

ENGINEERING DATA

ADVANTAGES OF SPRING NUT FASTENERS

Topy Spring Nut Fasteners are easy to use, one piece self-locking devices that effectively resist loosening even in extreme vibration environments. Spring Nuts provide both an inward thread lock and an arched spring lock to hold screws securely in place. The need for plain spanning washers or locking washers is completely eliminated. Assembly time is appreciably reduced.

TORQUE AND TENSILE LIMITS

Recommended installation torques should be followed. Excessive torquing over and above indicated limits will result in collapse of the arched prongs and will reduce the locking effectiveness of the fastener.

MACHINE SCREWS

SCREW SIZE	RECOMMENDED INSTALLATION TORQUE	TENSILE LOAD LIMIT
4-36	3 in.-lbs.	100 lbs.
4-40	3 in.-lbs.	100 lbs.
6-32	5 in.-lbs.	150 lbs.
8-32	7 in.-lbs.	250 lbs.
10-24	12 in.-lbs.	350 lbs.
3/16-24	12 in.-lbs.	350 lbs.
1/4-20	30 in.-lbs.	600 lbs.
5/16-18	30 in.-lbs.	1000 lbs.

TAPPING SCREWS

SCREW SIZE	RECOMMENDED INSTALLATION TORQUE	TENSILE LOAD LIMIT
4A & B	9 in.-lbs.	300 lbs.
6A & B	11 in.-lbs.	400 lbs.
8A & B	17 in.-lbs.	600 lbs.
10A & B	31 in.-lbs.	800 lbs.
12A & B	34 in.-lbs.	900 lbs.
14A & B	48 in.-lbs.	1150 lbs.
5/16 B	16 ft.-lbs.	1200 lbs.
3/8 B	19 ft.-lbs.	2500 lbs.

SCREW LENGTHS

For maximum locking effectiveness, these generally accepted rules should be followed:

MACHINE SCREWS

A minimum of 1 1/2 threads should protrude beyond the prongs of the spring nut.

TYPE A and B TAPPING SCREWS

A minimum of two to three threads should protrude beyond the prongs of the nut to insure that the nut is gripping the full root diameter of the screw.



CLEARANCE HOLE

This minimum recommended hole diameter should be used to generate maximum tensile load. The left recommended clearance hole diameters do not apply to the "U" and "J" Type Spring Nuts as a portion of the lower leg of the Spring Nut is retained in the clearance hole. Check individual specification tables in this catalog for proper hole diameter.

SCREW SIZE	HOLE DIAMETER	SCREW SIZE	HOLE DIAMETER
2	.109	3/16	.218
3	.125	10	.218
4	.125	12	.250
5	.140	1/4	.281
1/8	.140	1/4	.281
6	.156	5/16	.343
7	.171	3/8	.406
5/32	.187	7/16	.468
8	.187	1/2	.531

SCREW THREAD DIMENSIONS

MACHINE SCREWS

SCREW SIZE	THREADS PER INCH	MAX. DIA.	ROOT DIA.
2	56	.086	.063
3	48	.099	.072
4	40	.112	.080
5	40	.125	.093
6	32	.138	.099
8	32	.164	.125
10	24	.190	.138
12	24	.216	.164
1/4	20	.250	.188
5/16	18	.312	.243

TYPE A TAPPING SCREWS

SCREW SIZE	THREADS PER INCH	MAX. DIA.	ROOT DIA.
2	32	.088	.061
4	24	.114	.083
6	18	.141	.102
7	16	.158	.114
8	15	.168	.123
10	12	.194	.133
12	11	.221	.162
14	10	.254	.185
20	9	.333	.234
24	9	.390	.291

TYPE B (OR Z) TAPPING SCREWS

SCREW SIZE	THREADS PER INCH	MAX. DIA.	ROOT DIA.
2	32	.088	.064
4	24	.114	.086
6	20	.139	.104
7	19	.154	.115
8	18	.166	.122
10	16	.189	.141
12	14	.215	.164
1/4	14	.246	.192
5/16	12	.315	.244
3/8	12	.380	.309