

Ultimate and Allowable Load Capacities for Carbon Steel and Stainless Steel Sleeve Anchors in Normal Weight Concrete ^{1,2,3,4}

Nominal Anchor Diameter (in.)	Minimum Embedment Depth (in.)	Carbon Sleeve Anchors Torque ft.-lbs	Tension	Shear
			4,000 psi	4,000 psi
			Ultimate (lbs.)	Ultimate (lbs.)
1/4"	1/2"	2	731	925
	1"	6	611	1,241
5/16"	1"	12	1,406	1,870
3/8"	1-1/4"	18	1,964	3,122
	2-1/4"	18	3,422	3,122
1/2"	1-1/2"	26	2,795	3,982
5/8"	2"	50	4,560	7,154
	2-1/4"	50	7,572	7,154
3/4"	2-1/4"	90	4,569	8,715

1. Ultimate load capacities must be reduced by a minimum factor of safety of 4.0 to determine allowable loads
2. Consideration of safety factors of 10 or higher may be necessary depending on application, such as life safety or overhead
3. Tabulated load values are for anchors installed in uncracked concrete
4. The concrete compressive strength must be at the specified minimum at the time of installation

Allowable Load Capacities for Carbon Steel and Stainless Steel Sleeve Anchors in Normal Weight Concrete ^{1,2,3,4}

Nominal Anchor Diameter (in.)	Minimum Embedment Depth (in.)	Carbon Sleeve Anchors Torque ft.-lbs	Tension	Shear
			4,000 psi	4,000 psi
			Allowable (lbs.)	Allowable (lbs.)
1/4"	1/2"	2	183	231
	1"	6	153	310
5/16"	1"	12	351	468
3/8"	1-1/4"	18	491	781
	2-1/4"	18	856	781
1/2"	1-1/2"	26	700	996
5/8"	2"	50	1,140	1,788
	2-1/4"	50	1,893	1,788
3/4"	2-1/4"	90	1,142	2,178

1. Ultimate load capacities must be reduced by a minimum factor of safety of 4.0 to determine allowable loads
2. Consideration of safety factors of 10 or higher may be necessary depending on application, such as life safety or overhead
3. Tabulated load values are for anchors installed in uncracked concrete
4. The concrete compressive strength must be at the specified minimum at the time of installation

Ultimate Load Capacities for Carbon Steel and Stainless Steel Sleeve Anchors in Grout Filled Block (CMU) ^{1,2,3}

Nominal Anchor Diameter (in.)	Minimum Embedment Depth (in.)	Tension	Shear	Tension	Shear
		2,000 psi	2,000 psi	3,000 psi	3,000 psi
		Ultimate (lbs.)	Ultimate (lbs.)	Ultimate (lbs.)	Ultimate (lbs.)
1/4"	1"	500	1,000	821	1,000
5/16"	1"	800	1,600	889	1,600
3/8"	1-1/4"	1,200	1,800	1,880	1,800
1/2"	1-1/2"	1,400	2,000	2,313	2,000
5/8"	2"	1,600	2,200	1,946	2,200

1. Tabulated load values are ultimate loads and must be reduced by a factor of safety of 5.0 or greater to determine allowable working loads. Consideration of safety factors of 10 or higher may be necessary depending on the application, such as life safety.
2. CMU compressive strength must be at the specified minimum at the time of installation. Consideration of job site testing is recommended to verify conformance of base material and anchor performance.
3. See laboratory data sheets for specific information related to each individual test performed.

Allowable Load Capacities for Carbon Steel and Stainless Steel Sleeve Anchors in Grout Filled Block (CMU) ^{1,2,3}

Nominal Anchor Diameter (in.)	Minimum Embedment Depth (in.)	Tension	Shear	Tension	Shear
		2,000 psi	2,000 psi	3,000 psi	3,000 psi
		Allowable (lbs.)	Allowable (lbs.)	Allowable (lbs.)	Allowable (lbs.)
1/4"	1"	100	200	165	200
5/16"	1"	160	320	178	320
3/8"	1-1/4"	240	360	376	360
1/2"	1-1/2"	280	400	463	400
5/8"	1-1/2"	320	440	390	440

1. Tabulated load values are ultimate loads and must be reduced by a factor of safety of 5.0 or greater to determine allowable working loads. Consideration of safety factors of 10 or higher may be necessary depending on the application, such as life safety.
2. CMU compressive strength must be at the specified minimum at the time of installation. Consideration of job site testing is recommended to verify conformance of base material and anchor performance.
3. See laboratory data sheets for specific information related to each individual test performed.

Hex Head



Acorn Head



Hex Head and Acorn Nut Sleeve Anchors

ANCHOR DIMENSION						
Dimension	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"
ANSI Carbide Drill Bit	1/4"	5/16	3/8"	1/2"	5/8"	3/4"
Fixture Clearance Hole	5/16"	3/8"	7/16"	9/16"	11/16"	15/16"
Inner Bolt Size	10-24	1/4"-20	5/16-18	3/8"-16	1/2"-13	5/8"-11
Nut Height	5/16"	7/32"	17/64"	21/64"	7/16"	35/64"
Wrench / Socket	3/8"	7/16"	1/2"	9/16"	3/4"	15/16"
Washer O.D.	1/2"	5/8"	13/16"	1"	1-3/8"	1-3/4"



Combo Flat Head Sleeve Anchor

ANCHOR DIMENSION	
Dimension	3/8"
ANSI Carbide Drill Bit	3/8"
Fixture Clearance Hole	7/16"
Inner Bolt Size	5/16"-18
Head Height	15/64"
Head Width	3/4"
Phillip Drive size (#)	4