

Epoxy Anchor Estimator

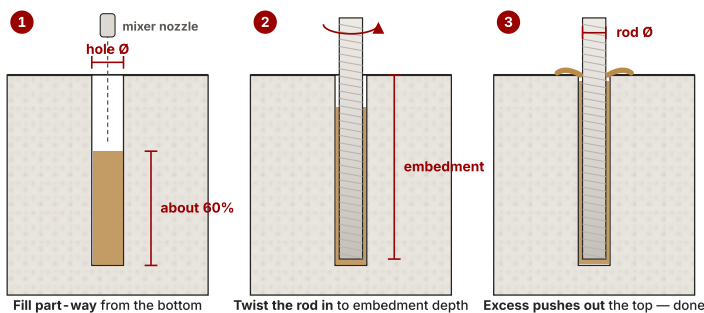
jandesupply.com/calc-epoxy-anchor.php

Setting studs, threaded rod, or rebar in concrete with adhesive? Get a quick read on how much epoxy the job will take — and how many cartridges to grab.

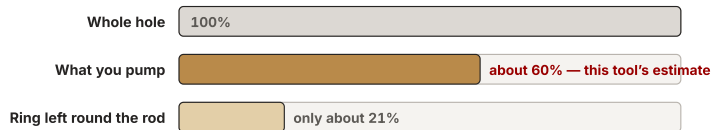
You fill the hole **part-way from the bottom**, then twist the rod in and let the excess push out the top. That's what actually gets used — noticeably more than the bare ring of epoxy left around the rod. This works out the fill per anchor, adds nozzle purge and waste, totals it across your count, and turns it into **cartridges**.

Read this first. This estimates **material only** — roughly how much epoxy to buy. It is **not** a structural design. The right hole diameter, embedment depth, edge distance, spacing, and load capacity come from the adhesive manufacturer's printed instructions (MPII / ESR report) and your engineer. Always fill the hole from the bottom up and follow the cure/temperature notes on the product.

What the numbers mean



How the hole actually gets filled. The tool estimates what you **pump into the hole** in step 1, plus nozzle purge and waste — not just the ring that is left around the rod at the end.



Why the estimate is based on the hole, not the ring: for a 1/2" rod in a 9/16" hole the leftover ring is only about a fifth of the hole. Estimate off the ring and you run out of epoxy on the job.

How the estimate works

The volume that matters is **what you pump into the hole**, not what ends up around the rod. You fill the hole part-way from the bottom, then twist the rod in — and it drives the excess back out the top. So the estimate is a share of the **hole** volume: $V = \pi/4 \times D_{\text{hole}}^2 \times \text{embedment} \times \text{fill}$. Nozzle purge and cartridge balancing go on top.

It's worth knowing how much that differs from the ring of epoxy left around the rod. That ring — $\pi/4 \times (D_{\text{hole}}^2 - d_{\text{rod}}^2) \times \text{embedment}$ — is only about a fifth to a quarter of the hole. Estimate off the ring alone and you'll come up roughly **half short**, which is why the panel shows both.

This matches how the adhesive makers estimate. Red Head builds its per-cartridge figures on filling the hole 60% full, and published anchors-per-cartridge tables work out to between about half and two-thirds of hole volume depending on rod size. Cold concrete, rough or wet holes, and overhead work all push usage higher still.

Choosing or setting anchors? See the guide to concrete anchors, or send us the job and we'll spec the adhesive and quantity with you.



Scan for this page online — plus free guides, charts & calculators at jandesupply.com
J & E Supply & Fastener Co. · Oklahoma City 405-670-1234 · Duncan 580-255-2582