Concrete Anchor Spacing & Edge Distance

Quick-reference chart — BuildToolHQ.com

Rule of thumb: minimum spacing = 6 × anchor diameter (6D). Minimum edge distance = 6 × anchor diameter (6D). These are simplified field rules per ACI 318-19 §17.9.2 — always verify against the anchor manufacturer's ICC-ES ESR report for structural applications.

Reference Table (6D Rule)

Anchor Diameter	Min. Edge Distance (6D)	Min. Spacing (6D)
1/4"	1.5"	1.5"
3/8"	2.25"	2.25"
1/2"	3"	3"
5/8"	3.75"	3.75"
3/4"	4.5"	4.5"

6D figures verified against ACI 318-19 §17.9.2 (Tables 17.9.2(a) and (b), which cover both spacing and edge distance). Last checked July 2026.

Verified Manufacturer Example

Simpson Strong-Bolt® 2 wedge anchor, 1/4" carbon steel, per ICC-ES ESR-3037 Table 1A: critical edge distance (c_{ac}) = 2.5", minimum edge distance (c_{min}) = 1.75", minimum spacing (s_{min}) = 2.25". Real manufacturer minimums can differ from the generic 6D rule — always check the specific product's ESR for exact values.

When to Increase These Distances

Dynamic/vibrating loads (machinery, CNC mills, compressors): increase spacing and edge distance by at least 25%.
Cracked concrete: requires larger edge distances and spacing, with reduced load capacities, per ACI 318-19.
Shallow embedment (e.g., post-tension slabs): increase distances to compensate for weaker surface concrete.

Need the exact numbers for your specific anchor and load? Try the free **Anchor Specification Engine** at buildtoolhq.com/tools/anchor-spec