cannot drain out into the joint.
- Pre-wet substrate: dampen adjacent concrete (SSD condition). No free water left in ducts/joint.



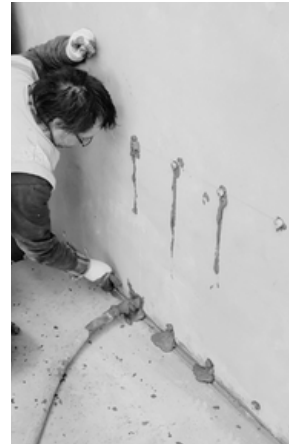
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Establish Grout Ports & Vents (Typical Arrangement)

- Bottom injection point: provide a positive connection to inject from the lowest point.
- Top vent/overflow: leave open initially to confirm full grout rise and air release.
- Intermediate vents (recommended for tall panels/long ducts): at intervals to:
 - release trapped air,
 - confirm grout arrival,
 - reduce risk of voids.
- Make sure vents can be closed sequentially (caps/valves/plugs).



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Mixing (Do This Exactly To The 1.04 TDS)

- Use measured water only (no “extra water” to chase flow).
- Generally 4lt-4.5lt per 25kg (16-18%) is best ratio range for drossbach grouting, depending on strength and flowability required.
- Add powder to water, while mixing with an electric grout mixer to a lump-free, homogeneous grout.
- Mix for the specified time (min 1 min); allow rest/re-mix for best results.
- Do not retemper (don’t add water after initial mixing).
- Only mix quantities you can place within the grout’s working time (30 mins). Keep any mixed grout agitated while not pumping.



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Grouting / Placement (Bottom-up, Continuous)

- Prime the line (if pumping) so you’re not injecting air.
- Start injecting at the bottom port at a steady rate and pressure (avoid surging).
- Watch vents:
 - When grout flows from the first vent without air spurts, close that vent and continue.
 - Repeat vent-by-vent upward.
- Continue until grout discharges from the top vent/overflow:
 - Require a consistent flow free of air/water separation.
 - Maintain flow briefly to help purge residual air.
- Close the top vent and stop injection.
- If specified/appropriate: top-up after initial settlement. Follow the engineer’s direction and ask Rockbond Technical Team if unsure.



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Post-Grout Finishing

- Cap/seal ports; tidy spills.
- Protect from vibration/impact until set.
- Curing: No curing is generally required for drossbach grouting. If engineer has specified curing, talk to the Rockbond Technical Team for advice.



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Quality Assurance (Common, Simple Checks)

- Record:
 - batch numbers, water added, mix time, start/finish times,
 - ambient/substrate temperature if required.
- Volume check: compare theoretical duct volume vs actual grout used (allowing for waste/lines). Investigate significant shortfalls (possible leak/void).
- Acceptance indicators:
 - continuous grout at top vent with no air,
 - no visible leaks during injection,
 - volumes consistent with expectation.
- Take strength specimens if required by spec.



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Troubleshooting (What To Do When It Goes Wrong)

- Grout leaking out: stop, locate leak path, seal, then continue (don't just pump more indefinitely).
- No grout at upper vents: likely blockage/closed vent/line issue—stop, verify vent path and duct continuity.
- Air continues at top: slow the rate, ensure intermediate venting, and keep purging until air stops.
- Grout too stiff/too fluid: discard and re-mix to correct water dosage - don't "fix" with extra water on the fly.



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Practical Defaults (When No Project Spec Is Provided)

- Inject from bottom to top with top vent open, plus intermediate vents for tall ducts.
- Run a volume reconciliation as a minimum QA step.

