YOUR FREE READER'S COMPANION

The Concrete Field Pack

A companion to The Concrete & Masonry Projects Bible · by Cole Hartman

Thanks for picking up the book. This is the companion you keep in the truck: mix ratios, slump, slab specs by project, footing depths by frost line, and a curing-and-repair quick guide. Print it, fold it, get mud on it.

Concrete is the one part of the job you can't take back. Once it sets, a crooked walk is crooked forever. Get the base, the water, and the cure right and the rest is just patience. These pages are those things. — Cole

Mix & Slump Cheat-Sheet

Water is the enemy of strength. The more water you add to make it easy to place, the weaker and more crack-prone the slab. Aim for plastic, not soupy.

Mix type	Use	Cured strength	Notes
Standard 1 : 2 : 3 (cement : sand : stone)	Most slabs, footings	~3,000-3,500 psi	The workhorse
High-early / fast-set	Posts, cold weather	4,000+ psi	Sets in ~1 hr, mix small batches
Crack-resistant (fiber)	Patios, walkways	~4,000 psi	Fewer control joints needed
Sand mix (no stone)	Repairs, thin overlays < 2 in	~5,000 psi	Not for structural slabs

Slump (how far it slumps off the cone) — the honest test:

- Footings / heavy slabs: 3-4 in (stiff)
- Patios / flatwork: 4-5 in (workable)
- Anything wetter than 5 in is too much water. Add cement, not water, to fix a soupy batch.

Rule of thumb: a 60 lb bag = ~0.45 cu ft. A 4-in slab needs ~1 cu ft per 3 sq ft. So: square feet ÷ 3 = cubic feet, then cubic feet ÷ 0.45 = bags — about three quarters of a 60 lb bag per square foot. A 10x10 slab (100 sq ft) is 33 cu ft, which is 74 bags, not 33. Always buy 10% extra.

Slab Spec Chart (by project)

4,000 psi target, residential. Confirm against local code.

Project	Thickness	Reinforcement	Control joints	Base
Patio	4 in	Fiber or 6x6 mesh	Every 8-10 ft	4 in compacted gravel
Walkway	4 in	Mesh	Every 5 ft	4 in compacted gravel
Driveway	4-6 in	#3 rebar grid 16 in OC	Every 10 ft	4-6 in compacted gravel
Shed / pad	4 in	Mesh + edge rebar	Perimeter + center	4 in compacted gravel
Footing	Below frost	#4 rebar, 2 bars	N/A	Undisturbed soil

Control joints aren't optional. Concrete will crack — joints just decide where. Cut or tool them 1/4 of the slab thickness deep, within 24 hours.

Footing Depth by Frost Line

A footing that doesn't reach below the frost line heaves every winter and takes the wall or post with it. Find your number, dig below it.

Region / climate	Frost line	Minimum footing depth
Deep South (no frost)	0	12 in (bearing only)
Mid-Atlantic / transition	24-30 in	30-36 in
Midwest / Northeast	36-48 in	42-48 in
Northern plains / Canada border	48-60 in	60 in
Mountain West	varies	verify locally

- Footing width: 2x the wall thickness, minimum 12 in for most residential.
- Always undisturbed soil at the bottom — never backfill.
- Call 811 before you dig. Every time, no exceptions.

Curing, Sealing & Repair Guide

The pour is 20 minutes of glory and 7 days of patience. The cure is where strength actually happens.

The 7-day rule

- Keep it wet. Concrete gains most of its strength in the first week, and only if it stays damp.
- Wet-cure (spray + cover with plastic) or use a curing blanket / compound.
- Don't seal until it's cured and dry — 28 days for a penetrating sealer.

Finishing, quick reference

Finish	How	Best for
Broom	Drag a broom after floating	Slip resistance, driveways/walks
Trowel	Steel-trowel smooth	Garage floors, indoor
Exposed aggregate	Wash off surface paste early	Decorative patios

Repair (fix it, don't tear it out)

- Hairline cracks: concrete crack sealant / polyurethane caulk.
- Wide / structural cracks: chase out to a V, fill with patching mortar + bonding agent.
- Spalling (flaking surface): resurfacer overlay after cleaning + bonding coat.
- Settled slab: mudjacking or foam lifting — cheaper than replacement nine times out of ten.

That's the pack. Get your base compacted and your water ratio honest before you worry about anything fancy — strength starts under the slab and in the bucket. When your pour's cured and you're walking on something flat and square, I'd love to hear about it, and in a couple of emails I'll tell you how a quick word from you helps this book reach the next person standing over a bag of mud wondering where to start.

Square and level,

Cole Hartman