



National Aerospace Fasteners Corp.

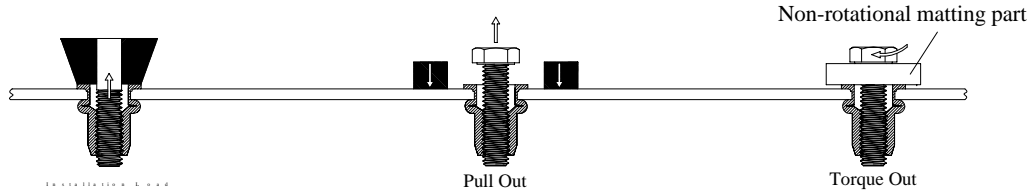


N L *SERIES*

RIB WALL

LOW PROFILE HEAD

Test Method



Engineering Data

Unified Thread

Thread Size	Installation Load (LBS)		Pull Out * (LBS)	Torque Out ** (Lb-In)
	Min grip	Max grip		
# 6 -32 UNC	585	1,130	2,000	60
# 8 -32 UNC	585	1,130	2,050	65
#10 -24 UNC	890	1,500	2,530	90
#10 -32 UNF	890	1,500	2,530	90
1/4 -20 UNC	995	1,680	2,980	200
1/4 -28 UNF	995	1,680	2,980	200
5/16-18 UNC	1,860	3,030	4,800	420
5/16-24 UNF	1,860	3,030	4,800	420
3/8 -16 UNC	1,860	3,030	4,800	540
3/8 -24 UNF	1,860	3,030	4,800	540
1/2 -13 UNC	2,750	5,840	6,100	880

Metric Thread

Thread Size	Installation Load (KN)		Pull Out * (KN)	Torque Out ** (N-m)
	Min grip	Max grip		
M4X0.7	2.6	5.0	8.9	7.5
M5X0.8	4.0	6.7	11.3	10.0
M6X1.0	4.4	7.5	13.3	23.0
M8X1.25	8.3	13.5	21.4	48.0
M10X1.5	8.3	13.5	21.4	62.0
M12x1.75	12.25	26.0	27.1	100.0

- * **Pull Out** is the force required to pull the NAFCO product from the parent material.
- ** **Torque Out** is the maximum recommended torque to be applied to the bolt (class 8.8/9.8), which will not cause thread distortion in the insert.
- *** These values are averages only- certain variations must be expected in actual application. NAFCO recommends that these values be used only as a guide.

Fastener Specifications

Material: Steel 1008, 1010, or Equiv. per SAE J403f

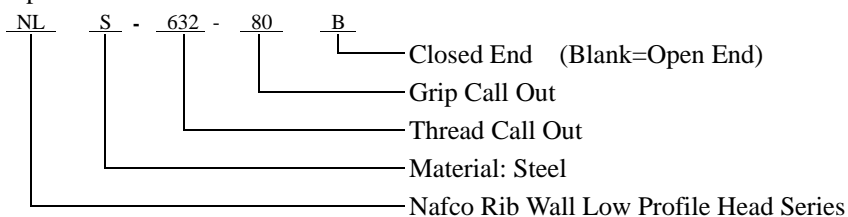
Finish: Zinc Plate Yellow Chromate

Per ASTM B633 Fe/Zn 8, Type II

(Special Material and Plating also Available on Request)

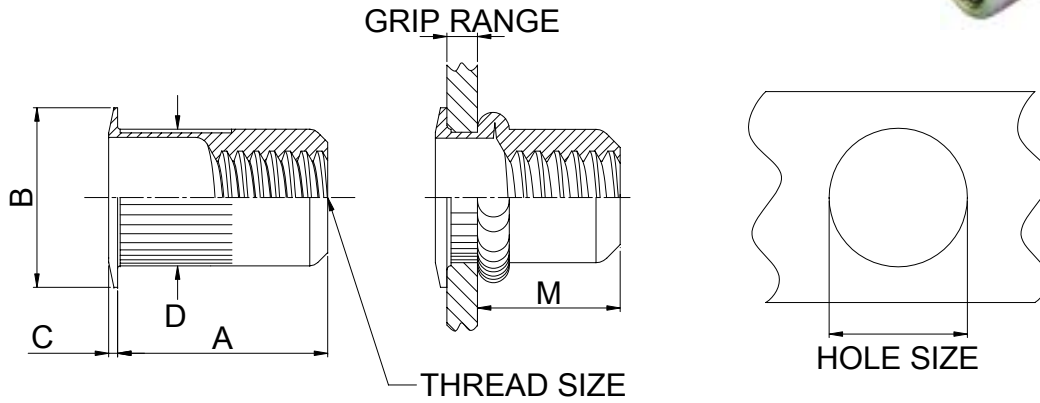
Part Number Explanation

Example: NLS-632-80B



QS9000

ISO9001 TEL: 886-3-4508868 FAX: 886-3-4604183 <http://www.nafco.com.tw> e-mail: sales@ms1.nafco.com.tw



UNIFIED THREAD

Unit: Inch

THREAD SIZE	PART NUMBER	GRIP RANGE		A ± .015	B		C ± .003	D Max.	M Ref.	HOLE SIZE +.004/- .000
		Min.	Max.		Min.	Max.				
# 6 -32 UNC	NLS-632-80	.020	.080	.420	.380	.400	.030	.265	.305	.266
# 6 -32 UNC	NLS-632-130	.080	.130	.470	.380	.400	.030	.265	.305	.266
# 8 -32 UNC	NLS-832-80	.020	.080	.420	.380	.400	.030	.265	.305	.266
# 8 -32 UNC	NLS-832-130	.080	.130	.470	.380	.400	.030	.265	.305	.266
#10 -24 UNC	NLS-1024-130	.020	.130	.475	.405	.425	.030	.296	.315	.297
#10 -24 UNC	NLS-1024-225	.130	.225	.585	.405	.425	.030	.296	.315	.297
#10 -32 UNF	NLS-1032-130	.020	.130	.475	.405	.425	.030	.296	.315	.297
#10 -32 UNF	NLS-1032-225	.130	.225	.585	.405	.425	.030	.296	.315	.297
1/4 -20 UNC	NLS-420-165	.027	.165	.580	.490	.510	.030	.390	.380	.391
1/4 -20 UNC	NLS-420-260	.165	.260	.680	.490	.510	.030	.390	.380	.391
1/4 -28 UNF	NLS-428-165	.027	.165	.580	.490	.510	.030	.390	.380	.391
1/4 -28 UNF	NLS-428-260	.165	.260	.680	.490	.510	.030	.390	.380	.391
5/16-18 UNC	NLS-518-150	.027	.150	.690	.660	.710	.035	.530	.470	.531
5/16-18 UNC	NLS-518-312	.150	.312	.805	.660	.710	.035	.530	.425	.531
5/16-24 UNF	NLS-524-150	.027	.150	.690	.660	.710	.035	.530	.470	.531
5/16-24 UNF	NLS-524-312	.150	.312	.805	.660	.710	.035	.530	.425	.531
3/8 -16 UNC	NLS-616-150	.027	.150	.690	.660	.710	.035	.530	.470	.531
3/8 -16 UNC	NLS-616-312	.150	.312	.805	.660	.710	.035	.530	.425	.531
3/8 -24 UNF	NLS-624-150	.027	.150	.690	.660	.710	.035	.530	.470	.531
3/8 -24 UNF	NLS-624-312	.150	.312	.805	.660	.710	.035	.530	.425	.531
1/2 -13 UNC	NLS-813-200	.063	.200	1.150	.840	.890	.047	.685	.850	.687
1/2 -13 UNC	NLS-813-350	.200	.350	1.300	.840	.890	.047	.685	.850	.687
1/2 -13 UNC	NLS-813-500	.350	.500	1.450	.840	.890	.047	.685	.860	.687

METRIC THREAD

Unit: mm

THREAD SIZE	PART NUMBER	GRIP RANGE		A ± 0.38	B		C ± 0.08	D Max.	M Ref.	HOLE SIZE +0.10/-0.00
		Min.	Max.		Min.	Max.				
M4X0.7	NLS-470-2.0	0.50	2.00	10.67	9.66	10.16	0.76	6.73	7.75	6.75
M4X0.7	NLS-470-3.3	2.00	3.30	11.94	9.66	10.16	0.76	6.73	7.75	6.75
M5X0.8	NLS-580-3.3	0.50	3.30	12.07	10.29	10.79	0.76	7.52	8.00	7.60
M5X0.8	NLS-580-5.7	3.30	5.70	14.86	10.29	10.79	0.76	7.52	8.00	7.60
M6X1.0	NLS-610-4.2	0.70	4.20	14.73	12.45	12.95	0.76	9.91	9.65	10.00
M6X1.0	NLS-610-6.6	4.20	6.60	17.27	12.45	12.95	0.76	9.91	9.65	10.00
M8X1.25	NLS-8125-3.8	0.70	3.80	17.53	16.76	18.04	0.89	13.46	11.94	13.50
M8X1.25	NLS-8125-7.9	3.80	7.90	20.45	16.76	18.04	0.89	13.46	10.80	13.50
M10X1.5	NLS-1015-3.8	0.70	3.80	17.53	16.76	18.04	0.89	13.46	11.94	13.50
M10X1.5	NLS-1015-7.9	3.80	7.90	20.45	16.76	18.04	0.89	13.46	10.80	13.50
M12X1.75	NLS-12175-5.1	1.60	5.10	29.21	21.33	22.61	1.19	17.40	21.59	17.45
M12X1.75	NLS-12175-8.9	5.10	8.90	33.02	21.33	22.61	1.19	17.40	21.59	17.45
M12X1.75	NLS-12175-12.7	8.90	12.70	36.83	21.33	22.61	1.19	17.40	21.84	17.45

*Actual grip range can be affected by parent material and hole size, contact NAFCO for details.

**Other sizes, threads and grip ranges are available on request.

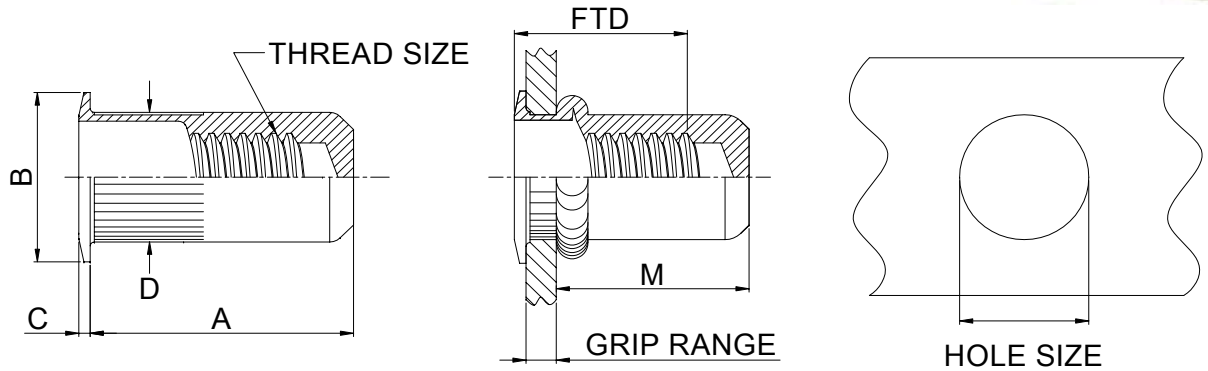


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NL-B

CLOSED END RIB WALL LOW PROFILE HEAD SERIES



UNIFIED THREAD

Unit: Inch

THREAD SIZE	PART NUMBER	GRIP RANGE		A ± .015	B		C ± .003	D Max.	M Ref.	FTD Max.	HOLE SIZE +.004/-.000
		Min.	Max.		Min.	Max.					
# 6 -32 UNC	NLS-632-80B	.020	.080	.740	.380	.400	.030	.265	.640	.610	.266
# 6 -32 UNC	NLS-632-130B	.080	.130	.740	.380	.400	.030	.265	.580	.670	.266
# 8 -32 UNC	NLS-832-80B	.020	.080	.740	.380	.400	.030	.265	.640	.610	.266
# 8 -32 UNC	NLS-832-130B	.080	.130	.740	.380	.400	.030	.265	.580	.670	.266
#10 -24 UNC	NLS-024-130B	.020	.130	.990	.405	.425	.030	.296	.845	.730	.297
#10 -24 UNC	NLS-1024-225B	.130	.225	.990	.405	.425	.030	.296	.735	.840	.297
#10 -32 UNF	NLS-1032-130B	.020	.130	.990	.405	.425	.030	.296	.845	.730	.297
#10 -32 UNF	NLS-1032-225B	.130	.225	.990	.405	.425	.030	.296	.735	.840	.297
1/4 -20 UNC	NLS-420-165B	.027	.165	1.190	.510	.520	.030	.390	1.005	.895	.391
1/4 -20 UNC	NLS-420-260B	.165	.260	1.190	.510	.520	.030	.390	.905	1.035	.391
1/4 -28 UNF	NLS-428-165B	.027	.165	1.190	.510	.520	.030	.390	1.005	.895	.391
1/4 -28 UNF	NLS-428-260B	.165	.260	1.190	.510	.520	.030	.390	.905	1.035	.391
5/16-18 UNC	NLS-518-150B	.027	.150	1.390	.660	.710	.035	.530	1.175	.995	.531
5/16-18 UNC	NLS-518-312B	.150	.312	1.390	.660	.710	.035	.530	1.025	1.120	.531
5/16-24 UNF	NLS-524-150B	.027	.150	1.390	.660	.710	.035	.530	1.175	.995	.531
5/16-24 UNF	NLS-524-312B	.150	.312	1.390	.660	.710	.035	.530	1.025	1.120	.531
3/8 -16 UNC	NLS-616-150B	.027	.150	1.390	.660	.710	.035	.530	1.175	.995	.531
3/8 -16 UNC	NLS-616-312B	.150	.312	1.390	.660	.710	.035	.530	1.025	1.120	.531
3/8 -24 UNF	NLS-624-150B	.027	.150	1.390	.660	.710	.035	.530	1.175	.995	.531
3/8 -24 UNF	NLS-624-312B	.150	.312	1.390	.660	.710	.035	.530	1.025	1.120	.531

METRIC THREAD

Unit: mm

THREAD SIZE	PART NUMBER	GRIP RANGE		A ± 0.38	B		C ± 0.08	D Max.	M Ref.	FTD Max.	HOLE SIZE +0.10/-0.00
		Min.	Max.		Min.	Max.					
M4X0.7	NLS-470-2.0B	0.50	2.00	18.80	9.66	10.16	0.76	6.73	12.26	15.49	6.75
M4X0.7	NLS-470-3.3B	2.00	3.30	18.80	9.66	10.16	0.76	6.73	14.73	17.02	6.75
M5X0.8	NLS-580-3.3B	0.50	3.30	25.15	10.29	10.79	0.76	7.52	21.46	18.54	7.60
M5X0.8	NLS-580-5.7B	3.30	5.70	25.15	10.29	10.79	0.76	7.52	18.67	21.34	7.60
M6X1.0	NLS-610-4.2B	0.70	4.20	30.23	12.45	12.95	0.76	9.91	25.53	22.73	10.00
M6X1.0	NLS-610-6.6B	4.20	6.60	30.23	12.45	12.95	0.76	9.91	22.99	26.29	10.00
M8X1.25	NLS-8125-3.8B	0.70	3.80	35.31	17.15	17.65	0.89	13.46	29.85	25.27	13.50
M8X1.25	NLS-8125-7.9B	3.80	7.90	35.31	17.15	17.65	0.89	13.46	26.04	28.45	13.50
M10X1.5	NLS-1015-3.8B	0.70	3.80	35.31	17.15	17.65	0.89	13.46	29.85	25.27	13.50
M10X1.5	NLS-1015-7.9B	3.80	7.90	35.31	17.15	17.65	0.89	13.46	26.04	28.45	13.50

*Actual grip range can be affected by parent material and hole size, contact NAFCO for details.

**Other sizes, threads and grip ranges are available on request.

***FTD to express full thread



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