



Hex Serrated Flange Lock Nuts offer serrations on the bearing face of the flange that are designed to grip their installation surface to create locking resistance from loosening caused by vibration. Earnest Machine offers Hex Serrated Flange Lock Nuts in both standard and large flange diameter styles. in sizes ranging from #6 to 3/4" and M6 to M16.

**PRODUCT ATTRIBUTES**

Built-in serrations for maximum locking force  
Unibody design distributes clamping load over wider area  
Replaces traditional nut and lock washer applications  
Sizes range from #6 to 3/4", M6 to M16

**MARKETS FOR HEX SERRATED FLANGE LOCK NUTS**

Agriculture Equipment  
Food Processing Equipment  
Robotics & Automation  
Automotive

**THIS PRODUCT IS OFTEN CALLED...**

Spin Lock  
Whiz Lock Nuts  
Serrated Tooth Nuts  
Serrated Hex Washer Nuts

**AVAILABLE VALUE ADDED SERVICES**

Bulk, full & broken case quantities  
Secondary & rework services available  
Custom packaging services  
Custom plating

**ADDITIONAL HEX FLANGE PRODUCT WE SUPPLY**

Hex Flange Lag Screws  
Hex Flange Screws  
Metric & JIS Hex Flange Screws  
Metric Stainless Steel Hex Flange Screws  
Hex Serrated Flange Screws  
Large Flange Hex Serrated Flange Screws  
Stainless Steel Hex Serrated Flange Screws  
Metric Hex Serrated Flange Screws  
Hex Flange Nuts  
Metric & JIS Hex Flange Nuts  
Metric Stainless Steel Hex Flange Nuts  
All Metal Hex Flange Lock Nuts  
Metric All Metal Hex Flange Lock Nuts  
Nylon Insert Hex Flange Lock Nuts  
Metric Nylon Insert Flange Lock Nuts

BACKED BY THE EARNEST  
**Service**  
GUARANTEE

**The right part.  
The right quantity.  
On-time.  
Everytime.**

## GRADE 8 HEX SERRATED FLANGE LOCK NUTS

Hex Serrated Flange Lock Nuts are manufactured in accordance with the latest revision of the following industry standards:

- ASME B18.2.2** Dimensional Requirements (formerly IFI-145) with addition of serrations
- SAE J995** Material and Physical Properties
- ASME B1.1** Thread Requirements
- ASTM F812** Surface Discontinuities
- ASME B18.18** Inspection and Quality Assurance

## THREADS

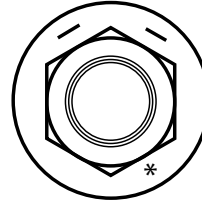
Threads are made to the requirements of ASME B1.1 Unified Threads (UNC) Class 2B  
Thread acceptance per ASME B1.3, System 21

## PLATING

- Plain
- Phos and Oil
- Zinc Clear CR+3
- Zinc Yellow

## MATERIAL AND PHYSICAL PROPERTIES

### Grade 8



### Chemical Composition:

CARBON (C)	MANGANESE (Mn)	PHOSPHORUS (P)	SULFUR (S)
Max	Min	Max	Max
0.55	0.30	0.04	0.05

### Hardness

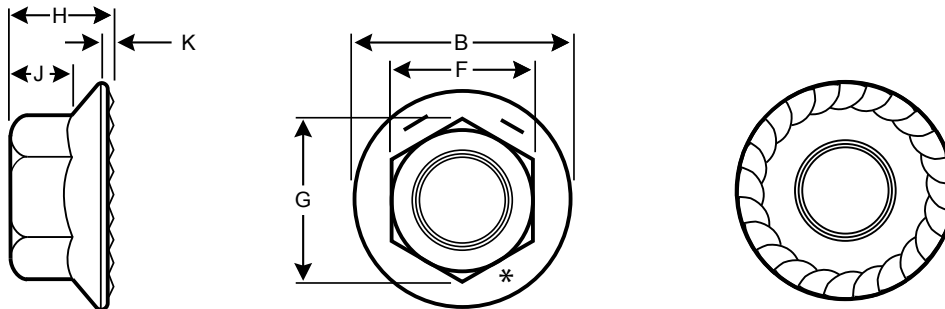
SAE J995 GRADE 8
HRC 25/36

### Tensile Strength

SAE J995 GRADE 8
150,000 psi min

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## DIMENSIONS FOR GRADE 8 HEX SERRATED FLANGE LOCK NUTS



SIZE	WIDTH ACROSS FLATS (F)		WIDTH ACROSS CORNERS (G)		FLANGE DIAMETER (B)		NUT THICKNESS (H)		WRENCH HEIGHT (J)	FLANGE THICKNESS (K)
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MIN	MIN
1/4	0.438	0.428	0.505	0.488	0.594	0.574	0.236	0.222	0.14	0.04
5/16	0.500	0.489	0.577	0.557	0.680	0.660	0.283	0.268	0.17	0.04
3/8	0.562	0.551	0.650	0.628	0.750	0.728	0.347	0.330	0.23	0.04
1/2	0.750	0.736	0.866	0.840	1.031	1.000	0.458	0.437	0.31	0.05
5/8	0.938	0.922	1.083	1.051	1.281	1.248	0.569	0.545	0.40	0.05
3/4	1.125	1.088	1.299	1.240	1.500	1.460	0.675	0.627	0.46	0.06

**CASE HARDENED (GRADE A) & GRADE 5  
HEX SERRATED FLANGE LOCK NUTS**

Hex Serrated Flange Lock Nuts are manufactured in accordance with the latest revision of the following industry standards:

**ASME B18.16.4** Dimensional Requirements  
(formerly IFI-145 ) with  
addition of serrations

**SAE J429** Material and Physical Properties

**ASME B1.1** Thread Requirements

**ASTM F788** Surface Discontinuities

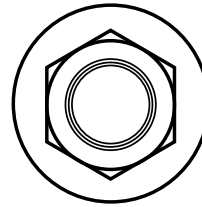
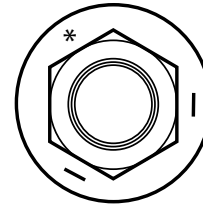
**ASME 18.18** Inspection and Quality Assurance

**THREADS**

Threads are made to the requirements of ASME B1.1  
Unified Threads (UNC and UNF) Class 2B  
Thread acceptance per ASME B1.3, System 21

**PLATING**

CASE HARDENED (GRADE A)	GRADE 5
Zinc Clear CR+3	n/a
n/a	Zinc Clear (RoHS compliant Cr3+)
Zinc Yellow	Zinc Yellow

**MATERIAL AND PHYSICAL PROPERTIES**
**Case Hardened**

**Grade 5**

**Chemical Composition:**

GRADE	CARBON (C)	MANGANESE (Mn)	PHOSPHORUS (P)	SULFUR (S)
	Max	Min	Max	Max
A	0.55	0.30	0.04	.005
5	0.55	0.30	0.04	0.05

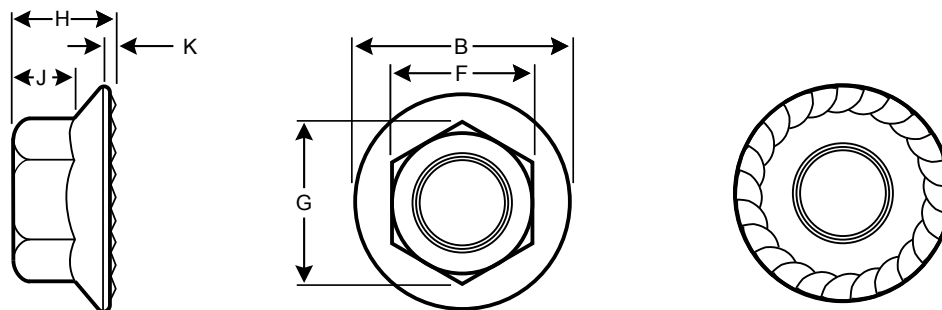
**Hardness**

GRADE	CORE	SURFACE
A	HRC 32 max	R15N 79 min
5	HRX 32 max	n/a

**Proof Load Strength**

CASE HARDENED (GRADE A)	SAE J995 GRADE 5
90,000 psi min	120,000 psi min

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**DIMENSIONS FOR CASE HARDENED (GRADE A) & GRADE 5 HEX SERRATED FLANGE LOCK NUTS**


SIZE	GRADE	WIDTH ACROSS FLATS (F)		WIDTH ACROSS CORNERS (G)		FLANGE DIAMETER (B)		NUT THICKNESS (H)		WRENCH HEIGHT (J)	FLANGE THICKNESS (K)
		MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MIN	MIN
#6	A	0.312	0.302	0.361	0.342	0.422	0.406	0.171	0.156	0.10	0.02
#8	A	0.344	0.334	0.397	0.381	0.469	0.452	0.203	0.187	0.13	0.02
#10	A	0.375	0.365	0.433	0.416	0.500	0.480	0.219	0.203	0.13	0.03
1/4	A & 5	0.438	0.428	0.505	0.488	0.594	0.574	0.236	0.222	0.14	0.04
5/16	A & 5	0.500	0.489	0.577	0.557	0.680	0.660	0.283	0.268	0.17	0.04
3/8	A & 5	0.562	0.551	0.650	0.628	0.750	0.728	0.347	0.330	0.23	0.04
7/16	A & 5	0.688	0.675	0.794	0.768	0.937	0.910	0.395	0.375	0.26	0.04
1/2	A & 5	0.750	0.736	0.866	0.840	1.031	1.000	0.458	0.437	0.31	0.05
5/8	A	0.938	0.922	1.083	1.051	1.281	1.248	0.569	0.545	0.40	0.05

## CASE HARDENED (GRADE A) LARGE FLANGE HEX SERRATED FLANGE LOCK NUTS

Case Hardened (Grade A) Large Flange Hex Serrated Flange Lock Nuts are manufactured in accordance with the latest revision of the following industry standards:

- ASME B18.2.2** Dimensional Requirements (formerly IFI-145) with addition of serrations
- ASTM F2282** Material
- ASTM F2328** Case Hardening
- ASME B1.1** Thread Requirements
- ASTM F812** Surface Discontinuities
- ASME B18.18** Inspection and Quality Assurance

### THREADS

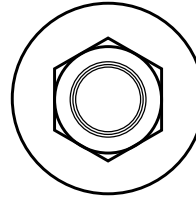
Full Thread  
 Shear Cut End  
 Machine Screw Threads Per ASME B18.6.3

### PLATING

Zinc Clear (RoHS compliant Cr3+)

## MATERIAL AND PHYSICAL PROPERTIES

### Case Hardened Large Flange



### Chemical Composition:

CARBON (C)	MANGANESE (Mn)	PHOSPHORUS (P)	SULFUR (S)
Max	Min	Max	Max
0.55	0.30	0.04	0.05

### Hardness

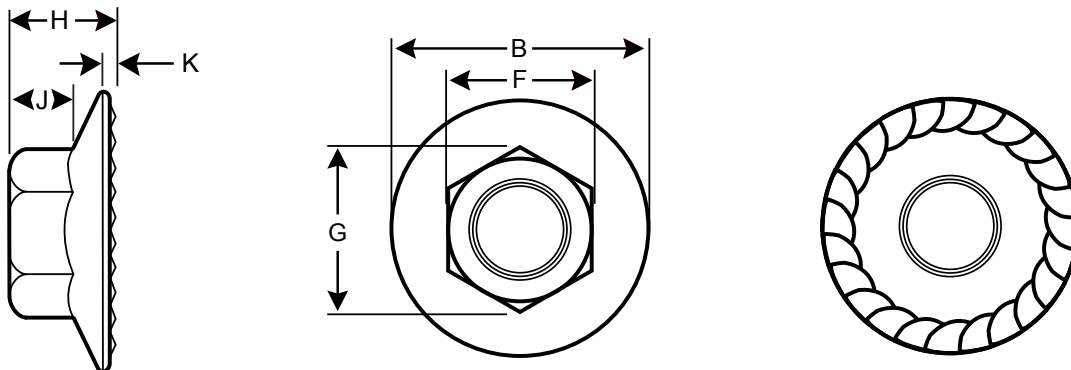
CORE	SURFACE
HRC 32 max	R15N 79 min

### Proof Load Strength

CASE HARDENED (GRADE A)
90,000 psi min

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## DIMENSIONS FOR CASE HARDENED (GRADE A) LARGE FLANGE HEX SERRATED FLANGE LOCK NUTS



SIZE	WIDTH ACROSS FLATS (F)		WIDTH ACROSS CORNERS (G)		FLANGE DIAMETER (B)		NUT THICKNESS (H)		WRENCH HEIGHT (J)	FLANGE THICKNESS (K)
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MIN	MIN
1/4	0.438	0.428	0.505	0.488	0.728	0.700	0.312	0.281	0.15	0.04
5/16	0.500	0.489	0.577	0.557	0.820	0.790	0.375	0.343	0.20	0.04
3/8	0.562	0.551	0.650	0.628	0.915	0.885	0.406	0.390	0.24	0.04
1/2	0.750	0.736	0.866	0.840	1.205	1.175	0.515	0.485	0.29	0.06

**18-8 STAINLESS STEEL  
HEX SERRATED FLANGE LOCK NUTS**

Hex Serrated Flange Lock Nuts are manufactured in accordance with the latest revision of the following industry standards:

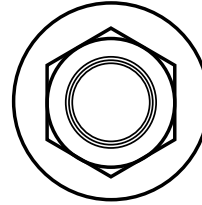
- ASME B18.2.2** Dimensional Requirements (formerly IFI-145) with addition of serrations
- ASTM F594C** Material and Physical Properties
- ASME B1.1** Thread Requirements
- ASTM F812** Surface Discontinuities
- ASME 18.18** Inspection and Quality Assurance

**THREADS**

Threads are made to the requirements of ASME B1.1 Unified Threads (UNC) Class 2A  
Thread acceptance per ASME B1.3, System 21

**PLATING**

Plain (Passivated)

**MATERIAL AND PHYSICAL PROPERTIES**
**Stainless Steel 18-8**

**Chemical Composition:**

CARBON (C)	MANGANESE (Mn)	PHOSPHORUS (P)	SULFUR (S)	SILICON (Si)	CHROMIUM (Cr)	NICKEL (Ni)
Max	Max	Max	Max	Max	Max	Max
0.08	2.00	0.045	0.030	1.0	17.0/20.0	8.0/10.5

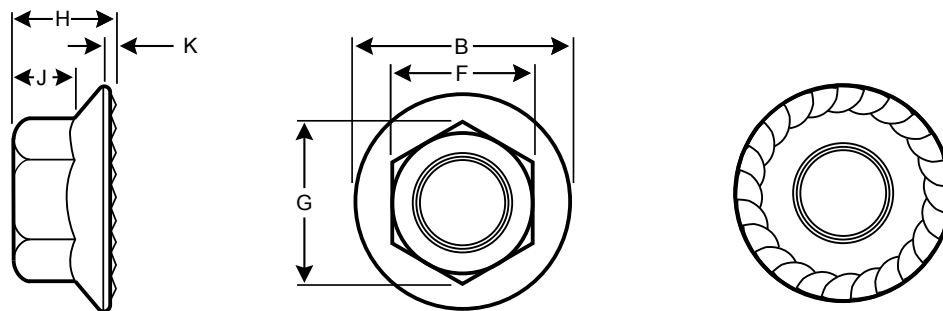
**Hardness**
**18/8 SS**

HRB 95 to HRC 32

**Proof Load Strength**
**18/8 SS**

100,000 psi min

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**DIMENSIONS FOR 18-8 STAINLESS STEEL HEX SERRATED FLANGE LOCK NUTS**


SIZE	WIDTH ACROSS FLATS (F)		WIDTH ACROSS CORNERS (G)		FLANGE DIAMETER (B)		NUT THICKNESS (H)		WRENCH HEIGHT (J)	FLANGE THICKNESS (K)
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MIN	MIN
1/4	0.438	0.428	0.505	0.488	0.594	0.574	0.236	0.222	0.14	0.04
5/16	0.500	0.489	0.577	0.557	0.680	0.660	0.283	0.268	0.17	0.04
3/8	0.562	0.551	0.650	0.628	0.750	0.728	0.347	0.330	0.23	0.04
1/2	0.750	0.736	0.866	0.840	1.031	1.000	0.458	0.437	0.31	0.05

## METRIC CLASS 10 & CLASS 8 HEX SERRATED FLANGE LOCK NUTS

Hex Serrated Flange Lock Nuts are manufactured in accordance with the latest revision of the following industry standards:

- DIN 6923** Dimensional Requirements (with addition of serrations)
- ISO 898-2** Material and Physical Properties
- ISO 261** Thread Requirements
- ISO 6157-2** Surface Discontinuities
- ISO 3269** Inspection and Quality Assurance

### THREADS

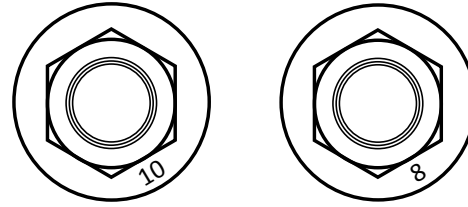
Threads are made to the requirements of ISO 261  
ISO 965-2 Class 6H  
Thread acceptance per ISO 1502

### PLATING

CLASS 10	CLASS 8
Zinc Clear (RoHS compliant Cr3+)	Zinc Clear (RoHS compliant Cr3+)
Phos & Oil	n/a

## MATERIAL AND PHYSICAL PROPERTIES

Property Class 10    Property Class 8



### Chemical Composition:

CLASS	CARBON (C)	MANGANESE (Mn)	PHOSPHORUS (P)	SULFUR (S)
	Max	Min	Max	Max
10	0.58	0.30	0.048	0.058
8	0.58	0.25	0.060	0.15

### Hardness

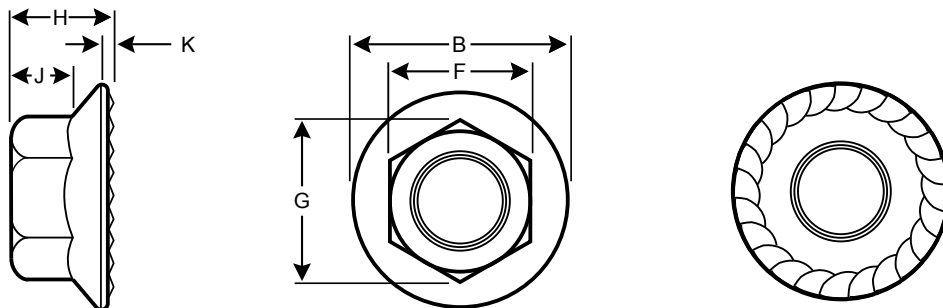
ISO 898-2 CLASS 10	ISO 898-2 CLASS 8
HRC 26/36	HRB 90 to HRC 32

### Proof Load Strength

ISO 898-2 CLASS 10	ISO 898-2 CLASS 8
1040 MPa min	855 MPa min

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## DIMENSIONS FOR METRIC CLASS 10 & METRIC CLASS 8 HEX SERRATED FLANGE LOCK NUTS



SIZE	WIDTH ACROSS FLATS (F)		WIDTH ACROSS CORNERS (G)		FLANGE DIAMETER (B)	NUT THICKNESS (H)		WRENCH HEIGHT (J)	FLANGE THICKNESS (K)
	MAX	MIN	MAX	MIN		MAX	MIN		
M4	7.0	6.85	8.10	7.66	10.0	4.65	4.35	2.2	0.09
M6	10.00	9.78	11.55	11.05	14.20	6.00	5.70	3.10	1.10
M8	13.00	12.73	15.01	14.38	17.90	8.00	7.60	4.50	1.20
M10	15.00	14.73	17.32	16.64	21.80	10.00	9.60	5.50	1.50
M12	18.00	17.73	20.78	20.03	26.00	12.00	11.60	6.70	1.80
M16	24.00	23.87	29.95	26.75	34.5	20.3	19.46	9.0	2.4

## JIS METRIC CLASS 10 HEX SERRATED FLANGE LOCK NUTS

Hex Serrated Flange Lock Nuts are manufactured in accordance with the latest revision of the following industry standards:

- JIS B1190** Dimensional Requirements  
(with addition of serrations)
- ISO 898-2** Material and Physical Properties
- ISO 261** Thread Requirements
- ISO 6157-2** Surface Discontinuities
- ISO 3269** Inspection and Quality Assurance

### THREADS

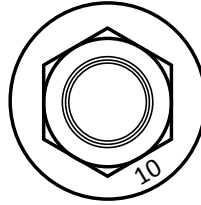
Threads are made to the requirements of ISO 261  
ISO 965-2 Class 6H  
Thread acceptance per ISO 1502

### PLATING

Zinc Clear (RoHS compliant Cr3+)

## MATERIAL AND PHYSICAL PROPERTIES

### JIS Property Class 10



### Chemical Composition:

CARBON (C)	MANGANESE (Mn)	PHOSPHORUS (P)	SULFUR (S)
Max	Min	Max	Max
0.58	0.30	0.048	0.058

### Hardness

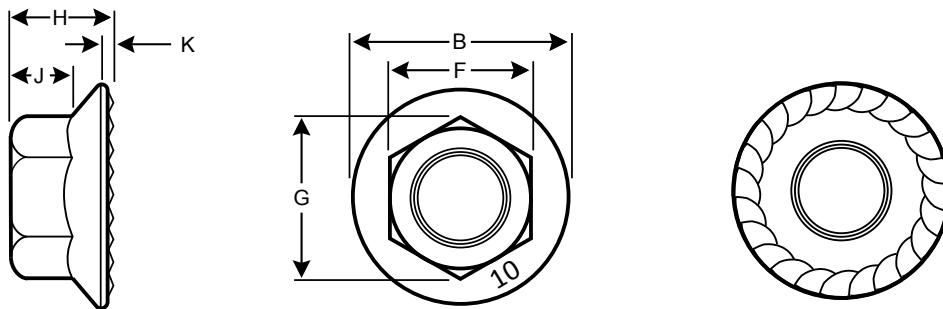
JIS METRIC CLASS 10
HRC 26/36

### Proof Load Strength

JIS METRIC CLASS 10
1040 MPa min

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## DIMENSIONS FOR JIS METRIC CLASS 10 HEX SERRATED FLANGE LOCK NUTS



SIZE	WIDTH ACROSS FLATS (F)		WIDTH ACROSS CORNERS (G)	FLANGE DIAMETER (B)	NUT THICKNESS (H)		WRENCH HEIGHT (J)	FLANGE THICKNESS (K)
	MAX	MIN	MIN	MAX	MAX	MIN	MIN	MIN
M6	10.00	9.80	11.05	14.00	6.00	5.25	3.60	0.80
M8	12.00	11.75	13.25	17.50	8.00	7.10	4.80	1.10
M10	14.00	13.75	15.51	21.00	10.00	9.10	6.00	1.20
M12	17.00	16.75	18.90	25.00	11.50	10.40	7.20	1.40

## Hex Serrated Flange Lock Nuts - Inch Grade 8

SIZE	GRADE	PITCH	FINISH	PART #
1/4-20	GR 8	Coarse	Plain Finish	831001
1/4-20	GR 8	Coarse	Zinc Clear	831008
1/4-20	GR 8	Coarse	Zinc Yellow	831108
5/16-18	GR 8	Coarse	Plain Finish	831002
5/16-18	GR 8	Coarse	Zinc Clear	831010
5/16-18	GR 8	Coarse	Zinc Yellow	831110T
5/16-18	GR 8	Coarse	Zinc Yellow	831110
3/8-16	GR 8	Coarse	Plain Finish	831003
3/8-16	GR 8	Coarse	Phos & Oil	831118
3/8-16	GR 8	Coarse	Zinc Clear	831009
3/8-16	GR 8	Coarse	Zinc Yellow	831119
7/16-20	GR 8	Fine	Phos & Oil	831162
1/2-13	GR 8	Coarse	Plain Finish	831004
1/2-13	GR 8	Coarse	Phos & Oil	831138
1/2-13	GR 8	Coarse	Zinc Clear	831034
1/2-13	GR 8	Coarse	Zinc Yellow	831134
5/8-11	GR 8	Coarse	Plain Finish	831005
5/8-11	GR 8	Coarse	Phos & Oil	831148
5/8-11	GR 8	Coarse	Zinc Clear	831147T
5/8-11	GR 8	Coarse	Zinc Yellow	831135
3/4-10	GR 8	Coarse	Plain Finish	831006
3/4-10	GR 8	Coarse	Phos & Oil	831158
3/4-10	GR 8	Coarse	Zinc Clear	831157T
3/4-10	GR 8	Coarse	Zinc Yellow	831136

## Grade 5

SIZE	GRADE	PITCH	FINISH	PART #
1/4-20	GR 5	Coarse	Zinc Clear	831500
1/4-28	GR 5	Fine	Zinc Clear	831510
5/16-18	GR 5	Coarse	Zinc Clear	831501
5/16-24	GR 5	Fine	Zinc Clear	831511
3/8-16	GR 5	Coarse	Zinc Clear	831502
3/8-16	GR 5	Coarse	Zinc Clear	831506
3/8-24	GR 5	Fine	Zinc Clear	831512
1/2-13	GR 5	Coarse	Zinc Clear	831503

## 18/8 Stainless Steel

SIZE	GRADE	PITCH	FINISH	PART #
1/4-20	18/8	Coarse	Passivated	831120
5/16-18	18/8	Coarse	Passivated	831121
3/8-16	18/8	Coarse	Passivated	831122
1/2-13	18/8	Coarse	Passivated	831123

## Case Hardened (Grade A)

SIZE	GRADE	PITCH	FINISH	PART #
#6-32	GR A	Coarse	Zinc Clear	831176T
#8-32	GR A	Coarse	Zinc Clear	831168T
#10-24	GR A	Coarse	Zinc Clear	831170T
#10-32	GR A	Fine	Zinc Clear	831172T
1/4-20	GR A	Coarse	Zinc Clear	831102T
1/4-20	GR A	Coarse	Zinc Yellow	831101
1/4-28	GR A	Fine	Zinc Clear	831208T
5/16-18	GR A	Coarse	Zinc Clear	831105T
5/16-18	GR A	Coarse	Zinc Yellow	831104
5/16-24	GR A	Coarse	Zinc Clear	831210T
5/16-24	GR A	Fine	Zinc Yellow	831211
3/8-16	GR A	Coarse	Plain	831220
3/8-16	GR A	Coarse	Zinc Clear	831112T
3/8-16	GR A	Coarse	Zinc Yellow	831111
3/8-24	GR A	Fine	Zinc Clear	831212T
7/16-14	GR A	Coarse	Plain	831221
7/16-14	GR A	Coarse	Zinc Clear	831115T
7/16-14	GR A	Coarse	Zinc Yellow	831114
7/16-20	GR A	Fine	Zinc Clear	831214T
1/2-13	GR A	Coarse	Zinc Clear	831132T
1/2-13	GR A	Coarse	Zinc Yellow	831131
1/2-20	GR A	Fine	Zinc Clear	831140T
1/2-20	GR A	Fine	Zinc Yellow	831141
5/8-11	GR A	Coarse	Zinc Clear	831142T
5/8-18	GR A	Fine	Zinc Clear	831143T
3/4-10	GR A	Coarse	Zinc Yellow	831144
3/4-10	GR A	Coarse	Zinc Clear	831145T

## Case Hardened (Grade A) Large Flange

SIZE	GRADE	PITCH	FINISH	PART #
1/4-20	GR A	Coarse	Zinc Clear	831200
5/16-18	GR A	Coarse	Zinc Clear	831201
3/8-16	GR A	Coarse	Phos & Oil	831190
3/8-16	GR A	Coarse	Zinc Clear	831202
1/2-13	GR A	Coarse	Zinc Clear	831203



## Hex Serrated Flange Lock Nuts - Metric Metric Class 10

SIZE	GRADE	PITCH	FINISH	PART #
M6-1.0	ISO 10	Coarse	Phos & Oil	831206
M6-1.0	ISO 10	Coarse	Zinc Clear	831205T
M8-1.25	ISO 10	Coarse	Phos & Oil	831198
M8-1.25	ISO 10	Coarse	Zinc Clear	831204
M10-1.5	ISO 10	Coarse	Phos & Oil	831230
M10-1.5	ISO 10	Coarse	Zinc Clear	831218T
M12-1.75	ISO 10	Coarse	Phos & Oil	831216
M12-1.75	ISO 10	Coarse	Zinc Clear	831215T
M16-2.0	ISO 10	Coarse	Phos & Oil	831213
M16-2.0	ISO 10	Coarse	Zinc Clear	831207T

## Metric Class 8

SIZE	GRADE	PITCH	FINISH	PART #
M4-0.70	ISO 8	Coarse	Zinc Clear	484006T
M6-1.0	ISO 8	Coarse	Zinc Clear	484016T
M8-1.25	ISO 8	Coarse	Zinc Clear	484020T
M10-1.5	ISO 8	Coarse	Zinc Clear	484041T
M12-1.75	ISO 8	Coarse	Zinc Clear	484061T

## JIS Metric Class 10

SIZE	GRADE	PITCH	FINISH	PART #
M6-1.0	ISO 10	Coarse	Zinc Clear	484470T
M6-1.0	ISO 10	Coarse	Zinc Yellow	484474
M8-1.25	ISO 10	Coarse	Zinc Clear	484471T
M10-1.25	ISO 10	Fine	Zinc Clear	484472T
M12-1.25	ISO 10	Fine	Zinc Clear	484473T