



**Sherex Fastening Solutions®**

Fastening Systems Engineered  
for Performance™

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## High Strength Rivet Nuts

Full Hex and Round Body Rivet Nuts for  
Class 10 / Grade 8 Thread Proof Load



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# High Strength Rivet Nuts

Class 10 / Grade 8 Thread Proof Load

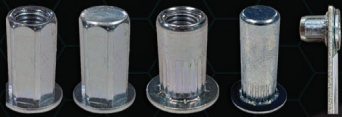
**Class 10.9 and Grade 8 bolts now have a rivet nut to support their high clamp load needs, improving assembly times without performance sacrifices.**

Sherex's new High Strength Rivet Nuts are designed to meet the rigorous demands of high-clamp-load environments. Available as standard catalog products in hex body, round body, open end, and closed end designs, these high strength rivet nuts deliver exceptional performance when paired with Class 10.9 (metric) or Grade 8 (imperial) bolts.

Ideal for industries such as automotive, heavy truck, construction, agricultural equipment, and renewable energy applications, they provide a reliable, high-strength alternative to traditional weld nuts and other high clamp load fasteners — offering high strength thresholds without the complexities of welding, backside access, or secondary processes, and at a lower total installed cost.

## High Strength Rivet Nuts

Class 10 / Grade 8 Thread Proof Load  
Full Hex & Round Body



### Features and Benefits

- Proven to meet Class 10 and Grade 8 thread proof load.
- The strongest standard rivet nuts in the entire Sherex catalog
- Provide a strong thread in steel, aluminum, and materials where Class 10.9 / Grade 8 hardware is used.
- Round Body Closed End available with a seal that doesn't compromise grip.

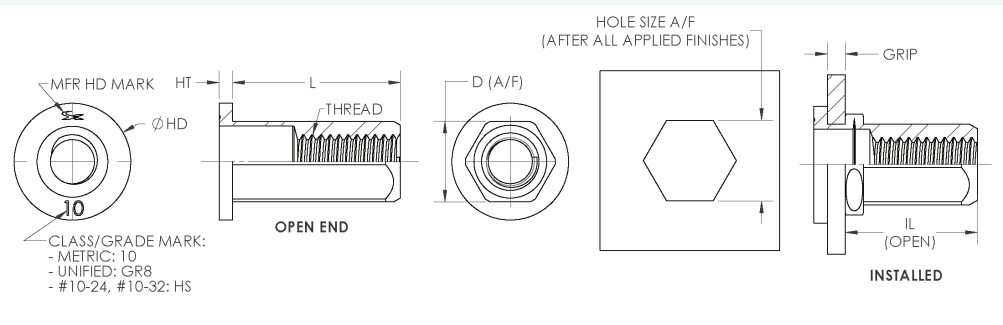
### Styles & Sizes

**Full Hex and Round Body  
Open End and Closed End  
Unified Sizes  
#10-24 to 1/2-20**

**Full Hex and Round Body  
Open End and Closed End  
Metric Sizes  
M5 to M12**

# High Strength Hex Body

## Open End | Steel | Metric

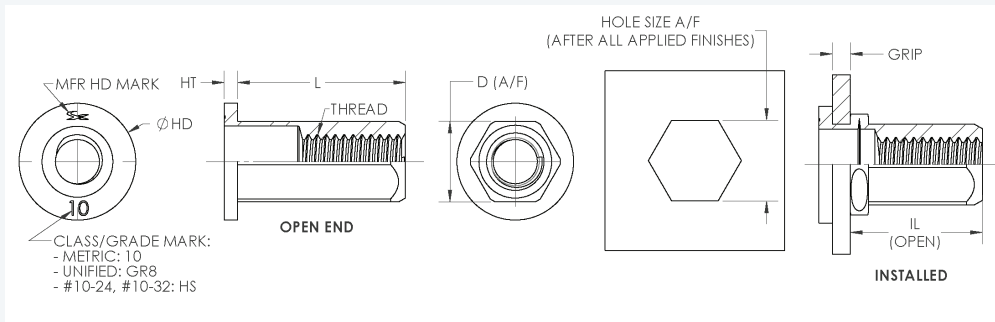


High Strength Hex Body Open End Metric Thread (Unit - Millimeters)

Sherex Part Number Metric	Thread Size	Grip Range		L	HD	HT	D	IL	Hole Size
		Min	Max	± .38	± .38	± .08	Max.	Max.	+ .15/- .00
HHS2-580-3.0	M5x0.8	1.0	3.0	16.2	10.00	1.50	6.98	12.40	7.00
HHS2-580-5.0		3.0	5.0	18.2					
HHS2-580-7.0		5.0	7.0	20.2					
HHS2-610-3.0	M6x1.0	1.0	3.0	18.70	13.00	1.50	8.98	13.90	9.00
HHS2-610-5.0		3.0	5.0	20.70					
HHS2-610-7.0		5.0	7.0	22.70					
HHS2-8125-3.0	M8x1.25	1.0	3.0	22.1	16.00	1.50	10.98	16.10	11.00
HHS2-8125-5.0		3.0	5.0	24.1					
HHS2-8125-7.0		5.0	7.0	26.1					
HHS2-1015-3.0	M10 X 1.5 6H	1.0	3.0	26.10	19.00	2.00	12.98	20.50	13.00
HHS2-1015-5.0		3.0	5.0	28.10					
HHS2-1015-7.0		5.0	7.0	30.10					
HHS2-12175-3.0	M12 X 1.75 6H	1.0	3.0	32.00	24.36	2.16	16.65	25.00	16.66
HHS2-12175-5.0		3.0	5.0	34.00					
HHS2-12175-7.0		5.0	7.0	36.00					

# High Strength Hex Body

## Open End | Steel | Inches

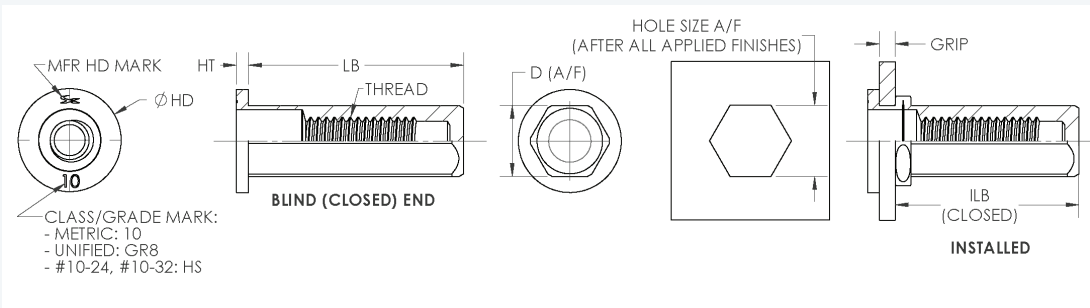


**High Strength Hex Body Open End Unified Thread (Unit - Inches)**

Sherex Part Number Inch	Thread Size	Grip Range		L	HD	HT	D	IL	Hole Size
		Min	Max	± .015	± .015	± .003	Max.	Max.	+ .006/- .000
HHS2-1024-118	#10 - 24 UNC	.040	.118	0.638	0.394	0.059	0.275	0.488	0.276
HHS2-1024-197		.118	.197	0.717					
HHS2-1024-276		.197	.276	0.795					
HHS2-1032-118	#10 - 32 UNF	.040	.118	0.638	0.394	0.059	0.275	0.488	0.276
HHS2-1032-197		.118	.197	0.717					
HHS2-1032-276		.197	.276	0.795					
HHS2-2520-118	1/4" - 20 UNC	.040	.118	0.736	0.512	0.059	0.354	0.547	0.355
HHS2-2520-197		.118	.197	0.815					
HHS2-2520-276		.197	.276	0.894					
HHS2-2528-118	1/4" - 28 UNF	.040	.118	0.736	0.512	0.059	0.354	0.547	0.355
HHS2-2528-197		.118	.197	0.815					
HHS2-2528-276		.197	.276	0.894					
HHS2-3118-118	5/16" - 18 UNC	.040	.118	0.87	0.630	0.059	0.432	0.634	0.433
HHS2-3118-197		.118	.197	0.949					
HHS2-3118-276		.197	.276	1.028					
HHS2-3124-118	5/16" - 24 UNF	.040	.118	0.87	0.630	0.059	0.432	0.634	0.433
HHS2-3124-197		.118	.197	0.949					
HHS2-3124-276		.197	.276	1.028					
HHS2-3716-118	3/8" - 16 UNC	.040	.118	1.028	0.748	0.079	0.511	0.807	0.512
HHS2-3716-197		.118	.197	1.106					
HHS2-3716-276		.197	.276	1.185					
HHS2-3724-118	3/8" - 24 UNF	.040	.118	1.028	0.748	0.079	0.511	0.807	0.512
HHS2-3724-197		.118	.197	1.106					
HHS2-3724-276		.197	.276	1.185					
HHS2-4320-118	7/16" - 20 UNF	.040	.118	1.26	0.959	0.085	0.656	0.984	0.657
HHS2-4320-197		.118	.197	1.339					
HHS2-4320-276		.197	.276	1.417					
HHS2-5013-118	1/2" - 13 UNC	.040	.118	1.26	0.959	0.085	0.656	0.984	0.657
HHS2-5013-197		.118	.197	1.339					
HHS2-5013-276		.197	.276	1.417					
HHS2-5020-118	1/2" - 20 UNF	.040	.118	1.26	0.959	0.085	0.656	0.984	0.657
HHS2-5020-197		.118	.197	1.339					
HHS2-5020-276		.197	.276	1.417					

# High Strength Hex Body

## Closed End | Steel | Metric

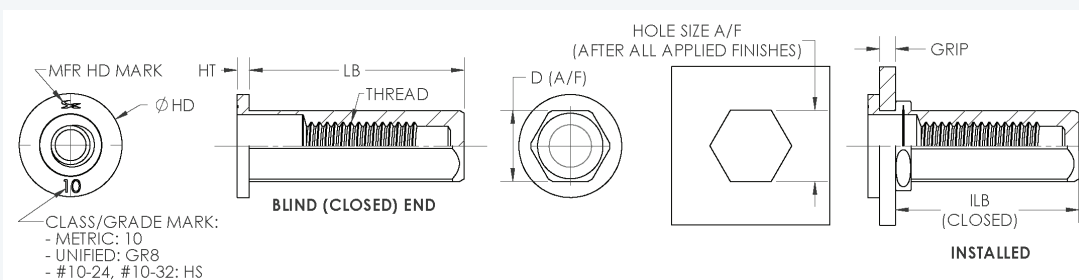


High Strength Hex Body Closed End Metric Thread (Unit - Millimeters)

Sherex Part Number Metric	Thread Size	Grip Range		LB ± .38	HD ±.38/*±.64	HT ±.08/*±.10	D Max.	ILB Max	Hole Size + .15/- .00
		Min	Max						
HHS2-580-3.0B	M5 X 0.8 6H	1.0	3.0	23.90	10	1.50	6.98	20.10	7.00
HHS2-580-5.0B		3.0	5.0	25.90					
HHS2-580-7.0B		5.0	7.0	27.90					
HHS2-610-3.0B	M6 X 1.0 6H	1.0	3.0	27.20	13	1.50	8.98	22.40	9.00
HHS2-610-5.0B		3.0	5.0	29.20					
HHS2-610-7.0B		5.0	7.0	31.20					
HHS2-8125-3.0B	M8 X 1.25 6H	1.0	3.0	31.60	16	1.50	10.98	25.60	11.00
HHS2-8125-5.0B		3.0	5.0	33.60					
HHS2-8125-7.0B		5.0	7.0	35.60					
HHS2-1015-3.0B	M10 X 1.5 6H	1.0	3.0	36.60	19	2.00	12.98	31.00	13.00
HHS2-1015-5.0B		3.0	5.0	38.60					
HHS2-1015-7.0B		5.0	7.0	40.60					
HHS2-12175-3.0B	M12 X 1.75 6H	1.0	3.0	43.50	24.36	2.16	16.65	36.50	16.66
HHS2-12175-5.0B		3.0	5.0	45.50					
HHS2-12175-7.0B		5.0	7.0	47.50					

# High Strength Hex Body

Closed End | Steel | Inches

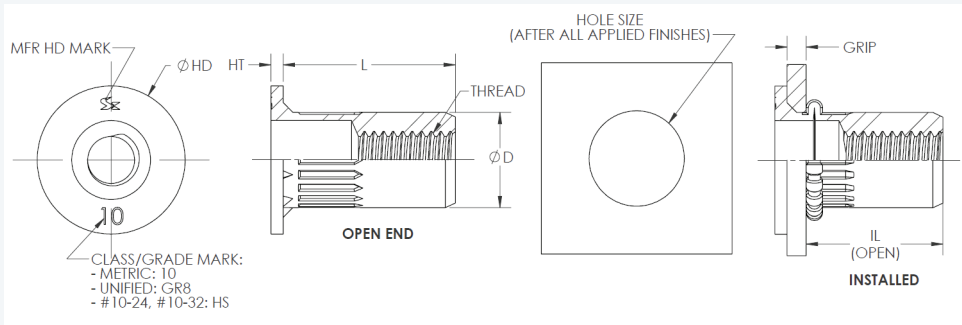


## High Strength Hex Body Closed End Unified Thread (Unit - Inches)

Sherex Part Number Inch	Thread Size	Grip Range		LB	HD	HT	D	ILB	Hole Size
		Min	Max	± .015	± .020 ± .025*	± .004	Max.	Max.	+ .006/- .000
HHS2-1024-118B	#10 - 24 UNC	.040	.118	0.941	0.394	0.059	0.275	0.791	0.276
HHS2-1024-197B		.118	.197	1.020					
HHS2-1024-276B		.197	.276	1.098					
HHS2-1032-118B	#10 - 32 UNF	.040	.118	0.941	0.394	0.059	0.275	0.791	0.276
HHS2-1032-197B		.118	.197	1.020					
HHS2-1032-276B		.197	.276	1.098					
HHS2-2520-118B	1/4"- 20 UNC	.040	.118	1.071	0.512	0.059	0.354	0.882	0.355
HHS2-2520-197B		.118	.197	1.150					
HHS2-2520-276B		.197	.276	1.228					
HHS2-2528-118B	1/4" - 28 UNF	.040	.118	1.071	0.512	0.059	0.354	0.882	0.355
HHS2-2528-197B		.118	.197	1.150					
HHS2-2528-276B		.197	.276	1.228					
HHS2-3118B-118B	5/16" - 18 UNC	.040	.118	1.244	0.630	0.059	0.432	1.008	0.433
HHS2-3118B-197B		.118	.197	1.323					
HHS2-3118B-276B		.197	.276	1.402					
HHS2-3124-118B	5/16" - 24 UNF	.040	.118	1.244	0.630	0.059	0.432	1.008	0.433
HHS2-3124-197B		.118	.197	1.323					
HHS2-3124-276B		.197	.276	1.402					
HHS2-3716-118B	3/8" - 16 UNC	.040	.118	1.441	0.748	0.079	0.511	1.220	0.512
HHS2-3716-197B		.118	.197	1.520					
HHS2-3716-276B		.197	.276	1.598					
HHS2-3724-118B	3/8" - 24 UNF	.040	.118	1.441	0.748	0.079	0.511	1.220	0.512
HHS2-3724-197B		.118	.197	1.520					
HHS2-3724-276B		.197	.276	1.598					
HHS2-4320-118B	7/16" - 20 UNF	.040	.118	1.713	0.959	0.085	0.656	1.437	0.657
HHS2-4320-197B		.118	.197	1.791					
HHS2-4320-276B		.197	.276	1.870					
HHS2-5013-118B	1/2" - 13 UNC	.040	.118	1.713	0.959	0.085	0.656	1.437	0.657
HHS2-5013-197B		.118	.197	1.791					
HHS2-5013-276B		.197	.276	1.870					
HHS2-5020-118B	1/2" - 20 UNF	.040	.118	1.713	0.959	0.085	0.656	1.437	0.657
HHS2-5020-197B		.118	.197	1.791					
HHS2-5020-276B		.197	.276	1.870					

# High Strength Round Body

## Open End | Steel | Metric



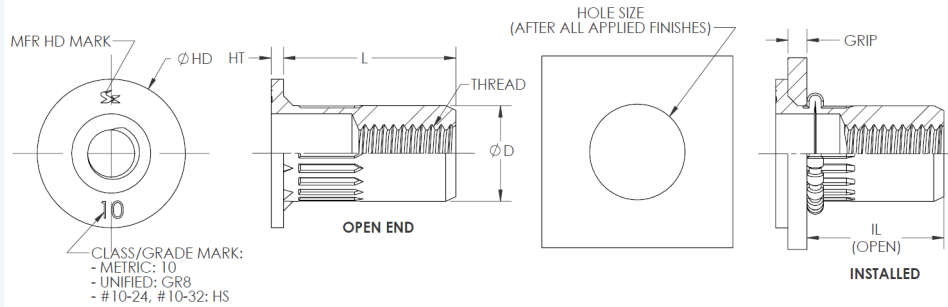
High Strength Round Body Open End Metric Thread (Unit - Millimeters)

Sherex Part Number Metric	Thread Size	Grip Range		L	HD	HT	D	IL	Hole Size
		Min	Max	± .38	± .38	± .08	Max.	Max.	+ .15/- .00
RHS2-580-3.5	M5 X 0.8 6H	1.5	3.5	16.10	11	0.95	7.58	12.1	7.6
RHS2-580-5.5		3.5	5.5	18.10					
RHS2-580-7.5		5.5	7.5	20.10					
RHS2-610-3.5	M6 X 1.0 6H	1.5	3.5	18.05	15.5	1.28	9.98	13	10
RHS2-610-5.5		3.5	5.5	20.05					
RHS2-610-7.5		5.5	7.5	22.05					
RHS2-8125-3.5	M8 X 1.25 6H	1.5	3.5	20.03	21.77	1.58	13.48	15	13.5
RHS2-8125-5.5		3.5	5.5	22.03					
RHS2-8125-7.5		5.5	7.5	24.03					
RHS2-1015-3.5	M10 X 1.5 6H	1.5	3.5	26.53	26.00*	1.88	15.86	19.5	15.87
RHS2-1015-5.5		3.5	5.5	28.53					
RHS2-1015-7.5		5.5	7.5	30.53					
RHS2-12175-3.5	M12 X 1.75 6H	1.5	3.5	31.00	28.10*	2.16	17.4	25.5	17.45
RHS2-12175-5.5		3.5	5.5	33.00					
RHS2-12175-7.5		5.5	7.5	35.00					



# High Strength Round Body

## Open End | Steel | Inches



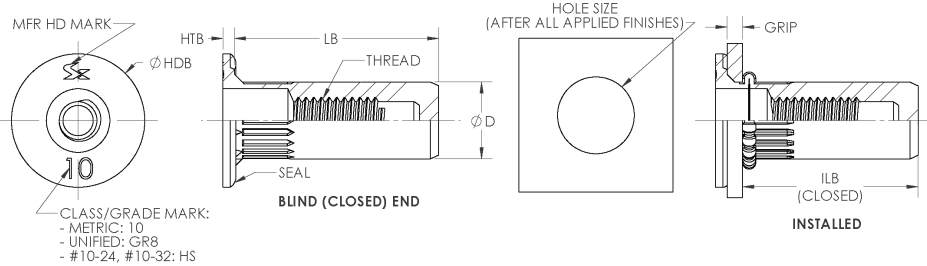
High Strength Round Body Open End Unified Thread (Unit - Inches)

Sherex Part Number Inch	Thread Size	Grip Range		L	HD	HT	D	IL	Hole Size
		Min	Max	± .015	± .015	± .003	Max.	Max.	+ .006/- .000
RHS2-1032-138	#10 - 32 UNF	0.060	0.138	0.634	0.433	0.037	0.298	0.476	0.299
RHS2-1032-217		0.138	0.217	0.713					
RHS2-1032-296		0.217	0.296	0.792					
RHS2-1024-138	#10 - 24 UNC	0.060	0.138	0.634	0.433	0.037	0.298	0.476	0.299
RHS2-1024-217		0.138	0.217	0.713					
RHS2-1024-296		0.217	0.296	0.792					
RHS2-2520-138	1/4" - 20 UNC	0.060	0.138	0.711	0.61	0.05	0.393	0.512	0.394
RHS2-2520-217		0.138	0.217	0.789					
RHS2-2520-296		0.217	0.296	0.868					
RHS2-2528-138	1/4" - 28 UNF	0.060	0.138	0.711	0.61	0.05	0.393	0.512	0.394
RHS2-2528-217		0.138	0.217	0.789					
RHS2-2528-296		0.217	0.296	0.868					
RHS2-3118-138	5/16" - 18 UNC	0.060	0.138	0.789	0.857	0.062	0.531	0.591	0.531
RHS2-3118-217		0.138	0.217	0.867					
RHS2-3118-296		0.217	0.296	0.946					
RHS2-3124-138	5/16" - 24 UNF	0.060	0.138	0.789	0.857	0.062	0.531	0.591	0.531
RHS2-3124-217		0.138	0.217	0.867					
RHS2-3124-296		0.217	0.296	0.946					
RHS2-3716-138	3/8" - 16 UNC	0.06	0.138	1.044	1.024*	0.074	0.624	0.768	0.625
RHS2-3716-217		0.138	0.217	1.123					
RHS2-3716-296		0.217	0.296	1.202					
RHS2-3724-138	3/8" - 24 UNF	0.060	0.138	1.044	1.024*	0.074	0.624	0.768	0.625
RHS2-3724-217		0.138	0.217	1.123					
RHS2-3724-296		0.217	0.296	1.202					
RHS2-4320-138	7/16" - 20 UNF	0.060	0.138	1.22	1.106*	0.085	0.685	1.004	0.687
RHS2-4320-217		0.138	0.217	1.299					
RHS2-4320-296		0.217	0.296	1.378					
RHS2-5013-138	1/2" - 13 UNC	0.060	0.138	1.22	1.106*	0.085	0.685	1.004	0.687
RHS2-5013-217		0.138	0.217	1.299					
RHS2-5013-296		0.217	0.296	1.378					
RHS2-5020-138	1/2" - 20 UNF	0.060	0.138	1.22	1.106*	0.085	0.685	1.004	0.687
RHS2-5020-217		0.138	0.217	1.299					
RHS2-5020-296		0.217	0.296	1.378					



# High Strength Round Body

## Closed End Sealed | Steel | Metric

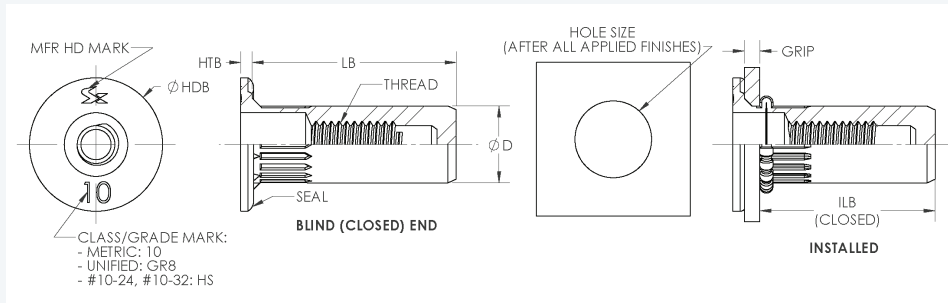


**High Strength Round Body Closed End Sealed Metric Thread (Unit - Millimeters)**

Sherex Part Number Metric	Thread Size	Grip Range		L	HDB	HTB	D	ILB	Hole Size
		Min	Max	± .38	± .50/.64	± .08	Max.	Max.	+ .15/- .00
<b>RHS2-580-3.5BS</b>	M5 X 0.8 6H	1.5	3.5	23.80	13.93	1.50	7.58	19.80	7.60
<b>RHS2-580-5.5BS</b>		3.5	5.5	25.80					
<b>RHS2-580-7.5BS</b>		5.5	7.5	27.80					
<b>RHS2-610-3.5BS</b>	M6 X 1.0 6H	1.5	3.5	26.55	17.33	1.50	9.98	21.50	10.00
<b>RHS2-610-5.5BS</b>		3.5	5.5	28.55					
<b>RHS2-610-7.5BS</b>		5.5	7.5	30.55					
<b>RHS2-8125-3.5BS</b>	M8 X 1.25 6H	1.5	3.5	29.53	21.77*	2.08	13.48	24.50	13.50
<b>RHS2-8125-5.5BS</b>		3.5	5.5	31.53					
<b>RHS2-8125-7.5BS</b>		5.5	7.5	33.53					
<b>RHS2-1015-3.5BS</b>	M10 X 1.5 6H	1.5	3.5	37.03	26.00*	2.08	15.86	30.00	15.87
<b>RHS2-1015-5.5BS</b>		3.5	5.5	39.03					
<b>RHS2-1015-7.5BS</b>		5.5	7.5	41.03					
<b>RHS2-12175-3.5BS</b>	M12 X 1.75 6H	1.5	3.5	42.50	28.10*	2.66	17.4	37.00	17.45
<b>RHS2-12175-5.5BS</b>		3.5	5.5	44.50					
<b>RHS2-12175-7.5BS</b>		5.5	7.5	46.50					

# High Strength Round Body

## Closed End Sealed | Steel | Inches



**High Strength Round Body Closed End Sealed Unified Thread - (Unit - Inches)**

Sherex Part Number Inch	Thread Size	Grip Range		L	HDB	HTB	D	ILB	Hole Size
		Min	Max	± .015	± .015	± .004	Max.	Max.	+ .006/- .000
RHS2-1032-138BS	#10 - 32 UNF	0.060	0.138	0.937	0.548	0.059	0.298	0.780	0.299
RHS2-1032-217BS		0.138	0.217	1.016					
RHS2-1032-296BS		0.217	0.296	1.095					
RHS2-1024-138BS	#10 - 24 UNC	0.060	0.138	0.937	0.548	0.059	0.298	0.780	0.299
RHS2-1024-217BS		0.138	0.217	1.016					
RHS2-1024-296BS		0.217	0.296	1.095					
RHS2-2520-138BS	1/4" - 20 UNC	0.060	0.138	1.045	0.682	0.059	0.393	0.846	0.394
RHS2-2520-217BS		0.138	0.217	1.124					
RHS2-2520-296BS		0.217	0.296	1.203					
RHS2-2528-138BS	1/4" - 28 UNF	0.060	0.138	1.045	0.682	0.059	0.393	0.846	0.394
RHS2-2528-217BS		0.138	0.217	1.124					
RHS2-2528-296BS		0.217	0.296	1.203					
RHS2-3118-138BS	5/16" - 18 UNC	0.060	0.138	1.163	.857*	0.082	0.531	0.965	0.531
RHS2-3118-217BS		0.138	0.217	1.241					
RHS2-3118-296BS		0.217	0.296	1.320					
RHS2-3124-138BS	5/16" - 24 UNF	0.060	0.138	1.163	.857*	0.082	0.531	0.965	0.531
RHS2-3124-217BS		0.138	0.217	1.241					
RHS2-3124-296BS		0.217	0.296	1.320					
RHS2-3716-138BS	3/8" - 16 UNC	0.060	0.138	1.458	1.024*	0.082	0.624	1.181	0.625
RHS2-3716-217BS		0.138	0.217	1.537					
RHS2-3716-296BS		0.217	0.296	1.615					
RHS2-3724-138BS	3/8" - 24 UNF	0.060	0.138	1.458	1.024*	0.082	0.624	1.181	0.625
RHS2-3724-217BS		0.138	0.217	1.537					
RHS2-3724-296BS		0.217	0.296	1.615					
RHS2-4320-138BS	7/16" - 20 UNF	0.060	0.138	1.673	1.106*	0.105	0.685	1.457	0.687
RHS2-4320-217BS		0.138	0.217	1.752					
RHS2-4320-296BS		0.217	0.296	1.831					
RHS2-5013-138BS	1/2" - 13 UNC	0.060	0.138	1.673	1.106*	0.105	0.685	1.457	0.687
RHS2-5013-217BS		0.138	0.217	1.752					
RHS2-5013-296BS		0.217	0.296	1.831					
RHS2-5020-138BS	1/2" - 20 UNF	0.060	0.138	1.673	1.106*	0.105	0.685	1.457	0.687
RHS2-5020-217BS		0.138	0.217	1.752					
RHS2-5020-296BS		0.217	0.296	1.831					

# High Strength Performance and Testing Data

**Sherex performs rigorous testing on all its fastening products so end users can be confident in their performance.**

These results are only averages and variations should be expected in actual use.

## Proof Load

The proof load test for a Class 10 nut requires threading the nut onto a hardened test mandrel, fully supporting the rivet nut head and applying a specified axial proof load for 15 seconds.

During the test, the nut must not strip, rupture, or show any thread deformation. After unloading, the nut must remain manually rotatable on the mandrel, proving it retains its integrity.

This proof load test ensures the rivet nut delivers the necessary strength and reliability in high-stress bolted joints.

## Proof Load

RHS and HHS Thread Size	Proof Load Values (kN/lbf) Class 10 Per ISO 898-2/ Grade 8 per SAE J995
M5	15
M6 / 1/4"-20	20.9 / 5,260
M8 / 5/16"-18	38.1 / 8,650
M10 / 3/8"-16	60.3 / 12,800
M12 / 1/2"-13	88.5 / 23,400

## Spin Out

Rivet nuts were installed with the Sherex FLEX-5P tool and Sherex FLEX-18, calibrated with the use of the Sherex Hand Tool Calibration unit, into supplied material types and thicknesses (steel hardness 57-72 HRB, steel hardness 76-84 HRB, and aluminum hardness 41-56 HRB), as well as using Sherex's recommended installation force settings on the FLEX-5P and FLEX-18.

### HHS Full Hex Body Spin Out - Steel

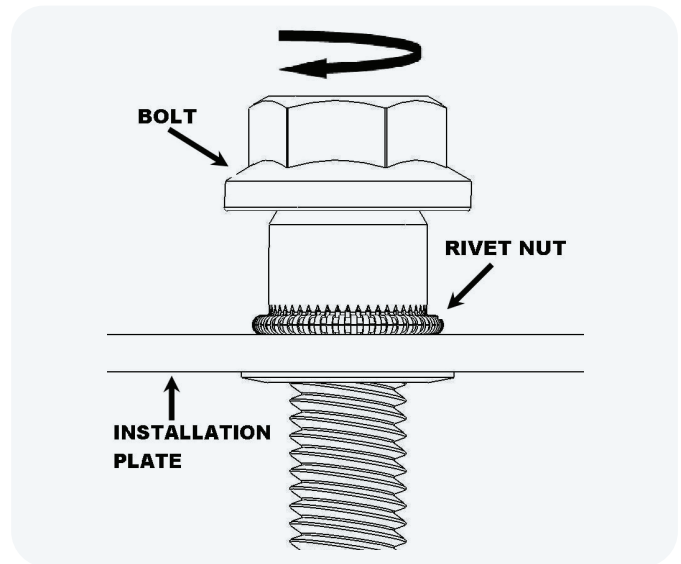
Thread Size	Spin Out - Min Grip*	Spin Out - Max Grip**	Failure Mode
M5 / #10	13.1 Nm	13.6 Nm	Rivet Nut Spun
M6 / 1/4"	17.1 Nm	24.6 Nm	Rivet Nut Spun
M8 / 5/16"	23.1 Nm	50.3 Nm	Test Plate Yield
M10 / 3/8"	70.6 Nm	64.6 Nm	No Spin
M12 / 1/2"	114.0 Nm	128.2 Nm	Rivet Nut Spun

### RHS Round Body Spin Out - Steel

Thread Size	Spin Out - Min Grip*	Spin Out - Max Grip**	Failure Mode
M5 / #10	10.2 Nm	10.0 Nm	Rivet Nut Spun
M6 / 1/4"	18.3 Nm	16.4 Nm	Rivet Nut Spun
M8 / 5/16"	26.1 Nm	24.9 Nm	Rivet Nut Spun
M10 / 3/8"	22.6 Nm	42.4 Nm	Rivet Nut Spun
M12 / 1/2"	42.2 Nm	26.8 Nm	Rivet Nut Spun

\*M5, M6, M8 tested in steel, hardness 57-72 HRB; M10, M12 tested in steel, hardness 76-84 HRB

\*\*All tested in steel, hardness 76-84 HRB



### HHS Full Hex Body Spin Out - Aluminum

Thread Size	Spin Out - Min Grip	Spin Out - Max Grip	Failure Mode
M5 / #10	12.9 Nm	12.5 Nm	Rivet Nut Spun
M6 / 1/4"	18.6 Nm	21.8 Nm	Rivet Nut Spun
M8 / 5/16"	36.3 Nm	52.9 Nm	Test Plate Yield
M10 / 3/8"	70.6 Nm	64.6 Nm	No Spin / Test Bolt Damage
M12 / 1/2"	100+ Nm	100+ Nm	Rivet Nut Spun

^All tested in aluminum, hardness 41-56 HRB

### RHS Round Body Spin Out - Aluminum

Thread Size	Spin Out - Min Grip	Spin Out - Max Grip	Failure Mode
M5 / #10	10.1 Nm	12.7 Nm	Rivet Nut Spun
M6 / 1/4"	18.4 Nm	21.3 Nm	Rivet Nut Spun
M8 / 5/16"	29.4 Nm	32.6 Nm	No Spin / Test Bolt Damage
M10 / 3/8"	55.2 Nm	47.6 Nm	Rivet Nut Spun
M12 / 1/2"	71 Nm	77.4 Nm	Rivet Nut Spun

# High Strength Performance and Testing Data

## Ultimate Thread Strength

Sherex uses an Universal Testing Machine (UTM) to pull fasteners to failure, comparing results like yield strength, tensile strength, and base material failure.

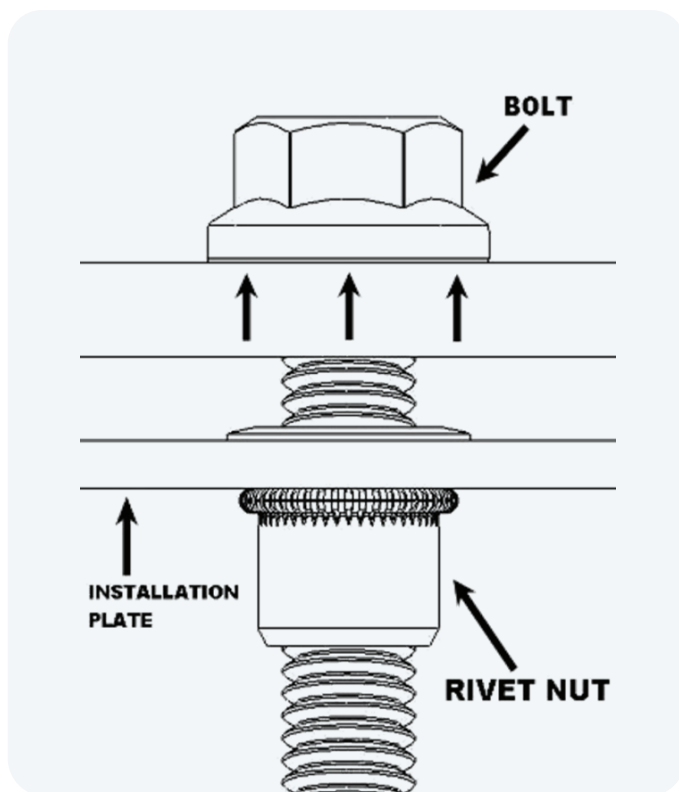
Sherex conducts its ultimate thread strength test to determine how much pulling force (tensile) a threaded connection can handle before the threads strip or the bolt breaks.

### HHS Full Hex and RHS Round Body Ultimate Thread Test

Thread Size	AVG. UT Force (kN)	Failure Mode
M5 / #10	18.3	Test Bolt Yield
M6 / 1/4"	26.3	Test Bolt Yield
M8 / 5/16"	48.5	Test Bolt Yield
M10 / 3/8"	75.8	Test Bolt Yield
M12 / 1/2"	111.6	Test Bolt Yield

## Pull Out

Pull out testing is performed to determine the amount of axial load required to cause failure of the threads, insert feature (head) failure, or base material failure where the insert is pulled through the base material.



### HHS Full Hex Body Min Grip - Pull Out

Part Number	Thickness (mm)	Pull Out (kN)	Failure Mode
M5 / #10	1	6.72	Test Plate Yield
M6 / 1/4"	1	7.91	Test Plate Yield
M8 / 5/16"	1	9.72	Test Plate Yield
M10 / 3/8"	1	28.0	Test Plate Yield
M12 / 1/2"	1	33.7	Test Plate Yield

### HHS Full Hex Body Max Grip - Pull Out

Part Number	Thickness (mm)	Pull Out (kN)	Failure Mode
M5 / #10	3	17.8	Test Plate Yield
M6 / 1/4"	3	25.0	Test Plate Yield
M8 / 5/16"	3	43.3	Test Bolt Yield
M10 / 3/8"	3	44.0	Test Plate Yield
M12 / 1/2"	3	51.0	Test Plate Yield

### RHS Round Body Min Grip - Pull Out

Part Number	Thickness (mm)	Pull Out (kN)	Failure Mode
M5 / #10	1.5	8.15	Test Plate Yield
M6 / 1/4"	1.5	6.51	Test Plate Yield
M8 / 5/16"	1.5	7.61	Test Plate Yield
M10 / 3/8"	2.0	16.6	Test Plate Yield
M12 / 1/2"	2.0	19.8	Test Plate Yield

### RHS Round Body Max Grip - Pull Out

Part Number	Thickness (mm)	Pull Out (kN)	Failure Mode
M5 / #10	3.5	16.7	Test Plate Yield/ Bulge Damage
M6 / 1/4"	3.5	23.5	Test Plate Yield/ Bulge Damage
M8 / 5/16"	3.5	30.4	Test Plate Yield/ Bulge Damage
M10 / 3/8"	3.5	21.6	Test Plate Yield
M12 / 1/2"	3.5	27.7	Test Plate Yield

# High Strength Performance and Testing Data

## Recommended Installation Force

The upset load setting was gradually increased on the installation tool, Sherex's FLEX-5P and Sherex FLEX-18 until the resultant installed length (the length from the underside of the flange to the end of the shank of the rivet nut) met print specifications.

The tool was calibrated using Sherex's Hand Tool Calibration Unit.

## Recommended Installation Tools



**Sherex FLEX-5P**

HHS: M5 / #10-24 - M6 / 1/4"-28  
RHS: M5 / #10-24 - M8 / 3/8"-16



**RIV943**

HHS: M8 / 5/16"-18 - M10 / 3/8"-16  
RHS: M10 / 3/8"-16



**Sherex FLEX-18**

M12 / 7/16"-20 - 1/2"-20



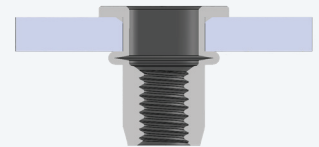
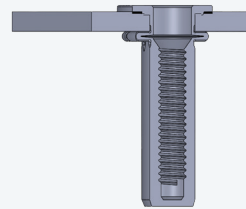
**Hand Tool Calibration Unit**

### HHS Full Hex Body Recommended Installation Force

Thread Size, Material Thickness	Force Setting (kN)	Force Setting (lbf)
M5 / #10 Min Grip - Max Grip	8.5 - 10.5	1,910 - 2,360
M6 / 1/4" Min Grip - Max Grip	10.0 - 13.5	2,250 - 3,035
M8 / 5/16" Min Grip - Max Grip	20.0 - 21.5	4,500 - 4,850
M10 / 3/8" Min Grip - Max Grip	21.0 - 23.0	4,720 - 5,170
M12 / 1/2" Min Grip - Max Grip	32.0 - 35.0	7,190 - 7,870

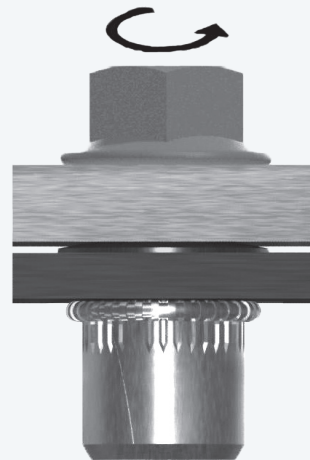
### RHS Round Body Recommended Installation Force

Thread Size, Material Thickness	Force Setting (kN)	Force Setting (lbf)
M5 / #10 Min Grip - Max Grip	7.0 - 10.0	2,025 - 2,700
M6 / 1/4" Min Grip - Max Grip	10.0 - 13.0	2,250 - 2,925
M8 / 5/16" Min Grip - Max Grip	12.5 - 15.0	2,810 - 3,370
M10 / 3/8" Min Grip - Max Grip	21.0 - 23.0	4,050 - 4,500
M12 / 1/2" Min Grip - Max Grip	26.0 - 33.0	5,850 - 7,425



## Suggested Assembly Torque

Thread Size	Suggested Assembly Torque		
	In Lbs. -	*Ft Lbs. -	Nm
# 10-24 UNC			49
# 10-32 UNF			55
1/4"-20 UNC			114
1/4"-28 UNF			131
5/16"-18 UNC			236
5/16"-24 UNF			261
3/8"-16 UNC			*34.9
3/8"-24 UNF			*39.4
7/16"-20 UNF			*62.1
1/2"-13 UNC			*85.0
1/2"-20 UNF			*96.0
M5x0.8 ISO			6.6
M6x1.0 ISO			11.3
M8x1.25 ISO			27.4
M10x1.5 ISO			54.1
M12x1.75 ISO			94.5



### Definition:

Recommended torque for assembling a rivet nut joint with Class 10.9 / Grade 8 hardware.

Recommended values using Zinc Plated Bolt.

Numbers can vary depending on coatings, mating materials, and bolt geometries. Consult Sherex to evaluate your joint.

# Sherex Best Practices

Sherex offers a wide range of products that help companies assembly products more efficiently, from fasteners to the installation tools used to install them, to vibration loosening prevention to help joints stay secure.

## Why Blind Rivet Nuts?

Sherex blind rivet nuts provide load bearing threads in thin sheet materials that are too thin for a tapped thread. They are called "blind" because they can be installed from one side of the work piece. Once the rivet nut is installed, additional components can be attached using threaded fasteners.

## Full Hex Rivet Nuts

Sherex full hex rivet nuts provide increased spin out resistance over round or half hex body styles. These products are compatible with Class 8, Grade 5 hardware, and are available in sizes 1/4"-20 to 1/2"-13 and M6 to M12 in small flange and large flange styles.



## Optisert® Rivet Nuts

Optisert® is Sherex's best performing round rivet nut. Its combination of knurled body design and underhead wedges gives it superior strength, performance, and spin-out resistance over typical round body rivet nuts. Ideal applications for Optisert include use in softer material like aluminum, composite, fiberglass, and plastic.



## Large Size Rivet Nuts

Sherex large size rivet nuts are offered from 1/2-13 through 3/4-10, and M12 to M16 sizes. These rivet nuts were developed for applications where critical joint performance and high tensile loads are required.



## Fastener Installation Systems

Sherex offers a broad line of installation tools, from hand tools ideal for prototyping and small volumes to hydro-pneumatic, process monitoring, and robotic installation systems ideal for large production runs.



SSG Spin-Spin Tool



Flex-5 Spin-Pull Tool



RIV943 Spin-Pull Tool



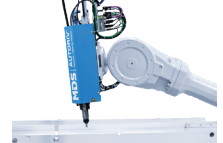
Flex-18 Spin-Pull Tool



Calibration Unit



Process Monitoring



Robotic Installation

## Vibrational Loosening Prevention

TEC Series® washers and Disc-Lock® washers and nuts are heavy duty, reusable, self locking fasteners designed to secure safety-critical applications against vibrational loosening.

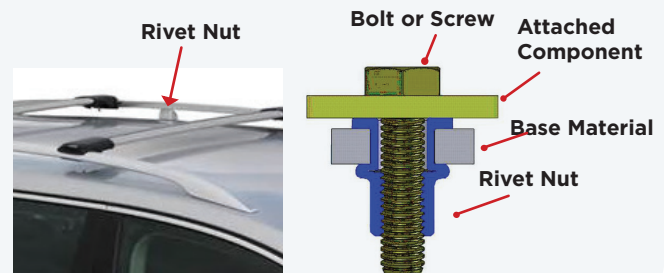
Disc-Lock's M22 Safety Wheel Nut is used by many trucking fleets and the Department of Defense. Available in standard and large outer diameter carbon and stainless steel M3-M72 and unified equivalents.

**DISC-LOCK®**

**TEC SERIES®**



## Roof Rack Attachment



## High Strength Rivet Nuts

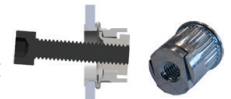
Sherex's high strength rivet nuts are rated for Class 10.9/Grade 8 hardware.

Available in both full hex and round body, with sizes spanning from #10-24 - 1/2"-20 and M5 - M12.



## Riv-Float® Rivet Nuts

RIV-FLOAT® rivet nuts provide easy, accurate, and fast attachment of components in off-center applications. RIV-FLOAT®-SHORT rivet nuts provide the same benefits with a shorter body for increased back-side clearance.



## Notes:





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