



Rattan **Iron** Works

HARDWARE **MATLAB** RIW

[www.rattanironworks.com](http://www.rattanironworks.com)



+91-9911251063



[www.rattanironworks.com](http://www.rattanironworks.com)



[info@rattanironworks.com](mailto:info@rattanironworks.com)

# INDEX PAGE

<b>Product Name</b>	<b>Page No.</b>
Bolts -----	3-10
Nuts -----	11-16
Screws -----	17-24
Washers -----	25-26
Pipe Clamps -----	27-28
Anchor Fastners -----	28-32
Foundation Bolts -----	33-34
Threaded Rod -----	35
Wires -----	36

# BOLTS

## 1. Hex Bolts



A Hex bolts, is also known as Hexagon screw head bolts, Hex cap bolts, Hex Bolts can be used for many different applications that include **fastening wood, steel** and other construction materials for projects such as **bridges, highway structures, docks** and **buildings**.

METRIC RANGE		INCHES RANGE	
Thread	Length	Thread	Length
5mm	10mm to 75mm	3/16 "	3/8 " to 3"
6mm	10mm to 150mm	1/4 "	3/8 " to 6"

8mm	12mm to 150mm	5/16 "	1/2 " to 6"
10mm	16mm to 250mm	3/8 "	1/2 " to 10"
12mm	16mm to 300mm	1/2 "	1 " to 12"
14mm	25mm to 300mm	5/8 "	1 " to 12"
16mm	25mm to 300mm	3/4 "	1 1/2 " to 6"
20mm	35mm to 300mm	1 "	2 " to 12"
24mm	50mm to 300mm	1 1/4"	2 " to 12"
27mm	50mm to 300mm	1 1/2"	3 " to 12"
30mm	50mm to 300mm	2 "	4" to 12"
36mm	80mm to 300mm		
48mm	100mm to 300mm		

## 2. Flange Bolts

Flange bolts have a circular flange under the head that acts like a washer to distribute the load. Flange bolts that are non-serrated are sometimes called **frame bolts**. The flange bolts are usually used in vehicle frames, especially in trucks and anywhere a head bolt is required.



Thread	Length
5mm	8mm to 30mm
6mm	8mm to 70mm
8mm	12mm to 60mm
10mm	20mm to 50mm

## 3. Allen Bolts



A Allen Bolt, is also known as **socket head cap screws** are used for applications with limited space. They have cylindrical head and internal wrenching features that allow them to be used in locations where externally wrenches fasteners aren't desirable. They are used for critical **vehicle applications, machine tools, tools** and **dies, earth moving** and **mining machinery**, and a wide range of **engineering applications**.

### 3.1 Socket Head Cap Screws (Grade 12.9)

## (a) METRIC RANGE

Thread	Length
2mm (Key M1.5)	4mm to 25mm
2.5mm (Key M2)	4mm to 25mm
3mm (Key M2.5)	4mm to 50mm
4mm (Key M3)	5mm to 75mm
5mm (Key M4)	6mm to 100mm
6mm (Key M5)	6mm to 150mm
8mm (Key M6)	8mm to 200mm
10mm (Key M8)	10mm to 250mm
12mm (Key M10)	12mm to 300mm
14mm (Key M12)	25mm to 300mm
16mm (Key M14)	25mm to 300mm
18mm (Key M14)	30mm to 300mm
20mm (Key M17)	30mm to 300mm
22mm (Key M17)	50mm to 300mm
24mm (Key M19)	35mm to 300mm
27mm (Key M19)	50mm to 300mm
30mm (Key M22)	50mm to 300mm
36mm (Key M27)	70mm to 300mm
40mm (Key M32)	100mm to 200mm

## (b) INCHES RANGE

Thread	Length
1/8" (Key 3/32")	3/8" to 2"
3/16" (Key 5/32")	3/8" to 3"
1/4" (Key 3/16")	1/4" to 4"
5/16" (Key 7/32")	1/2" to 6"
3/8" (Key 5/16")	1/2" to 8"
7/16" (Key 5/16")	1" to 4"
1/2" (Key 3/8")	3/4" to 12"
5/8" (Key 1/2")	1" to 12"
3/4" (Key 9/16")	1 1/2" to 10"
7/8" (Key 9/16")	1 1/2" to 8"
1" (Key 5/8")	3" to 10"

## 3.2 SOCKET COUNTERSUNK SCREWS

(Grade 10.9/12.9)

## (a) METRIC RANGE



Thread	Length
3mm (Key M2)	6mm to 50mm
4mm (Key M2.5)	6mm to 60mm
5mm (Key M3)	6mm to 50mm
6mm (Key M4)	8mm to 150mm
8mm (Key M5)	10mm to 100mm
10mm (Key M6)	12mm to 100mm
12mm (Key M8)	20mm to 100mm
16mm (Key M12)	25mm to 100mm
20mm	40mm to 100mm
24mm	50mm to 100mm

### (b) INCHES RANGE

Thread	Length
1/4" (Key 5/32")	3/8 to 3"
5/16" (Key 3/16")	1/2" to 2"
3/8" (Key 7/32")	3/4" to 2"
1/2" (Key 5/16")	3/4" to 3"
5/8" (Key 3/8")	1" to 3"
3/4"	1 1/2" to 2"

### 3.3 SOCKET BUTTON HEAD CAP SCREWS

(Grade 10.9/12.5)

Threads	Length
3mm (Key M2)	4mm to 30mm
4mm (Key M2.5)	4mm to 40mm
5mm (Key M3)	6mm to 50mm
6mm (Key M4)	8mm to 80mm
8mm (Key M5)	10mm to 100mm
10mm (Key M6)	16mm to 100mm
12mm (Key M8)	20mm to 100mm
16mm	25mm to 70mm

# NUTS

## 1. Hex Nut



Hex nuts are the most common nuts, hex finish nuts are hex shaped with internal threads and driven with a wrench. Hex finish nuts are used for fastening to a **hex cap screw, socket cap screw** or **bolt**.

(a) METRIC RANGE	(b) INCHES RANGE
M2	1/8"
M2.5	3/16"
M3	1/4"
M4	5/16"
M5	3/8"
M6	7/16"
M8	1/2"

M10	5/8"
M12	3/4"
M14	7/8"
M16	1"
M18	1 ¼"
M20	1 ½"
M22	2"
M24	
M27	
M30	
M36	
M42	
M48	

## 2. FLANGE NUT



M3
M4
M5
M6
M8
M10
M12
M16
M20

### 3. NYLOCK NUT



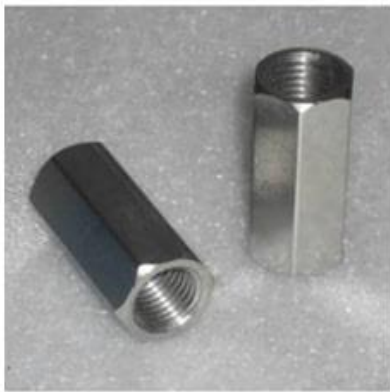
(a) DIN 982	(b) DIN 985
M3	M3
M4	M4
M5	M5
M6	M6
M8	M8
M10x1.25	M10
M10x1.50	M12
M12x1.50	
M12x1.75	
M14x1.50	
M14x2	
M16x1.5	
M16x2	
M18	
M20	
M24	

## 4. DOME NUT



M3
M4
M5
M6
M8
M10

## 5. LONG NUT



M6x25
M8x30
M10x50
M12x50
M16x50
M20x50
M24x50

## 6. SPRING NUT



M8
M10
M12

## 7. WING NUT



M4
M5
M6
M8
M10
M12
1/4"
3/8"

## 8. WELD SQUARE NUT / WELD HEX NUT



M4
M5
M6
M8

## 9. ALLEN INSERT NUT

M6x12
M6x15
M8x12
M8x15



# SCREWS

## 1. MACHINE SCREWS

### 1.1 CHEESE (CH) HEAD & ROUND (RH) HEAD



#### 1.1.1 METRIC RANGE

Thread	Length
M-2	5mm to 15mm
M-3	5mm to 100mm
M-4	6mm to 150mm
M-5	6mm to 150mm
M-6	8mm to 150mm

#### 1.1.2 INCHES RANGE

Thread	Length
1/8	1/4" to 3"
5/32	1/4" to 4"
3/16	1/4" to 6"
1/4	3/8" to 6"

## 1.2 COMBINATION (Combi) HEAD & PAN (PH) HEAD



### 1.2.1 METRIC RANGE

Thread	Length
M-2	2mm to 20mm
M-3	3mm to 50mm
M-4	4mm to 100mm
M-5	6mm to 100mm
M-6	6mm to 100mm
M-8	12mm to 75mm

### 1.2.2 INCHES RANGE

Thread	Length
1/8"	3/16 to 1"
5/32"	3/16 to 1.5"
3/16"	3/16 to 2"
1/4"	3/8 to 1.5"

## 1.3 COMBINATION WITH WASHER (W/W) HEAD



### 1.3.1 METRIC RANGE

Thread	Length
M-2	4mm to 12mm
M-2.5	4mm to 12mm
M-3	3mm to 30mm
M-4	5mm to 50mm
M-5	6mm to 50mm
M-6	8mm to 50mm

### 1.3.2 INCHES RANGE

Thread	Length
1/8"	1/4 to 1"
5/32"	1/4 to 2"
3/16"	1/4 to 2"

## 1.4 PAN PHILLIPS (PPH) HEAD TRUSS (TH) HEAD



### 1.4.1 METRIC RANGE

Thread	Length
M-3	4mm to 10mm
M-4	6mm to 30mm
M-5	6mm to 60mm
M-6	8mm to 50mm
M-8	20mm to 25mm

## 1.5 COUNTER SHANK (CSK) HEAD



### 1.5.1 METRIC RANGE

Thread	Length
M-3	6mm to 100mm
M-4	6mm to 150mm
M-5	8mm to 150mm
M-6	10mm to 150mm
M-8	12mm to 150mm

### 1.5.1 INCHES RANGE

Thread	Length
1/8"	1/4 to 3"
5/32"	1/4 to 3"
3/16"	1/4 to 6"
1/4"	3/8 to 6"
5/16"	3/4 to 6"

## 1.6 COUNTER SHANK PHILLIPS (CSK Phillips) HEAD



### 1.6.1 METRIC RANGE

Thread	Length
M-3	3mm to 50mm
M-4	6mm to 75mm
M-5	8mm to 100mm
M-6	10mm to 100mm
M-8	12mm to 75mm

### 1.6.2 INCHES RANGE

Thread	Length
1/8"	1/4" to 1/2"
5/32"	3/8" to 1/2"
3/16"	1/4" to 3.5"
1/4"	3/4" to 1.25"

## 2. STEEL SCREWS

From No.2 to No.14 in PAN (PH) HEAD, COUNTER SHANK (CSK) HEAD, COMBINATION (Combi) HEAD, COMBINATION WITH WASHER (W/W) HEAD, PAN PHILLIPS (PPH) HEAD, COUNTER SHANK PHILLIPS (CSK Phillips) HEAD.



Size No.	Length
No.2	6.5mm to 19mm
No.3	6.5mm to 13mm
No.4	6.5mm to 25mm
No.6	6.5mm to 75mm
No.8	9.5mm to 100mm
No.10	13mm to 100mm
No.12	16mm to 100mm
No.14	19mm to 100mm

### 3. WOOD SCREWS

From No.4 to No.12 in Half Thread in COUNTER SHANK (CSK) Head.



Size No.	Length
No.4	M12, M15
No.5	M20, M30
No.6	M25
No.8	M35, M50, M60
No.10	M50, M60, M75, M100
No.12	M100, M125, M150



# WASHERS



<b>1. FLAT WASHER</b>
M2
M2.5
M3
M4
M5
M6
M8
M10
M12
M14
M16
M18
M20
M22
M24
M27
M30
M36
M42
M48

<b>2. SPRING WASHER (Flat/Square)</b>
M3
M4
M5
M6
M8
M10
M12
M14
M16
M18
M20
M22
M24
M27
M30
M36
M42
M48

# 3. STAR WASHER EXTERNAL / INTERNAL / OVERLAPPING



M3
M4
M5
M6
M8
M10
M12
M14
M16
M18
M20
M22
M24
M27
M30

# PIPE CLAMPS

## 1. U-CLAMPS

U-Clamps are available with 2 Hex Nut & 2 Main Washers.



Thread	For Nominal Bore (NB) of Pipe
M6 (1/4")	15mm to 100mm
M8(5/16")	15mm to 150mm
M10 (3/8")	15mm to 350mm
M12 (1/2")	40mm to 350mm
M16 (5/8")	65mm to 400mm
M20 (3/4")	100mm to 500mm
M24 (1")	150mm to 900mm

## 2. RUBBER PIPE CLAMP



For Pipe Size	Strip Size	Thread Rod Size
1/2"	1.5x19mm	M8 / M10
3/4"	1.5x19mm	M8 / M10
1"	1.5x19mm	M8 / M10
1 1/4"	1.5x19mm	M8 / M10
1 1/2"	1.5x19mm	M8 / M10
2"	2.0x20mm	M8 / M10
2 1/2"	2.0x20mm	M8 / M10
3"	2.0x20mm	M8 / M10
4"	2.0x20mm	M8 / M10
5"	2.0x20mm	M8 / M10
6"	2.0x20mm	M8 / M10
8"	2.0x25mm	M8 / M10

# ANCHOR FASTNERS

## 1. BOLT TYPE FASTNERS



Bolt Thread	Length
M6	50mm
M8	60mm
M10	70mm
M12	90mm
M16	120mm
M20	150mm

## 2. HOOK TYPE FASTNERS



M6
M8
M10
M12

## 3. PIN TYPE FASTNERS



Shield DIA	Length
M6	50, 60, 75, 100
M8	50, 75, 100
M10	75, 100, 120, 150, 200
M12	75, 100, 120, 150, 200
M16	100, 125, 150, 200, 250, 300
M 0	150, 200, 250, 300

## 4. WEDGE ANCHOR



Thread	Length
M8	70, 100mm
M10	75, 100, 120, 150 mm
M12	75, 100, 120, 150, 200 mm
M16	120, 150, 200 mm
M20	150, 200 mm

## 5. FRAME FIXING



Size
M6x60
M8x80
M10x100
M10x120
M10x140

## 6. BULLET FASTNER



M6
M8
M10
M12
M16



# FOUNDATION BOLTS

Foundation Bolts are available in 5 types of shapes i.e.

- ✓ GULLI TYPE
- ✓ L-TYPE
- ✓ UMBRELLA-TYPE
- ✓ J -TYPE
- ✓ Welded Plate-TYPE

Thread	Length
M12 (1/2")	250mm to 600mm
M16 (5/8")	300mm to 900mm
M20 (3/4")	300mm to 900mm
M24 (1")	300mm to 1200mm
M30 (1 ¼")	600mm to 1500mm
M36 (1 ½")	600mm to 1800mm
M48 (2")	600mm to 1800mm



**GULLI TYPE**



**L-TYPE**



**Umbrella-TYPE**



**J-TYPE**

# TIE ROD

## 1. THREADED ROD



Thread	Length
M6	2 MTR.
M8	2 MTR.
M10	2 MTR.
M12	2 MTR.
M16	2 MTR.
M20	2 MTR.
M24	2 MTR.

# WIRE

## 1. BARBED WIRE

Size
12x12
13x13

## 2. BINDING WIRE

Size
18 Gauge
20 Gauge