

### Chart for Determining Required Quantities for Form Ties

Form Tie Calculator Based on 10,000 sq. ft. of Wall Area or 20,000 sq. ft. of Form Contact Area.	
Form Tie Spacing	Form Ties Required
16" x 16" = 1.77 sq. ft.	5,650
24" x 24" = 4.0 sq. ft.	2,500
24" x 32" = 5.33 sq. ft.	1,877
32" x 32" = 7.11 sq. ft.	1,407
32" x 48" = 10.67 sq. ft.	938
48" x 48" = 16 sq. ft.	625
60" x 60" = 25 sq. ft.	400

### NC Threaded Bolt Capacities

Permanent connections in precast construction are normally made with either ferrule inserts or COREWALL slotted inserts using National Course (NC) threaded bolts. These NC Threaded bolts are normally not supplied by Masons Supply. However, as a convenience to the designer, the following chart listed.

NC THREADED BOLT SELECTION CHART				
Nominal Bolt	ASTMA-307 BOLTS		ASTMA-325 OR A-449 BOLTS	
	Tension	Shear	Tension	Shear
1/4" - 20	625 lbs	350 lbs	1,250 lbs	725 lbs
3/8" - 16	1,500 lbs	900 lbs	3,100 lbs	1,800 lbs
1/2" - 13	2,800 lbs	1,700 lbs	5,600 lbs	3,400 lbs
5/8" - 11	4,500 lbs	2,700 lbs	9,000 lbs	5,400 lbs
3/4" - 10	6,600 lbs	4,000 lbs	13,300 lbs	8,100 lbs
7/8" - 9	9,200 lbs	5,600 lbs	18,400 lbs	11,300 lbs
1" - 8	12,000 lbs	7,400 lbs	24,200 lbs	14,900 lbs
1-1/8" - 7	15,200 lbs	9,400 lbs	26,700 lbs	16,400 lbs
1-1/4" - 7	19,300 lbs	12,000 lbs	33,900 lbs	21,000 lbs
1-1/2" - 6	28,100 lbs	17,500 lbs	49,100 lbs	30,600 lbs

Safe working loads shown provide a factor of safety of approximately 3 to 1 (ultimate to SWL). Shear SWL's assume that the threads are included in the shear plane. 1/4"-20, 3/8"-16 and 1/2"-13 bolts are not recommended for use as structural fasteners. Above information is taken from material provided by Industrial Fastener Institute.