

# Technical Specifications for Drop-In Anchors

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There are numerous technical specifications that must be considered when using [Concrete Drop-in Anchors](#). Considerations include: diameter and material type, internal thread length, minimum edge distance and required hole size. The Concrete Drop-in Anchor is a great fastener option when working with flush mounting applications. The size of the Drop-in Anchor refers to the diameter of the standard UNC threaded rod or bolt to be used with this fastener. Once all these factors have been determined, you can find the expected holding values in the technical information below.

### Length:

When setting the anchor flush with the base material: To determine the minimum bolt length required, add the internal thread length of the anchor, plus the thickness of the material to be fastened, plus the thickness of any washer to be used.

When setting the anchor deeper into the concrete:

Determine the minimum bolt length above and add the additional depth to the minimum anchor length.

### Spacing:

The forces on a Drop-in Anchor are transferred to the material in which it is installed. If the anchors are installed too close together, it can cause an interaction of the forces, thus reducing their holding power. Minimum anchor spacing and minimum edge distances for the drop-in anchor are as follows:

Anchor Diameter	Spacing Between Anchors	Minimum Edge Distance
1/4"	3-1/2" ≈ 90mm	1-3/4" ≈ 45mm
3/8"	5-11/16" ≈ 145mm	2-13/16" ≈ 72mm
1/2"	7" ≈ 178mm	3-1/2" ≈ 90mm
5/8"	8-5/16" ≈ 211mm	4-1/8" ≈ 105mm
3/4"	10-1/2" ≈ 267mm	5-1/4" ≈ 134mm

When vibration or sudden impact are part of the load conditions, the spacing should be increased.

## Technical Information: Ultimate Load Values in 2000 PSI Concrete

Size	Minimum Embedment	Max. Torque	Drill Bit	Pull-Out (lbs.)
1/4"	1"	5 ft./lbs.	3/8"	939 ≈426kg
3/8"	1-9/16"	10 ft./lbs.	1/2"	1560 ≈709kg
1/2"	2"	20 ft./lbs.	5/8"	3105 ≈1410kg
5/8"	2-1/2"	30 ft./lbs.	7/8"	3323 ≈1510kg
3/4"	3-3/16"	40 ft./lbs.	1"	6678 ≈4535kg

Values shown are average ultimate values and are offered only as a guide and are not guaranteed. A safety factor of 4:1 or 25% is generally accepted as a safe working load. Reference should be made to applicable codes for the specific working ratio. Minimum embedment for satisfactory anchor performance is 4-1/2 bolt diameters. Deeper embedments will yield higher tension and shear capacity.

Zinc Plated Part No.	Stainless Steel	Box/Ctn Quantity	Anchor Diameter (inches)	Anchor Length (inches)	Internal Thread Length (inches)	Spacing Between Anchors (inches)	Minimum Edge Distances (inches)
DI14	DIS14	100/1000	1/4	1	1/2	3-1/2	1-3/4
DI38	DIS38	50/1000	3/8	1-9/16	5/8	5-11/16	2-13/16
DI12	DIS12	50/500	1/2	2	3/4	7	3-1/2
DI58	DIS58	25/200	5/8	2-1/2	1 7/8	8-5/16	4-1/8
DI34	DIS34	25/150	3/4	3-1/8	1-1/4	10-1/2	5-1/4