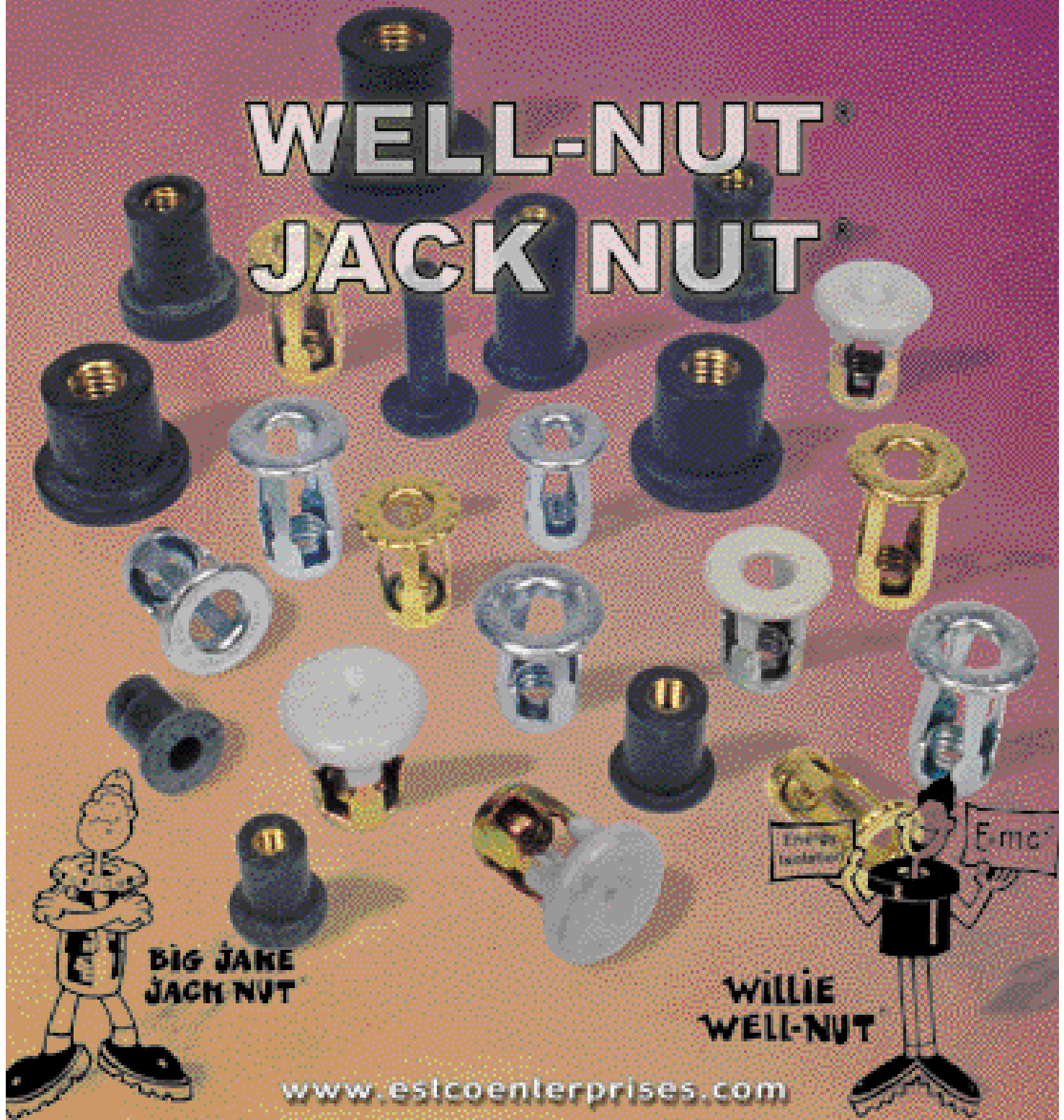


ESTCO

ENTERPRISES, INC.

WELL-NUT[®] JACK NUT[®]



**BIG JANE
JACK NUT**

**WILLIE
WELL-NUT**

www.estcoenterprises.com



Since 1970, Estco has been providing a broad range of customers with quality product, on time deliveries and the most competitive pricing available in the industry. Our mission is very simple – *do what it takes to EARN your business.*

Our standard catalogs represent thousands of molded and extruded items available to you, the customer on a no charge basis. If the item request cannot be found in our mold library, we can custom tool your requirement using a variety of organic and non-organic elastomers as well as TPE'S and thermosetting urethanes and plastics. Our technical staff can assist you with product development, proper tooling cavitation and production materials to meet your specifications.

We look forward to having the opportunity of being able to serve you and your company in the near future, so please give us a call.



1549 Simpson Way Escondido, CA 92029
800.696.7826 or 760.489.8745 fax: 760.489.9117

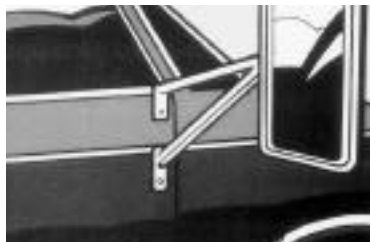
Estco Enterprises, Incorporated
QUALITY POLICY STATEMENT

The goal of Estco Enterprises is to commit to fulfilling our customers current and future expectations for quality, on time deliveries, customer service and cost efficiencies. To support this goal, all Estco Enterprises' employees have adopted a company-wide philosophy of open communication, continuous improvement of the entrepreneurial processes and a dedication to achieve the highest quality system without compromise.



Quality System Registered
ISO 9002:1994/Q9002:1994
Certificate QSR-570

WELL-NUT Features & Applications



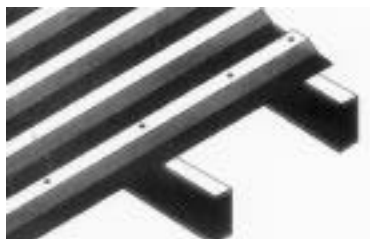
Features:

- Fastens in blind holes
- Helps seal out ambient moisture
- Muffles noise
- Dampens vibration and shock
- Helps prevent galvanic corrosion
- Ideal for metal-to-plastic and other mixed material fastenings
- Removable
- Installs with conventional tools
- Snap-in feature available
- Available in several compounds
- One-step installation
- Can be used in closed end holes



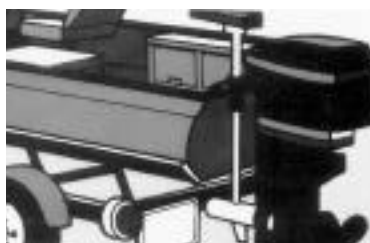
Threaded-Inserts:

The WELL-NUT® Threaded Insert is a flanged neoprene bushing with a brass machine nut molded into one end. Tightening a conventional machine screw threaded in the brass nut causes the insert to expand, making a secure fastening. Available in a variety of rubber compounds for a full range of automotive and industrial environments.



Applications:

- Windshield wiper motors
- Electric panels
- Remote-type air cleaners
- Radiator mountings
- Heating fan motors
- Luggage carriers
- Sirens and horns
- Electronic sensors
- Control modules
- Windshield washer reservoirs
- Inner door panels
- Solar panels
- Fan motor mounts
- Garage door openers
- Marine accessories
- Fiberglass building panels
- Skylights
- Transformers
- ... AND MUCH MORE



JACK-NUT Features & Applications



Features:

- Fastens in blind holes
- Won't distort or deform soft plastics or thin sheet metals
- Fast, inexpensive, and easy to use
- Not hole-size sensitive
- Fastens securely despite burrs or uneven substrate
- Available with "Plastisol" coating for sealing purposes
- Suitable for a wide grip range
- Can be set with manual or pneumatic tools
- Removable



Threaded-Inserts:

The JACK NUT® Threaded Insert is an economical blind fastener designed for assembly-line use in thin, soft, or brittle materials. When tightened, the body collapses to form legs which grip the inside of the mounting surface, leaving a permanent, reusable threaded insert. Available in steel, brass, and steel with PVC or Raintite™ coating.



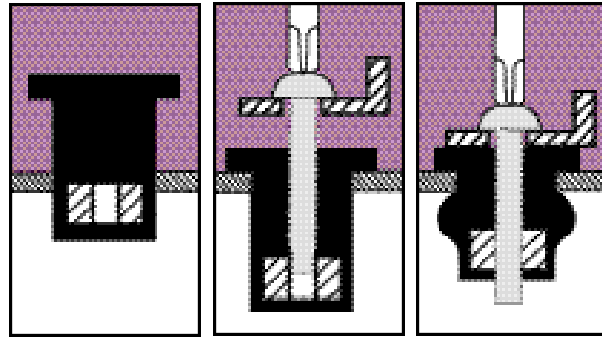
Applications:

- Toys
- Plastic furniture
- Spoilers and other aerodynamic devices
- License plate brackets
- High-lamp stop lights
- Mirrors
- Air-conditioning condensers
- Fuse boxes
- Glove compartments
- Speaker housings
- Decorative trim
- Latch mountings
- Truck utility compartments
- Luggage carriers
- Resonators
- ... AND MUCH MORE



How To Install:

1. Place WELL-NUT® Insert all the way into pre-drilled hole until flange is firmly against mounting surface.
2. Pass machine screw through part to be fastened and tighten until snug.



WELL-NUT

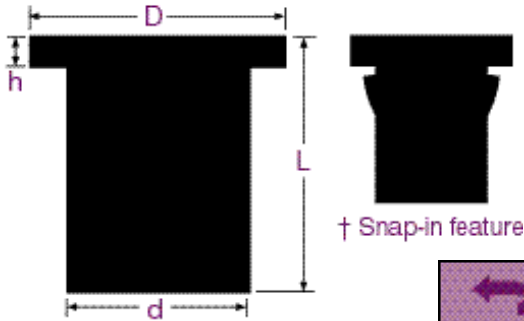
Dimensions & Specifications

CATALOG NUMBER	BODY DIAM. (d)		HOLE SIZE		GRIP RANGE		LENGTH (L)		HEAD HEIGHT (h)		HEAD DIAM. (D)		THREAD SIZE	
	(in.)	(mm)	(in.)	(mm)	min-max		(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	Unified	Metric
C632	0.240	6.10	0.250	6.35	0.375-0.607	9.53-15.42	0.981	24.92	0.035	0.89	0.554	14.07	6-32	M3 x 0.5
E632	0.312	7.92	0.312	7.92	0.015-0.156	0.38-3.96	0.499	12.67	0.062	1.57	0.452	11.48	6-32	M3 x 0.5
B832	0.312	7.92	0.312	7.92	0.015-0.156	0.38-3.96	0.499	12.67	0.052	1.32	0.438	11.13	8-32	M4 x 0.7
C832*	0.312	7.92	0.312	7.92	0.015-0.172	0.38-4.37	0.560	14.22	0.060	1.52	0.750	19.05	8-32	M4 x 0.7
2D832*†	0.310	7.87	0.312	7.92	0.015-0.050	0.38-1.27	0.430	10.92	0.050	1.27	0.500	12.70	8-32	M4 x 0.7
A1024*†	0.375	9.53	0.375	9.53	0.015-0.050	0.38-1.27	0.562	14.27	0.125	3.18	0.562	14.27	10-24	M5 x 0.8
L1024*	0.375	9.53	0.375	9.53	0.030-0.227	0.76-5.77	0.767	19.48	0.187	4.75	0.562	14.27	10-24	M5 x 0.8
10S	0.375	9.53	0.375	9.53	0.015-0.192	0.38-4.88	0.554	14.07	0.036	0.91	0.500	12.70	10-32	M5 x 0.8
10SL	0.375	9.53	0.375	9.53	0.312-0.643	7.92-16.33	1.051	26.70	0.051	1.30	0.562	14.27	10-32	M5 x 0.8
10XL*	0.375	9.53	0.375	9.53	0.812-1.143	20.62-29.03	1.551	39.40	0.051	1.30	0.562	14.27	10-32	M5 x 0.8
G1032	0.375	9.53	0.375	9.53	0.030-0.227	0.76-5.77	0.807	20.50	0.187	4.75	0.750	19.05	10-32	M5 x 0.8
H1032	0.375	9.53	0.375	9.53	0.132-0.450	7.92-11.43	0.847	21.51	0.035	0.89	0.554	14.07	10-32	M5 x 0.8
J1032	0.375	9.53	0.375	9.53	0.030-0.227	0.76-5.77	0.700	17.78	0.080	2.03	0.750	19.05	10-32	M5 x 0.8
NP1032	0.375	9.53	0.375	9.53	0.015-0.050	0.38-1.27	0.400	10.16	0.059	1.50	0.510	12.95	10-32	M5 x 0.8
N1032*	0.375	9.53	0.375	9.53	0.015-0.050	0.38-1.27	0.431	10.95	0.051	1.30	0.625	15.88	10-32	M5 x 0.8
Q1032	0.375	9.53	0.375	9.53	0.035-0.232	0.89-5.89	0.665	16.89	0.040	1.02	0.562	14.27	10-32	M5 x 0.8
HSCM6X1*†	0.492	12.50	0.500	12.70	0.015-0.094	0.38-2.39	0.630	16.00	0.060	1.52	0.580	14.73	1/4-20	M6 x 1.0
EM6X1*	0.492	12.50	0.500	12.70	0.015-0.094	0.38-2.39	0.630	16.00	0.051	1.30	0.679	17.25	1/4-20	M6 x 1.0
ACM6X1*†	0.492	12.50	0.500	12.70	0.015-0.062	0.38-1.57	0.630	16.00	0.051	1.30	0.787	19.99	1/4-20	M6 x 1.0
1/4A*	0.500	12.70	0.500	12.70	0.015-0.050	0.38-1.27	0.629	15.98	0.111	2.82	0.629	15.98	1/4-20	M6 x 1.0
1/4A	0.500	12.70	0.500	12.70	0.015-0.111	0.38-2.82	0.630	16.00	0.051	1.30	0.630	16.00	1/4-20	M6 x 1.0
D1420	0.500	12.70	0.500	12.70	0.031-0.187	0.79-4.75	0.829	21.06	0.187	4.75	0.75	19.05	1/4-20	M6 x 1.0
J1420	0.500	12.70	0.500	12.70	0.250-0.457	6.35-11.61	1.051	26.70	0.051	1.30	0.635	16.13	1/4-20	M6 x 1.0
JM1420*	0.500	12.70	0.500	12.70	0.215-0.422	5.46-10.72	1.440	36.58	0.44	11.18	0.635	16.13	1/4-20	M6 x 1.0
M6X1*	0.500	12.70	0.500	12.70	0.015-0.094	0.38-2.39	0.630	16.00	0.051	1.30	0.787	19.99	1/4-20	M6 x 1.0
MDM6X1*	0.500	12.70	0.500	12.70	0.031-0.187	0.79-4.75	0.829	21.06	0.187	4.75	0.740	18.80	1/4-20	M6 x 1.0
MDLM6X1*†	0.500	12.70	0.500	12.70	0.031-0.187	0.79-4.75	0.829	21.06	0.187	4.75	0.945	24.00	1/4-20	M6 x 1.0
W1420	0.500	12.70	0.500	12.70	0.187-0.343	4.75-8.71	0.801	20.35	0.051	1.30	0.635	16.13	1/4-20	M6 x 1.0
AC1420*	0.562	14.27	0.562	14.27	0.280-0.500	7.11-12.70	1.301	33.05	0.051	1.30	0.635	16.13	1/4-20	M6 x 1.0
ET51618*†	0.618	15.70	0.625	15.88	0.015-0.118	0.38-3.00	1.102	27.99	0.334	8.48	0.874	22.20	5/16-8	M8 x 1.25
E51618	0.620	15.75	0.625	15.88	0.15-0.156	0.38-3.96	0.725	18.42	0.125	3.18	0.875	22.23	5/16-8	M8 x 1.25
F51618*	0.620	15.75	0.625	15.88	0.156-0.375	3.96-9.53	1.100	27.94	0.225	5.72	0.875	22.23	5/16-8	M8 x 1.25
A51618*	0.748	19.00	0.750	19.05	0.015-0.237	0.38-6.02	1.063	27.00	0.197	5.00	1.260	32.00	5/16-8	M8 x 1.25
A3816	0.750	19.05	0.750	19.05	0.015-0.437	0.38-11.10	1.062	26.97	0.187	4.75	1.250	31.75	3/8-16	M9 x 1.25
Z3816	0.750	19.05	0.750	19.05	0.015-0.125	0.38-3.18	1.050	26.67	0.350	8.89	1.730	43.94	3/8-16	M9 x 1.25

Standard WELL-NUT threaded inserts are manufactured of neoprene with a brass insert. Other rubber compounds (such as EPDM or nitrile) are available in most sizes upon special request. Special orders require a minimum of 25,000 pieces.

* Requires 25,000 piece minimum order.
† Manufactured with snap in feature.

T H R E A D E D I N S E R T S



WELL-NUT

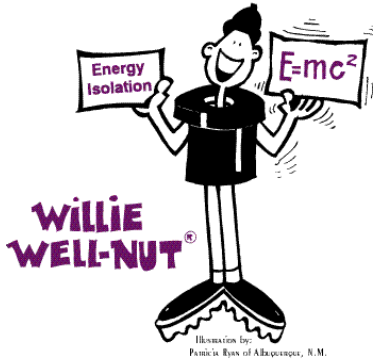
Test Results (Unified)

CATALOG NUMBER	HOLE DIAM. (in.)	PLATE THICKNESS (in.)	SCREW SIZE	TIGHTENING TORQUE (in.-lbs.)	ULTIMATE TENSILE (lbs.)
C632	0.250	0.500	6-32	3	115
E632	0.312	0.062	6-32	4	114
B832	0.312	0.062	8-32	3	146
C832*	0.312	0.063	8-32	3	130
2D832*†	0.312	0.031	8-32	5	91
A1024*†	0.375	0.031	10-24	5	156
L1024*	0.375	0.125	10-24	5	95
10S	0.375	0.125	10-32	5	230
10SL	0.375	0.500	10-32	3	315
10XL*	0.375	1.050	10-32	10	371
G1032	0.375	0.125	10-32	5	277
H1032	0.375	0.375	10-32	3	260
J1032	0.375	0.125	10-32	5	225
NP1032	0.375	0.050	10-32	5	230
N1032*	0.375	0.050	10-32	5	150
Q1032	0.375	0.125	10-32	5	265
HSCM6X1*†	0.500	0.075	1/4-20	10	225
EM6X1*	0.500	0.031	1/4-20	14	120
ACM6X1*†	0.500	0.062	1/4-20	10	294
1/4A*	0.500	0.075	1/4-20	10	290
1/4A	0.500	0.075	1/4-20	10	230
D1420	0.500	0.187	1/4-20	15	280
J1420	0.500	0.250	1/4-20	10	445
JM1420*	0.500	0.250	1/4-20	20	140
M6X1*	0.500	0.075	1/4-20	10	223
MDM6X1*	0.500	0.187	1/4-20	15	310
MDLM6X1*†	0.500	0.187	1/4-20	15	310
W1420	0.500	0.187	1/4-20	10	360
AC1420*	0.562	0.397	1/4-20	20	251
ET51618*†	0.625	0.125	5/16-18	8	386
E51618	0.625	0.151	5/16-18	25	457
F51618*	0.625	0.375	5/16-18	15	558
A51618*	0.750	0.187	5/16-18	20	441
A3816	0.750	0.437	3/8-16	20	1500
Z3816	0.750	0.125	3/8-16	30	1125

WARNINGS: Installation instructions and warnings packaged with the products must be followed precisely or performance may vary significantly from data given here. All tests were performed in CRS plates using hardened steel screws. Average ultimate load values shown above should be used only as a guide. Actual results may vary, and are dependent on such factors as proper installation,

proper application, and type of base material. In all applications, it is recommended that tests to simulate actual conditions be carried out to determine the suitability of the products for the particular application. Also, a suitable factor of safety should be applied to obtain safe working loads. For WELL-NUT threaded Inserts applications, burrs must be removed from the base material prior to installation.

* Requires 25,000 piece minimum order.
† Manufactured with snap in feature.



WILLIE WELL-NUT

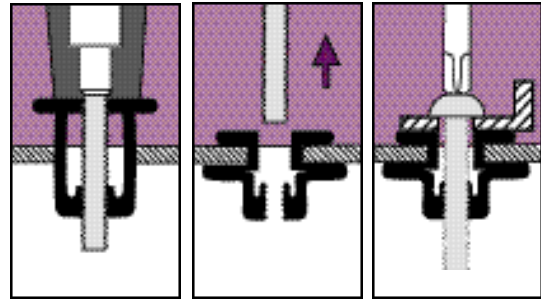
WELL-NUT

Test Results (Metric)

CATALOG NUMBER	HOLE DIAM. (mm)	PLATE THICKNESS (mm)	SCREW SIZE	TIGHTENING TORQUE (NM)	ULTIMATE TENSILE (N)
C632	6.35	12.70	M3x0.5	0.34	512
E632	7.92	1.57	M3x0.5	0.45	507
B832	7.92	1.57	M4x0.7	0.34	649
C832*	7.92	1.60	M4x0.7	0.34	578
2D832*†	7.92	0.79	M4x0.7	0.56	405
A1024*†	9.53	0.79	M4.5x0.75	0.56	694
L1024*	9.53	3.18	M4.5x0.75	0.56	423
10S	9.53	3.18	M5x0.8	0.56	1023
10SL	9.53	12.70	M5x0.8	0.34	1401
10XL*	9.53	26.67	M5x0.8	1.13	1650
G1032	9.53	3.18	M5x0.8	0.56	1232
H1032	9.53	9.53	M5x0.8	0.34	1156
J1032	9.53	3.18	M5x0.8	0.56	1001
NP1032	9.53	1.27	M5x0.8	0.56	1023
N1032*	9.53	1.27	M5x0.8	0.56	667
Q1032	9.53	3.18	M5x0.8	0.56	1179
HSCM6X1*†	12.70	1.91	M6x1.0	1.13	1001
EM6X1*	12.70	0.79	M6x1.0	1.58	534
ACM6X1*†	12.70	1.57	M6x1.0	1.13	1308
1/4A*	12.70	1.91	M6x1.0	1.13	1290
1/4A	12.70	1.91	M6x1.0	1.13	1023
D1420	12.70	4.75	M6x1.0	1.69	1245
J1420	12.70	6.35	M6x1.0	1.13	1979
JM1420*	12.70	6.35	M6x1.0	2.26	623
M6X1*	12.70	1.91	M6x1.0	1.13	992
MDM6X1*	12.70	4.75	M6x1.0	1.69	1379
MDLM6X1*†	12.70	4.75	M6x1.0	1.69	1379
W1420	12.70	4.75	M6x1.0	1.13	1601
AC1420*	14.27	10.08	M6x1.0	2.26	1116
ET51618*†	15.88	3.18	M8x1.25	0.90	1717
E51618	15.88	3.84	M8x1.25	2.82	2033
F51618*	15.88	9.53	M8x1.25	1.69	2482
A51618*	19.05	4.75	M8x1.25	2.26	1962
A3816	19.05	11.10	M9x1.25	2.26	6672
Z3816	19.05	3.18	M9x1.25	3.39	5004

How To Install:

1. Thread JACK NUT® Insert onto mandrel of installation tool, then insert all the way into predrilled hole until flange is firmly against mounting surface.
2. Fully collapse insert, then remove installation tool.
3. Pass machine screw through part to be fastened, then tighten until snug.



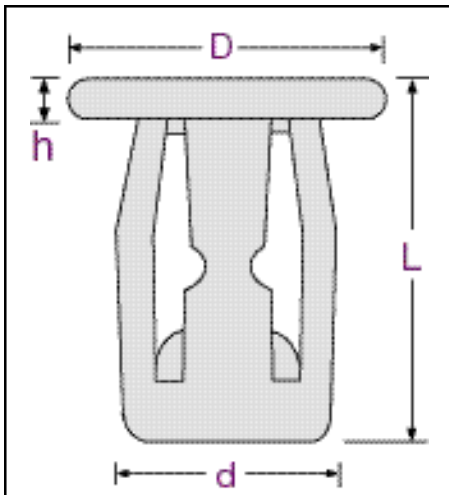
JACK NUT

Dimensions & Specifications

CATALOG NUMBER	BODY DIAM. (d)		HOLE SIZE		GRIP RANGE		LENGTH (L)		HEAD HEIGHT (h)		HEAD DIAM. (D)		THREAD SIZE			
	(in.)	(mm)	min-max		min-max		(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	Unified		Metric	
			(in.)	(mm)	(in.)	(mm)										
4S JN	0.318	8.08	0.318-0.330	8.08-8.38	0.015-0.187	0.38-4.75	0.653	16.59	0.073	1.85	0.468	11.89	6-32	M4 x 0.7		
4LJN	0.318	8.08	0.318-0.330	8.08-8.38	0.187-0.375	4.75-9.53	0.841	21.36	0.073	1.85	0.468	11.89	6-32	M4 x 0.7		
6S JN	0.382	9.70	0.382-0.400	9.70-10.16	0.015-0.187	0.38-4.75	0.716	18.19	0.073	1.85	0.531	13.49	10-24	M5 x 0.8		
6LJN	0.382	9.70	0.382-0.400	9.70-10.16	0.187-0.375	4.75-9.53	0.888	22.56	0.073	1.85	0.531	13.49	10-24	M5 x 0.8		
8S JN	0.438	11.13	0.438-0.450	11.13-11.43	0.015-0.187	0.38-4.75	0.731	18.57	0.073	1.85	0.625	15.88	1/4-20	M6 x 1.0		
8LJN	0.438	11.13	0.438-0.450	11.13-11.43	0.187-0.375	4.75-9.53	0.919	23.34	0.073	1.85	0.625	15.88	1/4-20	M6 x 1.0		
8XLJN	0.438	11.13	0.438-0.450	11.13-11.43	0.375-0.500	9.53-12.70	1.094	27.79	0.073	1.85	0.625	15.88	1/4-20	M6 x 1.0		

Standard JACK NUT Threaded Inserts are manufactured of steel with commercial zinc plating. Brass is available upon special request (brass requires a 25,000 piece minimum order.)

All JACK NUT Threaded Inserts can be supplied with coated flanges. Two types of coatings are offered. The first, called RAINITITE®, is used for sealing ambient moisture. The second is a hard plastic coating (PVC) which is used in areas where additional protection is needed against scratching (for example, painted panels). Both can also assist with galvanic corrosion concerns.



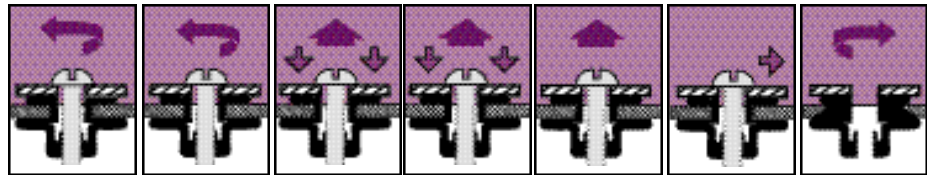
NOTE: Thread geometry conforms to 2B Inch and 6H metric tolerances for lead, major and pitch diameters. The minor diameter may range from 2 to 3% oversized. Application bolt should have chamfered tip to assure ease of thread engagement





JACK NUT

Test Results (Unified)

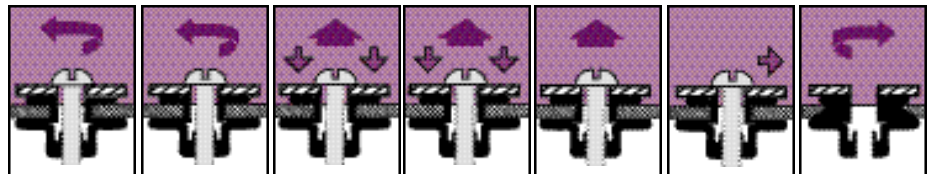


CATALOG NUMBER	HOLE DIAM. (in.)	PLATE THICKNESS (in.)	SCREW SIZE	TIGHTENING TORQUE (in.-lbs.)	ULTIMATE TORQUE (in.-lbs.)	UPSET LOAD (lbs.)	ULT. THREAD STRENGTH (lbs.)	ULTIMATE TENSILE (lbs.)	ULTIMATE SHEAR (lbs.)	SPINOUT (in.-lbs.)
4S JN	0.328	0.031	6-32	12	18	185	501	334	575	7
		0.187	6-32	12	18	283	429	433	700	4
4LJN	0.328	0.187	6-32	12	18	152	425	444	725	3
		0.375	6-32	12	18	334	471	386	650	4
6S JN	0.390	0.031	10-24	20	31	231	625	427	875	4
		0.187	10-24	20	31	169	668	640	850	5
6LJN	0.390	0.187	10-24	20	31	232	675	692	1200	3
		0.375	10-24	20	31	448	614	554	1200	8
8S JN	0.438	0.031	1/4-20	30	41	351	817	482	867	12
		0.187	1/4-20	30	41	397	836	820	1342	12
8LJN	0.438	0.187	1/4-20	30	41	301	891	906	1450	3
		0.375	1/4-20	30	41	447	796	806	1375	11
8XLJN	0.438	0.375	1/4-20	30	41	220	933	781	NA	4
		0.500	1/4-20	30	41	258	893	855	NA	6



JACK NUT

Test Results (Metric)



CATALOG NUMBER	HOLE DIAM. (mm)	PLATE THICKNESS (mm)	SCREW SIZE	TIGHTENING TORQUE (NM)	ULTIMATE TORQUE (NM)	UPSET LOAD (N)	ULT. THREAD STRENGTH (N)	ULTIMATE TENSILE (N)	ULTIMATE SHEAR (N)	SPINOUT (NM)
4S JN	8.33	0.79	M4 x 0.7	1.36	2.26	823	2473	1437	2558	0.80
		4.75	M4 x 0.7	1.36	2.26	1259	2193	1552	3114	0.45
4LJN	8.33	4.75	M4 x 0.7	1.36	2.26	676	2211	2086	3225	0.34
		9.53	M4 x 0.7	1.36	2.26	1486	2095	1966	2891	0.45
6S JN	9.91	0.79	M5 x 0.8	2.26	3.95	1027	3096	1668	3892	0.45
		4.75	M5 x 0.8	2.26	3.95	1197	2633	2873	3781	0.56
6LJN	9.91	4.75	M5 x 0.8	2.26	3.95	1032	2402	3127	5338	0.34
		9.53	M5 x 0.8	2.26	3.95	1993	2526	3198	5338	0.90
8S JN	11.13	0.79	M6 x 1.0	3.39	5.20	1561	4070	2277	3856	1.36
		4.75	M6 x 1.0	3.39	5.20	1766	4159	4715	5969	1.36
8LJN	11.13	4.75	M6 x 1.0	3.39	5.20	1339	4239	3923	6450	0.34
		9.53	M6 x 1.0	3.39	5.20	1988	4292	4243	6116	1.24
8XLJN	11.13	9.53	M6 x 1.0	3.39	5.20	979	4150	3474	NA	0.45
		12.70	M6 x 1.0	3.39	5.20	1148	3972	3803	NA	0.68

WARNINGS: Installation instructions and warnings packaged with the products must be followed precisely or performance may vary significantly from data given here. All tests were performed in CRS plates using hardened

steel screws. Average ultimate load values shown above should be used only as a guide. Actual results may vary, and are dependent on such factors as proper installation, proper application, and type of base material. In all

applications, it is recommended that tests to simulate actual conditions be carried out to determine the suitability of the products for the particular application. Also, a suitable factor of safety should be applied to obtain safe working loads. Test data for brass JACK-NUTS available upon request.

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