



Stainless
Bolt Industries



(SS304/316Gr)



(SS202Gr)



Trust us
to
fasten better



**Stainless
Bolt Industries**



Company Profile

Incepted in the year 1982, Stainless Bolt Industries is a time-honored organization engaged in exporting and supplying varied industrial fasteners such as hex bolt, hex nut, plain washers, spring washers and machine screws. In addition to these, we are also offering socket head cap screws, socket head grub screws, philips head machine screws, self-tapping screws, threaded studs. Our range of fasteners meets the varied application requirements of industries, where environmental and corrosion resistance is of paramount importance like electrical towers, furnaces, pharmaceutical industry and food & beverage industry, electronic equipments, structural plant, chemical industries and marine.

We seek to supply anyone who requires stainless steel fasteners. Our stock range covers from the smallest to the largest for all types, in Metric and BSW threads and special products made to order.

The fasteners offered by us are in compliance with BS, IS & DIN standards and thus, are known for corrosion resistance and durability. Our strong emphasis lies on quality and our entire range of fasteners is subject to stringent quality checks to ensure that the best and flawless product is delivered to the market offering maximum satisfaction to the end users. Further more, our wide distribution network enables us in meeting the demands of our clients in the global market.

The able guidance of our promoter Mr. B.N Gupta has helped us in being a proud leader in our business since our inception. His wide experience and ethical business practices helps in upholding the reliance of our esteemed clients and maintaining long-term relation with our customers. This has assisted us in acquiring a wide clientele.

Application Areas

We offer a wide range of industrial fasteners that is in compliance with IS, BS and DIN standards. Our product range of find application in various areas such as:

- » Electrical towers
- » Electrical equipments
- » Structural plants
- » Marine, Swimming pool
- » Furnaces
- » Pharmaceutical industries
- » Food & beverage industry, Home appliances
- » Chemical machinery
- » Building interiors
- » Roofing
- » Installation of refineries



Vision

To become the most reliable distributor of stainless steel & high tensile fasteners across the globe.

Mission

To work harder & expand our self geographically.

Motto

We help you fasten better.

Team of Experts

We have an energetic and talented team of professionals who play crucial role in our success and have been our biggest support in all times. Our work force comprises experienced technical experts, quality analyst, purchase executives, R&D personnel, sales and marketing and skilled labors. Our team of professionals works synchronization with our manufacturers and clients, thereby ensuring all procedures are executed systematically and without any discrepancies. Their dedication and painstaking efforts have helped us serve our domestic as well as our international clients successfully.

Quality Assurance

We have always followed a systematic quality management procedure to maintain the quality standards of our range of industrial fasteners. We adhere to the international quality standards in procuring our entire range of fasteners. Our team of quality controllers enables us to offer technologically advance fasteners, undertaking stringent quality check in procuring and delivering process. Additionally our range of fasteners adheres to different standards such as IS, BS & DIN.

Customer Satisfaction

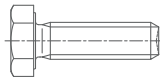
We always work bearing in mind the client satisfaction and with the goal of establishing long-term customer relationship. So we endeavor to understand and offer them exactly what they require with quality beyond their anticipation.



Bolts

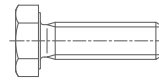


DIN 933



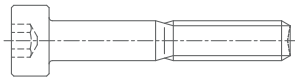
Standard	DIN 933/ISO 4017/IS 1364 (Part-1)
Grade	A2-70, A2-80, A4-70, A4-80
Size	M3 to M 24
Length	10 MM to 150 MM

BSW 1083



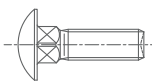
Standard	BSW 1083
Grade	A2-70, A4-70
Size	1/4" to 3/4"
Length	3/4" to 6"

DIN 912



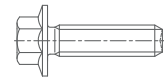
Standard	DIN 912/ISO 4762 (Half thread & Full thread)
Grade	A2-70, A4-70
Size	M3 to M16
Length	10 MM to 150 MM

DIN 603



Standard	DIN 603 (Half thread & Full thread)
Grade	A2-70, A4-70
Size	M5 to M12
Length	10 MM to 150 MM

DIN 6921



Standard	DIN 6921 (With / Without Serration)
Grade	A2-70
Size	M5 to M10
Length	10 MM to 150MM

- Customised Bolts are available on request.

Screws & Rivets

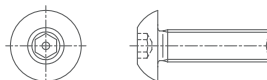


ISO 10642



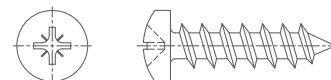
Standard	ISO 10642/DIN 7991 (Full thread)
Grade	A2-70, A4-70
Size	M4 to M10
Length	10 MM to 150 MM

ISO 7380-1



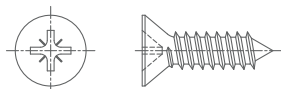
Standard	ISO 7380-1 (Full thread)
Grade	A2-70
Size	M4 to M10
Length	10 MM to 80 MM

DIN 7981



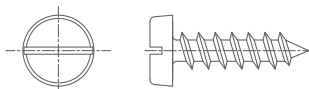
Standard	DIN 7981 (Phillip & Pozi)
Grade	A2, A4
Size	#2.9 to #6.3
Length	9.5 MM to 50 MM

DIN 7982



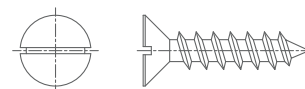
Standard	DIN 7982 (Phillip & Pozi)
Grade	A2, A4
Size	#2.9 to #6.3
Length	9.5 MM to 50 MM

DIN 7971



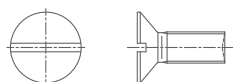
Standard	DIN 7971
Grade	A2
Size	#2.9 to #6.3
Length	9.5 MM to 50MM

DIN 7972



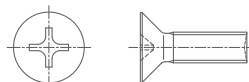
Standard	DIN 7972
Grade	A2
Size	#2.9 to #6.3
Length	9.5 MM to 50 MM

DIN 963



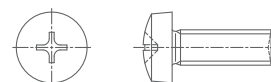
Standard	DIN 963
Grade	A2
Size	M3 to M10
Length	10 MM to 50 MM

DIN 965



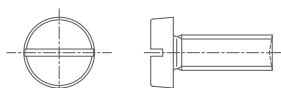
Standard	DIN 965
Grade	A2
Size	M3 to M8
Length	6 MM to 50 MM

DIN 7985



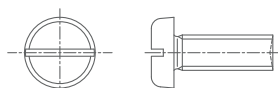
Standard	DIN 7985
Grade	A2
Size	M2.5 to M6
Length	6 MM to 50 MM

DIN 84



Standard	DIN 84
Grade	A2
Size	M3 to M6
Length	6 MM to 50 MM

DIN 85



Standard	DIN 85
Grade	A2
Size	M3 to M6
Length	6 MM to 50MM



Nuts

DIN 934



Standard	DIN 934 / ISO 4032 / IS 1364 (Part 3)
Grade	A2-70, A-280, A4-70, A4-80
Size	M3 to M 27

BSW 1083



Standard	BSW 1083
Grade	A2-70, A4-70
Size	3/16" to 1"

DIN 439



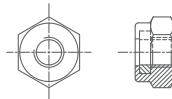
Standard	DIN 439 / Lock Nut
Grade	A2-70, A4-70
Size	M6 to M24

UNI 5587



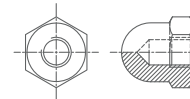
Standard	UNI 5587 / Thick Nut
Grade	A2-70, A4-70
Size	M4 to M16

DIN 982



Standard	DIN 982
Grade	A2-70
Size	M4 to M 20

DIN 1587



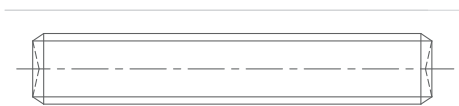
Standard	DIN 1587
Grade	A2-70
Size	M5 to M12





Threaded Rods / Studs / Studs

DIN 976



Standard	DIN 976 (Type A & B)
Grade	A2-70, A2-80, A4-70, A4-80, B8 & B8M
Size	M6 to M24
Length	1000 MM to 5800 MM

ANSI B1.1



Standard	ANSI B1.1
Grade	A2-70, A2-80, A4-70, A4-80
Size	1/4" to 1"
Length	3 FEET to 12 FEET

- Customised Threaded Rods / Studs are available on request.



U-Bolts

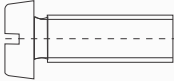
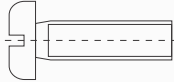
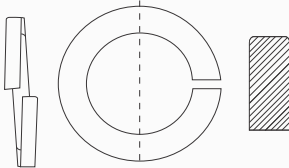
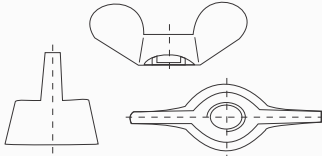
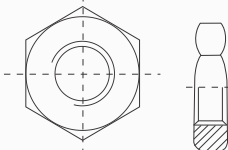
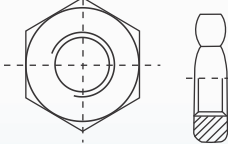
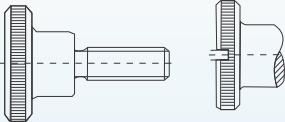
U-Bolts

Standard	U-Bolts
Grade	A2-70, A4-70
Size	M6 to M24
Length	50 MM to 150 MM

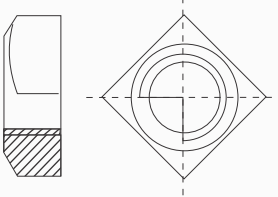
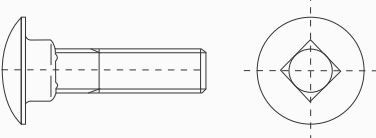
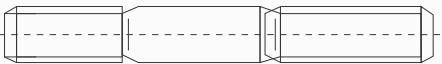
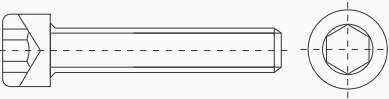
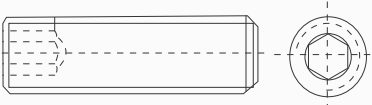
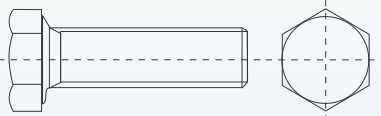
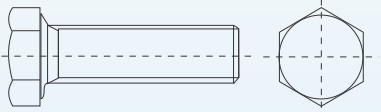
Notes :

- Special stainless steel grades & property class available on request
- We can develop product as per customer's specifications / drawing
- All austenitic stainless steel fasteners are normally non-magnetic; after cold working, some magnetic properties may be evident. (Ref : ISO 3506-1 standard)
- Material test certificate is provided as per the EN 10204 : 3.1B/3.1 standard
- We can also supply S. S. Fasteners with Gleitmo Coating on request.

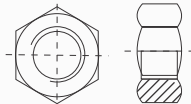
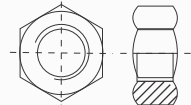
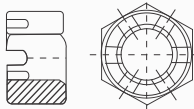
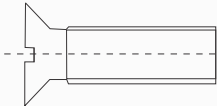
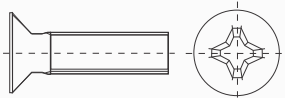
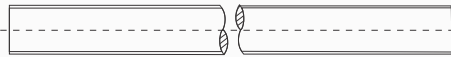
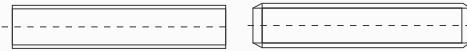
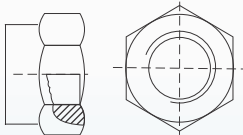


Din	IS	ISO	Drawing	Product Name	Pg. No.
DIN 84	1366-1982	1207		Slotted Cheese Head Screws	1
DIN 85	6101-1982	1580		Slotted Pan Head Screws	2
DIN 125	2016-1967	7089		Plain Washers	3
DIN 127	3063-1927			Spring Lock Washers	4
DIN 315	2636-1972			Wing Nuts	5
DIN 439				Hexagon Thin Nuts	6
	1364-1985	4035		Hexagon Thin Nuts	7
DIN 464	3726-1972			Knurled Thumb Screws	8

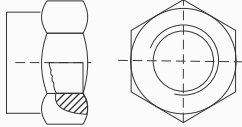
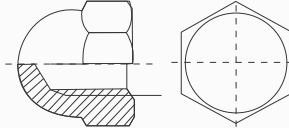
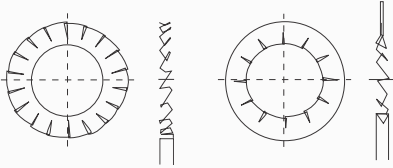
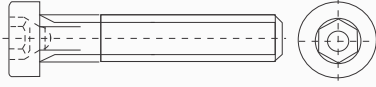
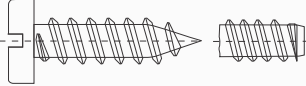
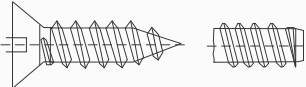


Din	IS	ISO	Drawing	Product Name	Pg. No.
DIN 557				Square Nuts	9
DIN 603		8677		Mushroom Head Square Neck Bolts	10
DIN 835				Studs Threaded End-2d	11
DIN 912		4762		Hexagon Socket Head Cap Screws	12
DIN 916	6094-1981	4029		Hexagon Socket Set Screws with Cup Point	13
DIN 931		4014		Hexagon Head Half Thread Bolts	14
DIN 933				Hexagon Head Screws	15
	1364-1992	4017		Hexagon Head Screws	16

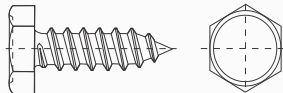
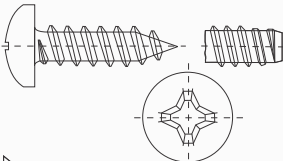
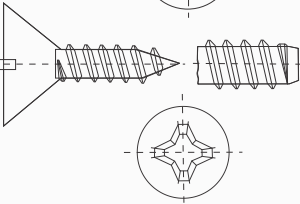
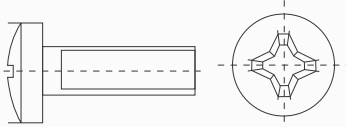
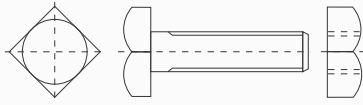
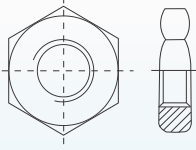
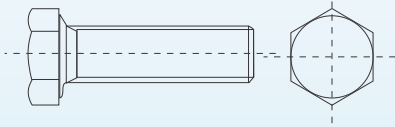
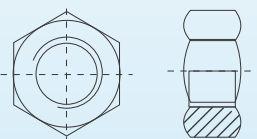


Din	IS	ISO	Drawing	Product Name	Pg. No.
DIN 934				Hexagon Nuts	17
	1364-2002	4032		Hexagon Nuts	18
DIN 935	2232-1967	7035		Hexagon Castle Nuts, Slotted	19
DIN 963	1365-1978	2009		Slotted Countersunk Head Screws	20
DIN 965	7485-1985	7046		Cross recessed Countersunk Flat Head Screws	21
DIN 975				Threaded Rods	22
DIN 976				Stud bolts	23
DIN 982	7002-1972	7040		Prevailing Torque Type Hexagon	24



Din	IS	ISO	Drawing	Product Name	Pg. No.
DIN 985				Prevailing Torque Type Hexagon Thin Nuts	25
DIN 1587	7790-1975			Hexagon Domed Cap Nuts	26
DIN 6798	5556-1970			Serrated Lock Washers	27
DIN 6799				Retaining Washer for Shaft	28
DIN 6912				Socket Head Cap Screw	29
DIN 7971	7173-1974	1481		Slotted Pan Head Tapping Screws	30
DIN 7972	7170-1974	1482		Slotted Countersunk Head Tapping Screws	31



Din	IS	ISO	Drawing	Product Name	Pg. No.
DIN7976		1479		Hexagon Head Tapping Screws	32
DIN7981		7049		Crossed Recessed Pan Head Tapping Screws	33
DIN7982		7050		Crossed Recessed Countersunk Head Tapping	34
DIN 7985	7483-1985	7045		Crossed Recessed Raised Cheese Head Screws	35
DIN 7991	6761-1972			Hexagon Socket Countersunk Head Cap Screws	36
	2585-1968			Square Bolts Screws	37
BS 439				Hexagon Thin Nuts	38
BS 933				Hexagon Bolts	39
BS 934				Hexagon Nuts	40

Technical Information

Introduction of Austenitic Stainless Steel

APL specializes in manufacturing Stainless Steel Fasteners which are mainly used 300 series Austenitic Stainless Steel as raw materials. The standard chemical composition of this type of Stainless steel is 18% [Cr] and 8% [N₁] thus it is also popularly known as 18 - 8 Stainless Steel- a kind of superior metal material which conforms to environmental protection.

1. 1. Physical Properties of Austenitic Stainless steel

The Austenitic Stainless Steel possesses excellent properties of corrosion resistability and cold-working ability. In low-temperature condition, it maintains the ability of extension and impact-resistability which prevent embrittlement and phase change from happening, even in high-temperature condition, the embrittlement is also seldom occurred. Besides, since the Austenitic Stainless Steel can't be hardened by heat treatment, it needs to be done through cold work to enhance its hardness and strength.

The Austenitic Stainless Steel is non magnetic under normal status, but it will turn to be slightly-magnetic after cold work.

Application Index of Stainless Steel in Different Circumstance

Corrosion Resistability	Good ↑	20 Cb - 3	Sever Corrosion ;	
		Type 316	Chemical Corrosion ;	
		Type 304	Type 450	Medium Corrosion ;
		Type 430	Type 431	Industrial pollution Atmosphere
		Type 405	Type 410	Clean Atmosphere
		Yield Strength		Good →

Designation (ISO 3506 - 1979 (E))

The steel grades and property classes are designated by a four-character Identifier consisting of a letter followed by three digits. The letter indicates the general composition groups of steels as follows :

- For austenitic steels
- For martensitic steels
- For ferritic steels

Life Cycle of SS 304 Grade	
YEAR ESTIMATED FOR A PIT TO ENTER A 1 MM THICK SS SHEET	
LOCATION	SS 304
SEA	135 YRS.
INDUSTRIES	145 YRS.
HOUSEHOLD	770 YRS.

Life Cycle of SS 316 Grade	
YEAR ESTIMATED FOR A PIT TO ENTER A 1 MM THICK SS SHEET	
LOCATION	SS 316
SEA	260 YRS.
INDUSTRIES	525 YRS.
HOUSEHOLD	1200 YRS.

Life Cycle of SS 430 Grade	
YEAR ESTIMATED FOR A PIT TO ENTER A 1 MM THICK SS SHEET	
LOCATION	SS 430
SEA	N/A
INDUSTRIES	85 YRS.
HOUSEHOLD	250 YRS.

The first digit following the letter indicates the type of alloying elements presents for the particular group A, C or F, The last two digits indicate the property class (metallurgical condition); for example :

1) A2-70 indicates :

Austenitic steel, cold-worked, minimum 700 N/mm² tensile strength.

2) A2-80 indicates :

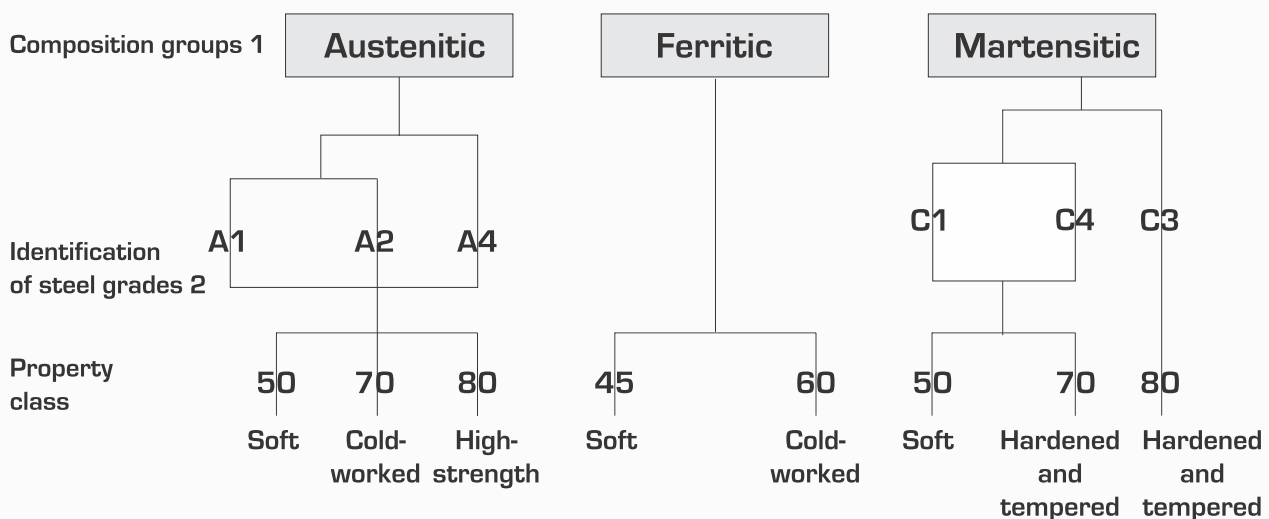
Austenitic steel, cold-worked, minimum 800 N/mm² tensile strength.

3) C4-70 indicates :

Martensitic 12 %Cr steel, hardened and tempered, minimum 700 N/mm² tensile strength.

1.2. Magnetic properties [Ref ISO 3506-1979]

All austenitic stainless steel fasteners are normally nonmagnetic; after cold working, some magnetic properties may be evident.



1.3. Chemical Requirements (ref. Asim A493)

Alloy Group	UNS Designation	Alloy	Composition, % Maximum Except as Shown									
			C	Mn	P	S	Si	Cr	Ni	Cu	Mo	Others
1	S30400	304	0.08	2.00	0.045	0.030	1.00	17.0 to 20.0	8.0 to 13.0	1.00		
1	S30403	302	0.03	2.00	0.045	0.030	1.00	17.0 to 19.0	8.0 to 10.0	1.00		
1	S30430	Xm7	0.10	2.00	0.045	0.030	1.00	17.0 to 19.0	8.0 to 10.0	3.0 to 4.0		
2	S31600	316	0.08	2.00	0.045	0.030	1.00	16.0 to 18.0	10.0 to 14.0	–	2.00 to 3.00	
2	S31603	316L	0.03	2.00	0.045	0.030	1.00	16.0 to 18.0	10.0 to 14.0	–	2.00 to 3.00	

Note : Xm7 equal to 302HQ

2 Mechanical Property Requirements (Ref. ASTM F593)

Stainless Alloy Group	Condition (b)	Alloy Mechanical property Marking	Nominal Diameter In Austenitic Alloys	Tensile Strength, Ksi (d)	Yield Strength, Ksi (c, d)	Rockwell Hardness
1 (304, 304 L, X70 (302HQ))	CW1	F593C	1/4 to 5/8, incl.	100 to 150	65	B95 to C32
	CW2	F593D	3/4 to 1-1/2, incl.	85 to 140	45	B80 to C32
2 (316, 316L)	CW1	F593G	1/4 to 5/8, incl.	100 to 150	65	B95 to C32
	CW2	F593H	3/4 to 1-1/2, incl.	85 to 140	45	B80 to C32

Notes:

- Minimum values except where shows as maximum or as a range.
- Legend of conditions: CW-Headed and rolled from annealed stock thus acquiring a degree of cold work; sizes 0.75 in and larger may be hot worked and solution-annealed.
- All tensile stress values are calculated and reported in terms of the nominal tensile stress area of the thread.
- The extension measurements are determined in accordance with the test procedure and are on the actual screw or bolt length and not on a prepared test piece gauge length of 5d of the test piece.
- Above M20 the higher strength properly classes should have the properly values specially agreed upon between user and manufacturer because at the tensile strength values given in alternative values of stress at 0.2% permanent strain may occur.
- The yield and tensile strength values for full-size products shall be computed by dividing the yield and maximum tensile load Values by the stress area for the product size and thread series determined in accordance with test methods

3. The Requirements of Chemical Composition and Mechanical Properties for items

3.1. Chemical Requirements (ref DIN en iso 3506)

Alloy Group	Grade	Chemical Composition in (mm)									Notes
		C	Si	Mn	P	S	Cr	Mo	Ni	Cu	
Austenitic	A2	0.1	1	2	0.05	0.03	15 to 20	A	8 to 19	4	B. C.
	A4	0.08	1	2	0.045	0.03	16 to 18.5	2 to 3	10 to 15	1	C. D.

- A. Molybdenum may be present at the discretion of the manufacturer. However, if for some applications limiting of the molybdenum Contents is essential this must be stated at the time of ordering by the purchaser.
- B. If the Chromium content is below 17%, the minimum nickel content should be 12%.
- C. For Austenitic Stainless Steel having a maximum carbon content of 0.03% nitrogen may be present to a maximum of 0.22%.
- D. At the discretion of the manufacturer the carbon content may be higher where required to obtain the specified mechanical Properties at larger diameters but shall not exceed 0.12% for Austenitic Steels.
- E. **May contain copper up to 4.0 per cent maximum as per IS : 1367 (Part 14) 1984**

3.2 Mechanical Properties Requirements (Ref. DIN EN ISO 3506)

Group	Grade	Property Class	Thread Diameter Range	Tensile Strength Rm (1) min N/mm	Stores at 0.2% Permanent strain Rp 0.2 (1) min N/mm	Elongation after fraction A (2) min mm
Austenitic	A2, A4	50	< M39	500	210	0.6d
		70	< M24 (3)	700	450	0.4d
		80	< M24 (3)	800	600	0.3d

1. The tensile stress is calculated on the stress area.
2. To be determined according to test methods on actual screw length and on a prepared test piece is; the nominal thread Diameter.
3. All tensile stress values are calculated and reported in terms of the nominal tensile stress area of the thread.
4. The extension measurements are determined in accordance with the test procedure and are on the actual screw or bolt length and not on a prepared test piece gauge length of 5d of the test piece.
5. Above M20 the higher strength properly classes should have the properly values specially agreed upon between user and manufacturer because at the tensile strength values given in the table alternative values of stress at 0.2% permanent strain may occur.

Group	Grade	Property Class	Diameter Range				
				Tensile Strength Rm (1) N/mm ² min.	Stores at 0.2% Permanent strain Rp 0.2 N/mm ² min.	Extension A _L (2) min.	Proof load stress S _p N/mm ²
Austenitic	A 1, A 2 and A 4	50	< M39	500	210	0.6d	500
		70	< M20 ⁽³⁾	700	450	0.4d	700
		80	< M20 ⁽³⁾	800	600	0.3d	800

3.3 Mechanical Properties Requirements (Ref. DIN EN ISO 3506)

Size Standard Pitch	Minimum Breaking Torque			Proof load on Nuts Kg/min.
	50 N - M	70 N - M	80 N - M	
M 1.6	0.15	0.20	0.27	-
M 2	0.30	0.40	0.56	150.00
M 2.5	0.60	0.90	1.20	242.86
M 3	1.10	1.60	2.10	356.77
M 4	2.70	3.80	4.90	627.93
M 5	5.50	7.80	10.00	1013.25
M 6	9.30	13.00	15.00	1434.25
M 8	23.00	32.00	37.00	2611.62
M 10	46.00	65.00	74.00	44138.63
M 12	80.00	110.00	130.00	6015.29
M 14	-	157.00	-	8214.28
M 16	210.00	290.00	330.00	11202.85
M 18				13714.29
M 20				17580.00

3.4. Mechanical properties at elevated temperature ; Applications at Low Temperature.

The values given in these tables are for guidance only. User should understand that the actual chemistry ,load of the installed fasteners and the environment, may cause significant variation. If loads are fluctuating and operating at elevated Temperatures the possibility of stress corrosion is high, user should consult the manufacture

3.4.1 Influence of temperature on ReL and Rp 0.2 (Ref. DIN EN ISO 3506)

Steel grade	ReL. & Repo 2 % temperature			
-	+ 100° C	+ 200° C	+ 300° C	+ 400° C
A2 A4	85	80	75	70
C1	95	90	80	65
C3	90	85	80	60

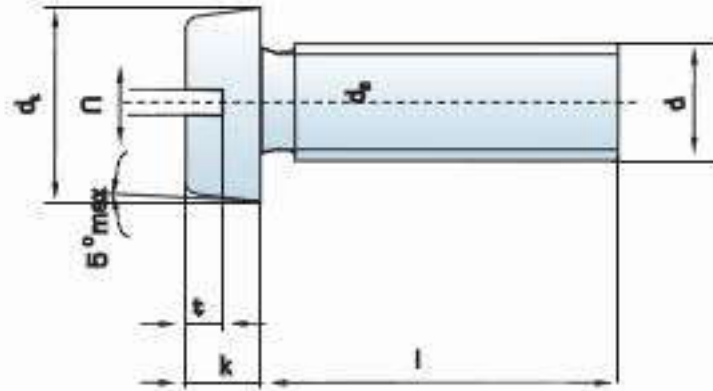
3.4.2 Application at low temperatures (Ref. DIN EN ISO 3506)

Steel grade	Lower limits of operational temp. at continuous operation			
A2	- 200 C			
A4	95	90	80	65
	90	85	80	60

A. In connections with the alloying element the stability of the Austenitic is reduced and the transition temperature is shifted to higher values if a high degree of deformation during manufacturing of the fastener is applied.

DIN 84 / IS : 1366 - 1982 / ISO 1207

Slotted Cheese Head Screws

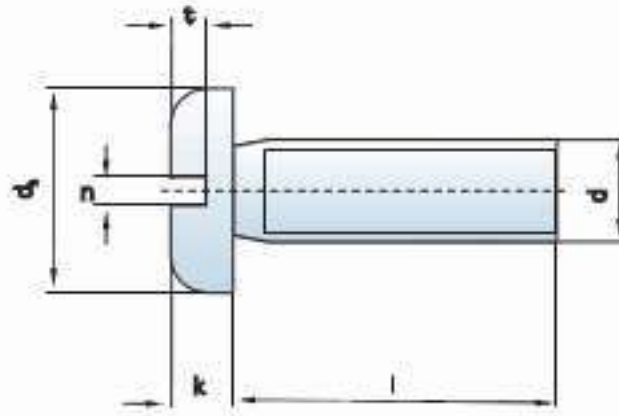


Thread size [d]	M 2	M 2.5	M 3	M 3.5	M 4	M 5	M 6	M 8	M 10
Pitch	0.4	0.45	0.5	0.6	0.7	0.8	1	1.25	1.5
d _t	max.	3.8	4.5	5.5	6	7	8.5	10	13
	min.	3.62	4.32	5.32	5.82	6.78	8.28	9.78	15.73
k	max.	1.3	1.6	2	2.4	2.6	3.3	3.9	5
	min.	1.16	1.46	1.86	2.26	2.46	3.12	3.6	5.7
n	min.	0.5	0.6	0.8	1.0	1.2	1.2	1.6	2.5
	max.	0.7	0.8	1	1.2	1.51	1.51	1.91	2.81
t min.	0.6	0.7	0.85	1	1.1	1.3	1.6	2	2.4

* All Dimensions in mm

DIN 85 / IS : 6101 - 1982 / ISO 1580

Slotted Pan Head Screws

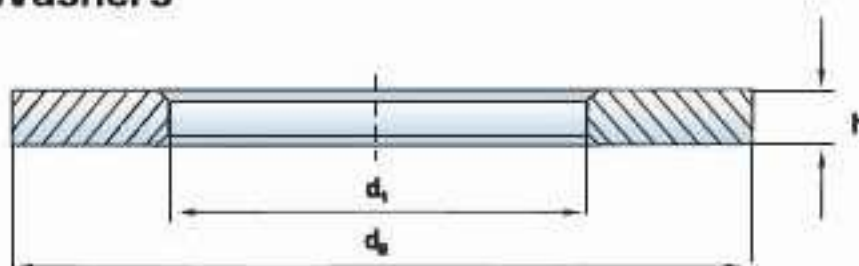


Thread size [d]	M 2	M 2.5	M 3	(M 3.5)	M 4	M 5	M 6	M 8	M 10
Pitch	0.4	0.45	0.5	0.6	0.7	0.8	1	1.25	1.5
d _t max.	4	5	6	7	8	10	12	16	20
d _t min.	3.7	4.7	5.7	6.64	7.64	9.64	11.57	15.57	19.48
k max.	1.3	1.5	1.8	2.1	2.4	3	3.6	4.8	6
k min.	1.16	1.36	1.66	1.96	2.26	2.86	3.3	4.5	5.7
n min.	0.5	0.8	0.8	1.0	1.2	1.2	1.6	2.0	2.5
n max.	0.7	1	1	1.2	1.51	1.51	1.91	2.31	2.81
t min.	0.5	0.6	0.7	0.8	1	1.2	1.4	1.9	2.4

* All Dimensions in mm

DIN 125 / IS : 2016 - 1967 / ISO 7089

Plain Washers

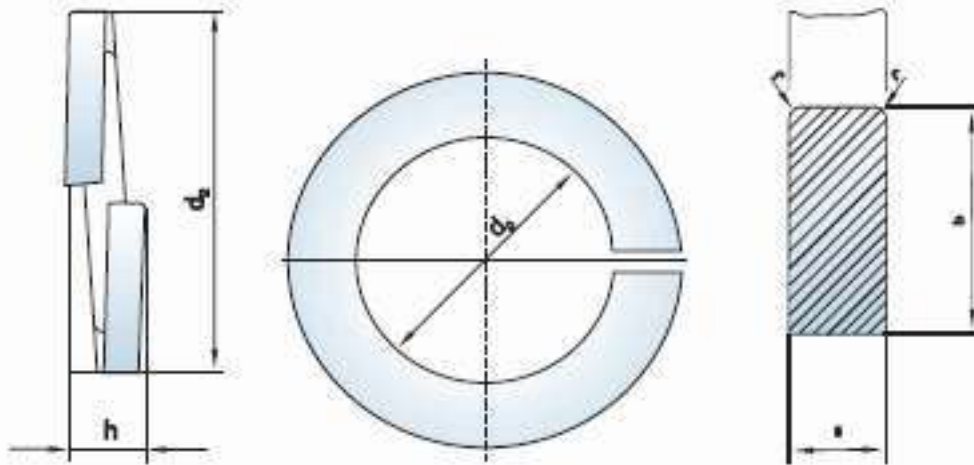


Normal size	For thread size M	d_1		d_2		h	
		min.	max.	min.	max.	max.	min.
1.7	1.6	1.7	1.84	4.0	3.7	0.35	0.25
1.8	1.7	1.8	1.94	4.5	4.2	0.35	0.25
2.2	2.0	2.2	2.34	5.0	4.7	0.35	0.25
2.5	2.3	2.5	2.64	6.0	5.7	0.55	0.45
2.7	2.5	2.7	2.84	6.0	5.7	0.55	0.45
2.8	2.6	2.8	2.94	7.0	6.64	0.55	0.45
3.2	3.0	3.2	3.38	7.0	6.64	0.55	0.45
3.7	3.5	3.7	3.88	8.0	7.64	0.55	0.45
4.3	4.0	4.3	4.48	9.0	8.64	0.9	0.7
5.3	5.0	5.3	5.48	10.0	9.64	1.1	0.9
6.4	6.0	6.4	6.62	12.0	11.57	1.8	1.4
7.4	7.0	7.4	7.62	14.0	13.57	1.8	1.4
8.4	8.0	8.4	8.62	16.0	15.57	1.8	1.4
10.5	10.0	10.5	10.77	20.0	19.48	2.2	1.8
13.0	12.0	13.0	13.27	24.0	23.48	2.7	2.3
15.0	14.0	15.0	15.27	28.0	27.48	2.7	2.3
17.0	16.0	17.0	17.27	30.0	29.48	3.3	2.7
19.0	18.0	19.0	19.33	34.0	33.38	3.3	2.7
21.0	20.0	21.0	21.33	37.0	36.38	3.3	2.7
23.0	22.0	23.0	23.33	39.0	38.38	3.3	2.7
25.0	24.0	25.0	25.33	44.0	43.38	4.3	3.7

* All Dimensions in mm

DIN 127 / IS : 3063 - 1927

Spring Lock Washers

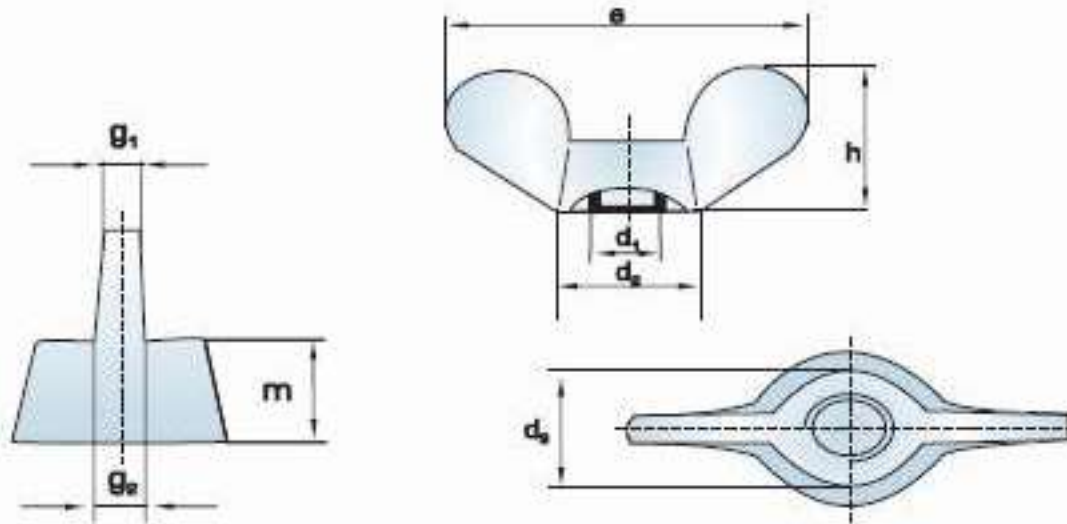


No- minal size	d_1		d_2	h		s		No- minal size	d_1		d_2	h		s	
	min.	max.	max.	min.	max.	min.	max.		min.	max.	max.	min.	max.	min.	max.
2	2.1	2.4	4.4	1.0	1.2	0.5	± 0.1	8	8.1	8.5	14.8	4.0	4.7	2	± 0.1
2.2	2.3	2.6	4.8	1.2	1.4	0.6	± 0.1	10	10.2	10.7	18.1	4.4	5.2	2.2	± 0.15
2.5	2.6	2.9	5.1	1.2	1.4	0.6	± 0.1	12	12.2	12.7	21.1	5.0	5.9	2.5	± 0.15
3	3.1	3.4	6.2	1.6	1.9	0.8	± 0.1	14	14.2	14.7	24.1	6.0	7.1	3	± 0.15
3.5	3.6	3.9	6.7	1.6	1.9	0.8	± 0.1	16	16.2	17.0	27.4	7.0	8.3	3.5	± 0.2
4	4.1	4.4	7.6	1.8	2.1	0.9	± 0.1	18	18.2	19.0	29.4	7.0	8.3	3.5	± 0.2
5	5.1	5.4	9.2	2.4	2.8	1.2	± 0.1	20	20.2	21.2	33.6	8.0	9.4	4	± 0.2
6	6.1	6.5	11.8	3.2	3.8	1.6	± 0.1	22	22.5	23.5	35.9	8.0	9.4	4	± 0.2
7	7.1	7.5	12.8	3.2	3.8	1.6	± 0.1	24	24.5	25.5	40.0	10.0	11.8	5	± 0.2

* All Dimensions in mm

DIN 315 / IS : 2636 - 1972

Wing Nuts

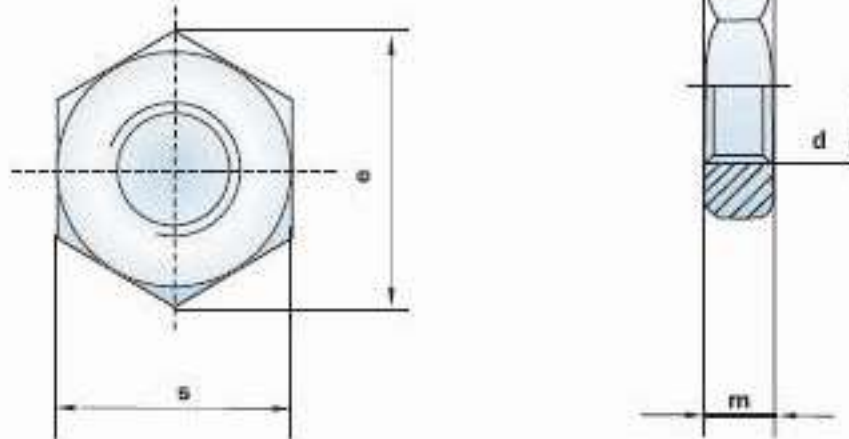


Screw Thread d_1		M4	M5	M6	M8	M10	M12	M16
Pitch		0.7	0.8	1.0	1.25	1.5	1.75	2.0
d_2	max.	8.0	11.0	13.0	16.0	20.0	23.0	29.0
	min.	6.0	8.0	10.0	13.0	17.0	20.0	26.0
d_3	max.	7.0	9.0	11.0	12.5	16.5	19.5	23.0
	min.	5.5	7.5	9.0	10.5	14.5	17.5	21.0
e	max.	20.0	26.0	33.0	39.0	51.0	65.0	73.0
	min.	18.0	24.0	30.0	36.0	48.0	62.0	70.0
g_1	max.	1.9	2.3	2.3	2.8	4.4	4.9	6.4
	min.	1.1	1.5	1.5	2.0	3.6	4.1	5.6
g_2	max.	2.3	2.8	3.3	4.4	5.4	6.4	7.5
	min.	1.7	2.3	2.7	3.6	4.6	5.6	6.5
h	max.	10.5	13.0	17.0	20.0	25.0	33.5	37.5
	min.	8.5	11.0	15.0	18.0	23.0	31.0	35.0
m	max.	4.6	6.5	8.0	10.0	12.0	14.0	17.0
	min.	3.2	4.0	5.0	6.5	8.0	10.0	13.0

* All Dimensions in mm

DIN 439

Hexagon Thin Nuts

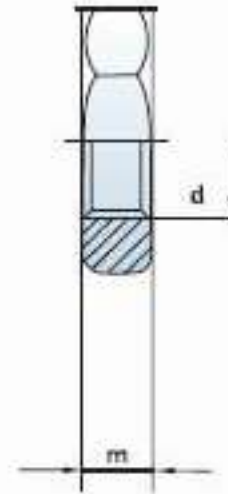
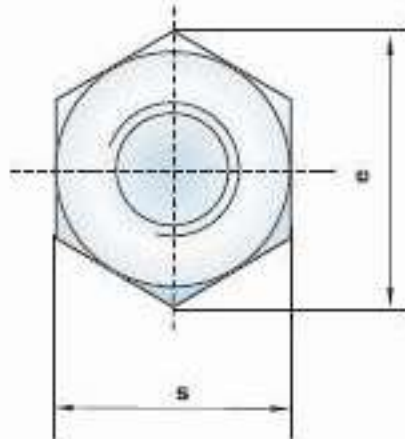


Thread size	M3	M4	M5	M6	M8	M10	M12	M(14)	M16	M20
Pitch	0.5	0.7	0.8	1.0	1.25	1.5	1.75	2.0	2.0	2.5
e min.	6.01	7.66	8.79	11.05	14.38	18.9	21.1	24.49	26.75	32.95
Max.	1.8	2.2	2.7	3.2	4.00	5.0	6.0	7.0	8.0	10.00
m min.	1.55	1.95	2.45	2.9	3.7	4.7	5.7	6.42	7.42	9.10
s max.	5.5	7.0	8.0	10.0	13.0	17.0	19.0	22.0	24.0	30.0
s min.	5.32	6.78	7.78	9.78	12.73	16.73	18.67	21.67	23.67	29.16

* All Dimensions in mm

IS : 1364 / ISO - 4035

Hexagon Thin Nuts

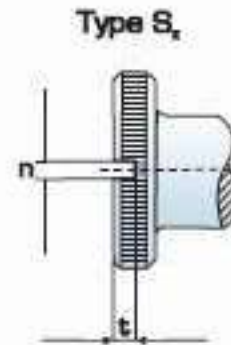
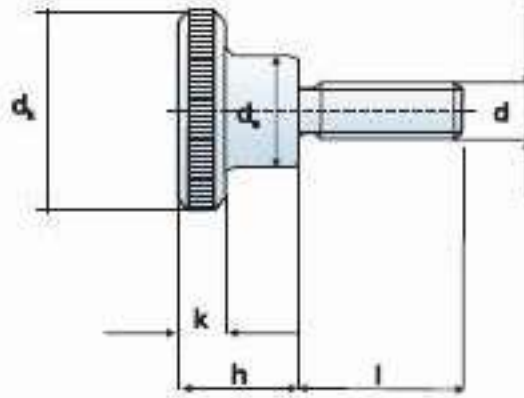


Thread size	M3	M4	M5	M6	M8	M10	M12	M(14)	M16	M20
Pitch	0.5	0.7	0.8	1.0	1.25	1.5	1.75	2.0	2.0	2.5
e min.	6.01	7.66	8.79	11.05	14.38	17.77	20.03	24.49	26.75	32.95
m Max.	1.8	2.2	2.7	3.2	4.00	5.0	6.0	7.0	8.0	10.0
m min.	1.55	1.95	2.45	2.9	3.7	4.7	5.7	6.42	7.42	9.10
s max.	5.5	7.0	8.0	10.0	13.0	16.0	18.0	22.0	24.0	30.0
s min.	5.32	6.78	7.78	9.78	12.73	15.73	17.73	21.67	23.67	29.16

* All Dimensions in mm

DIN 464/IS : 3726 - 1972

Knurled Thumb Screws

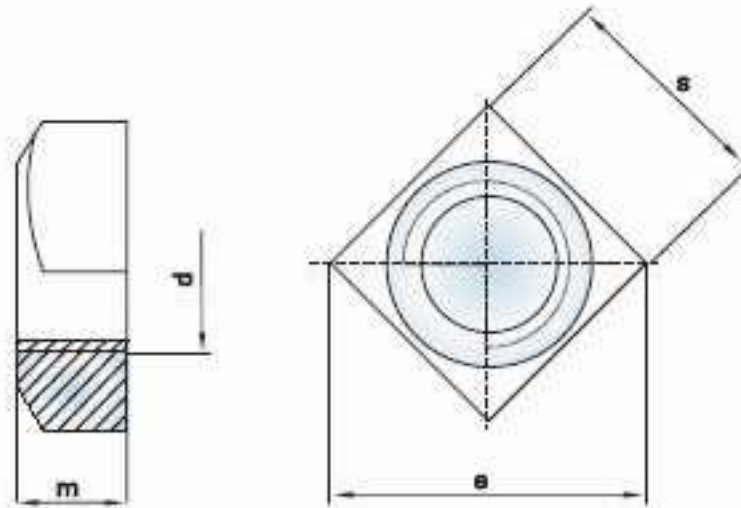


Thread size (d)	M 4	M 5	M 6	M 8	M 10
Pitch	0.7	0.8	1.0	1.25	1.5
d_k	max.	16.35	20.42	24.42	30.42
	min.	15.65	19.58	23.58	29.58
d_s	max.	8.0	10.0	12.0	16.0
	min.	7.64	9.64	11.57	15.57
h	max.	9.79	11.85	15.35	18.35
	min.	9.21	11.15	14.65	17.65
k	max.	3.5	4.0	5.0	6.0
	min.	3.2	3.7	4.7	5.7
n	min.	1.06	1.26	1.66	2.06
	max.	1.2	1.51	1.91	2.31
t	min.	2.2	2.8	3.5	4.5
	max.	2.7	3.4	4.3	5.5

* All Dimensions in mm

DIN 557

Square Nuts

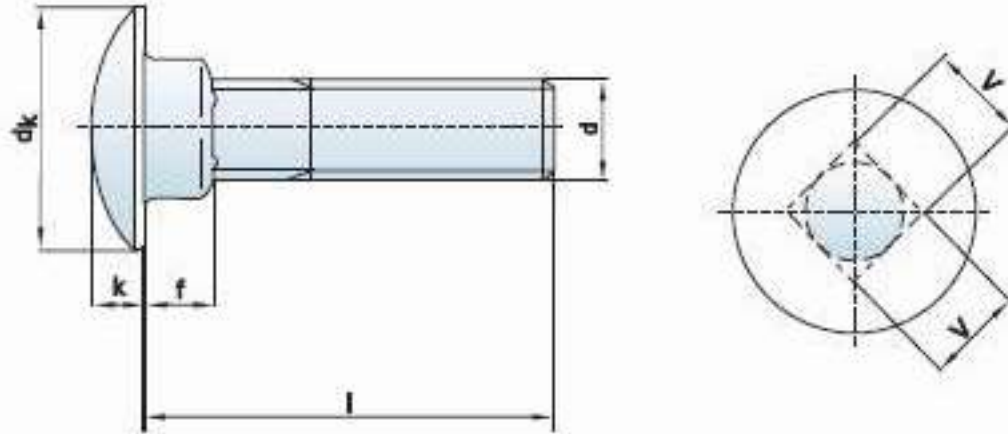


Thread size	M 5	M 6	M 8
Pitch	0.8	1	1.25
e ≈	11.3	14.1	18.4
m max.	4.6	5.6	7.25
m Max.	3.4	4.4	5.75
s Max.	8	10	13
s Min.	7.64	9.64	12.57

* All Dimensions in mm.

DIN 603 / ISO 8677

Mushroom Head Square Neck Bolts

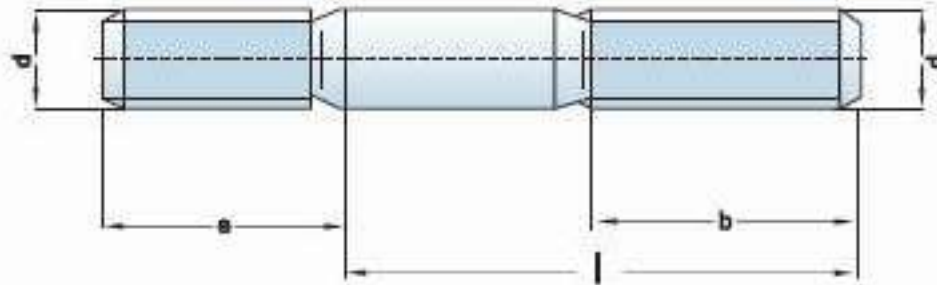


Screw Thread d	M5	M6	M8	M10	M12
Pitch	0.8	1.0	1.25	1.5	1.75
dk	max.	13.55	16.55	20.65	24.65
	min.	12.45	15.45	19.35	23.35
f	max.	4.1	4.6	5.6	6.6
	min.	2.9	3.4	4.4	5.4
k	max.	3.3	3.88	4.88	5.38
	min.	2.7	3.12	4.12	4.62
v	max.	5.48	6.48	8.58	10.58
	min.	4.52	5.52	7.42	9.42

* All Dimensions in mm

DIN 835

Studs Threaded End~2d



Thread d	M 4	M 5	M 6	M 8	M 10	M 12	M (14)	M 16	M (18)	M 20
Pitch	0.7	0.8	1.0	1.25	1.5	1.75	2	2	2.5	2.5
b	1)	14.0	16.0	18.0	22.0	26.0	30.0	34.0	38.0	42.0
	2)	20.0	22.0	24.0	28.0	32.0	36.0	40.0	44.0	48.0
	3)	-	-	-	-	45.0	49.0	53.0	57.0	61.0
e	8	10.0	12.0	16.0	20.0	24.0	28.0	32.0	36.0	40.0

* All Dimensions in mm

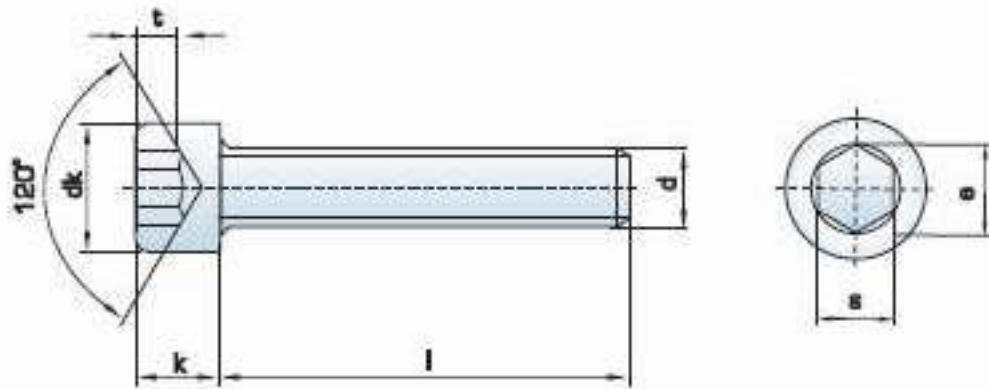
1) For lengths 1 up to 125 mm

2) For lengths above 125 to 200 mm

3) For lengths above 200 mm

DIN 912 / ISO 4762

Hexagon Socket Head Cap Screws

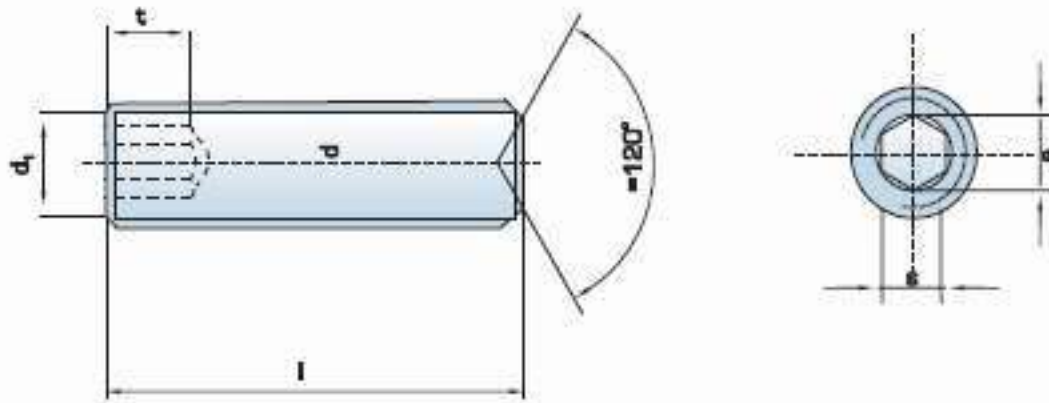


Thread size d	M3	M4	M5	M6	M8	M10	M12	M14	M16	M18	M20
Pitch	0.5	0.7	0.8	1	1.25	1.5	1.75	2	2	2.5	2.5
d_k	min.	5.32	6.78	8.28	9.78	12.73	15.73	17.73	20.67	23.67	29.67
	max.	5.68	7.22	8.72	10.22	13.27	16.27	18.27	21.33	24.33	30.33
e min.	2.87	3.44	4.58	5.72	6.86	9.15	11.43	13.72	16	16	19.44
k	max.	3	4	5	6	8	10	12	14	16	20
	min.	2.86	3.82	4.82	5.7	7.64	9.64	11.57	13.57	15.57	19.48
s	min	2.52	3.02	4.02	5.02	6.02	8.02	10.02	12.03	14.03	17.05
	max.	2.58	3.08	4.09	5.14	6.14	8.175	10.17	12.21	14.21	17.23
t min	1.3	2	2.5	3	4	5	6	7	8	9	10

* All Dimensions in mm

DIN 916 / IS : 6094 - 1981 [Type CP]/ISO 4029

Hexagon Socket Set Screws with Cup Point

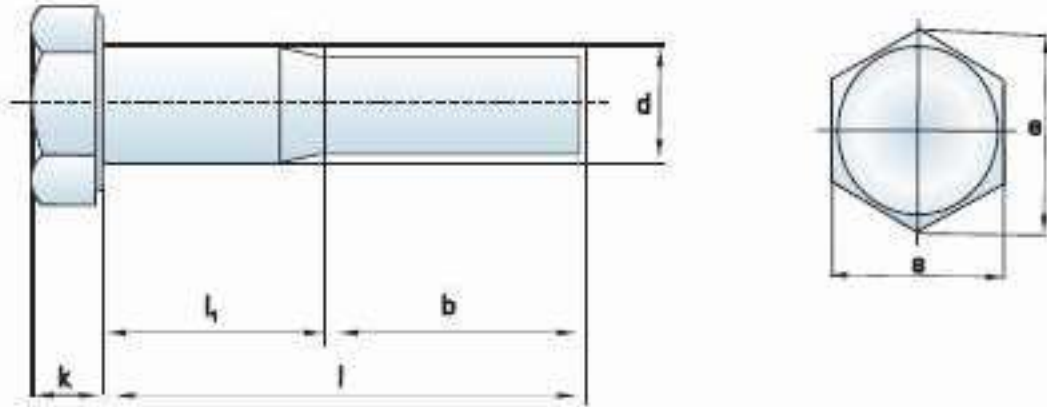


Thread size [d]	M3	M4	M5	M6	M8	M10	M12
Pitch	0.5	0.7	0.8	1	1.25	1.5	1.75
e min.	1.73	2.30	2.87	3.44	4.58	5.72	6.86
s min.	1.5	2.0	2.5	3.0	4.0	5.0	6.0
s max.	1.54	2.04	2.56	3.08	4.09	5.09	6.09
t	1.2	1.5	2	2	3	4	4.8

* All Dimensions in mm

DIN 931 / ISO 4014

Hexagon Head Bolts (Half Thread), ISO - 4014

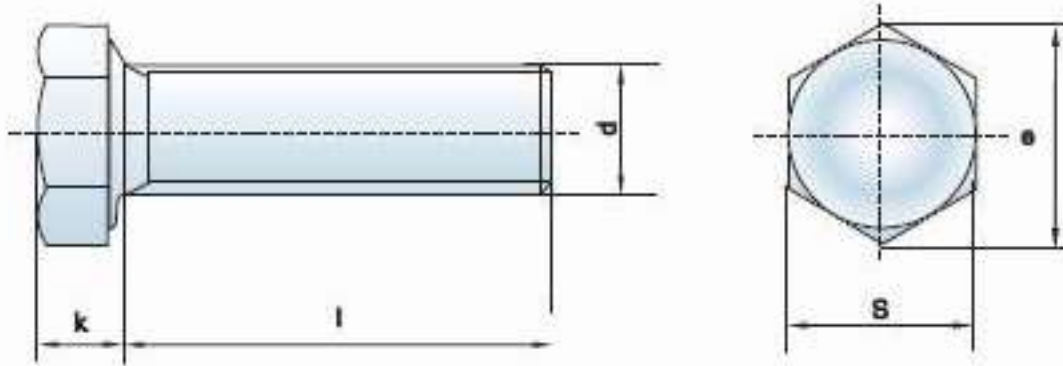


Thread size	M6	M8	M10	M12	M14	M16	M18	M20
p	1	1.25	1.5	1.75	2	2	2.5	2.5
b	18	22	26	30	34	38	42	46
e min	11.05	14.38	18.9	21.1	24.49	26.75	30.14	33.53
k min	3.85	5.15	6.22	7.32	8.62	9.82	11.28	12.28
k max	4.15	5.45	6.58	7.68	8.98	10.18	11.72	12.72
s max	10	13	17	19	22	24	27	30
s min	9.78	12.73	16.73	18.67	21.67	23.67	26.67	29.67

* All Dimensions in mm

DIN 933

Hexagon Head Screws

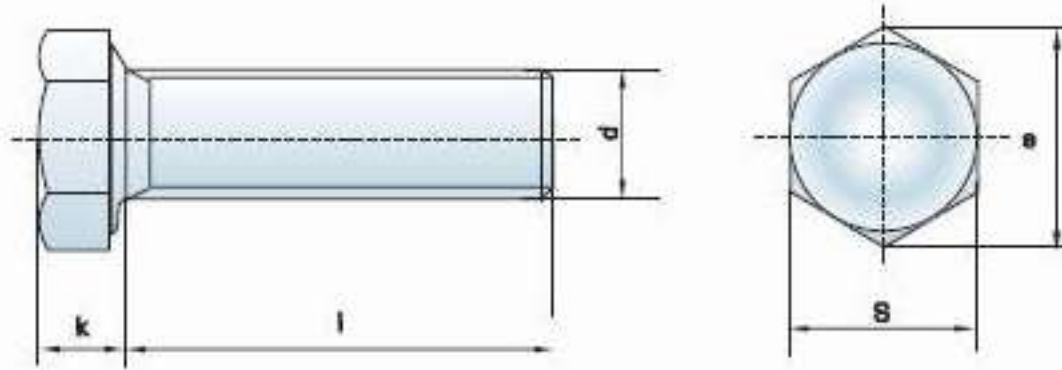


Thread size	M3	M3.5	M4	M5	M6	M8	M10	M12	M14	M16	M18	M20	M24
Pitch	0.5	0.6	0.7	0.8	1	1.25	1.5	1.75	2	2	2.5	2.5	3
e min.	6.01	6.58	7.66	8.79	11.05	14.38	18.9	21.1	24.49	26.75	30.14	33.53	39.98
k min	1.88	2.28	2.68	3.35	3.85	5.15	6.22	7.32	8.62	9.82	11.28	12.28	14.78
k max	2.12	2.52	2.92	3.65	4.15	5.45	6.56	7.68	8.98	10.18	11.72	12.72	15.22
s max	5.5	6	7	8	10	13	17	19	22	24	27	30	36
s min	5.32	5.82	6.78	7.78	9.78	12.73	16.73	18.67	21.67	23.67	26.67	29.67	35.38

* All Dimensions in mm

IS : 1364 (P2) - 1992 / ISO - 4017

Hexagon Head Screws

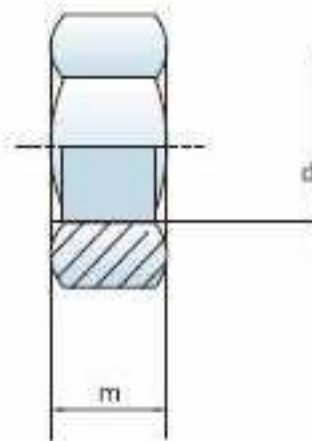
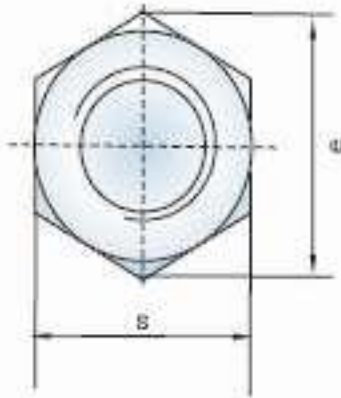


Thread size	M3	M3.5	M4	M5	M6	M8	M10	M12	M14	M16	M18	M20	M24
Pitch	0.5	0.6	0.7	0.8	1	1.25	1.5	1.75	2	2	2.5	2.5	3
e min.	6.01	6.58	7.66	8.79	11.05	14.38	17.77	20.03	23.36	26.75	30.14	33.53	39.98
k	min	1.88	2.28	2.68	3.35	3.85	5.15	6.22	7.32	8.62	9.82	11.28	12.28
	max	2.12	2.52	2.92	3.65	4.15	5.45	6.58	7.68	8.98	10.18	11.72	15.22
s	max	5.5	6	7	8	10	13	16	18	21	24	27	30
	min	5.32	5.82	6.78	7.78	9.78	12.73	15.73	17.73	20.67	23.67	26.67	35.38

* All Dimensions in mm

DIN 934

Hexagon Nuts



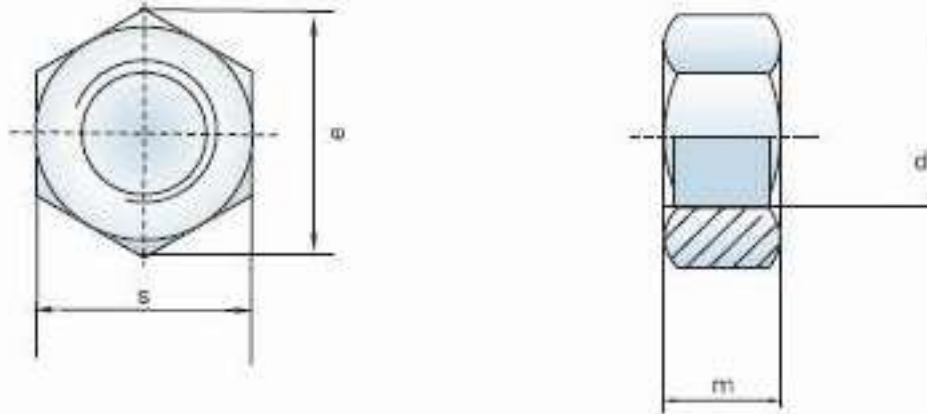
Thread size (d)	M1.6	M2	M2.5	M3	(M3.5)	M4	M5	M6
Pitch	0.35	0.4	0.45	0.5	0.6	0.7	0.8	1
e min.	3.41	4.32	5.45	6.01	6.58	7.66	8.79	11.05
m max	1.3	1.6	2	2.4	2.8	3.2	4	5
m min	1.05	1.35	1.75	2.15	2.55	2.9	3.7	4.7
s max	3.2	4	5	5.5	6	7	8	10
s min	3.02	3.82	4.82	5.32	5.82	6.78	7.78	9.78

Thread size (d)	M8	M10	M12	M14	M16	M18	M20	M24
Pitch	1.25	1.5	1.75	2	2	2.5	2.5	3
e min.	14.38	18.9	21.1	24.49	26.75	29.56	32.95	39.55
m max	6.5	8	10	11	13	15	16	19
m min	6.14	7.64	9.64	10.3	12.3	14.3	14.9	17.7
s max	13	17	19	22	24	27	30	36
s min	12.73	16.73	18.67	21.67	23.67	26.16	29.16	35

* All Dimensions in mm

IS : 1364 P3 - 2002 / ISO - 4032

Hexagon Nuts



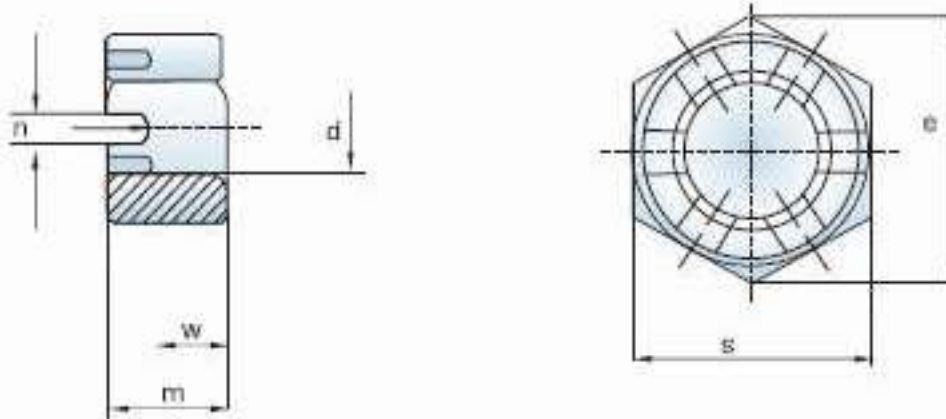
Thread size (d)	M1.6	M2	M2.5	M3	(M3.5)	M4	M5	M6
Pitch	0.35	0.4	0.45	0.5	0.6	0.7	0.8	1
e min.	3.41	4.32	5.45	6.01	6.58	7.66	8.79	11.05
m max	1.3	1.6	2	2.4	2.8	3.2	4.7	5.2
m min	1.05	1.35	1.75	2.15	2.55	2.9	4.4	4.9
s max	3.2	4	5	5.5	6	7	8	10
s min	3.02	3.82	4.82	5.32	5.82	6.78	7.78	9.78

Thread size (d)	M8	M10	M12	M14	M16	M18	M20	M24
Pitch	1.25	1.5	1.75	2	2	2.5	2.5	3
e min.	14.38	17.77	20.03	23.36	26.75	29.56	32.95	39.55
m max	6.5	8.4	10.8	12.8	14.8	15.8	18	19
m min	6.14	8.04	10.37	12.1	14.1	15.1	16.9	17.7
s max	13	16	18	21	24	27	30	36
s min	12.73	15.73	17.73	20.67	23.67	26.16	29.16	35

* All Dimensions in mm

DIN 935 / IS : 2232 - 1967 / ISO 7035

Hexagon Castle Nuts, Slotted

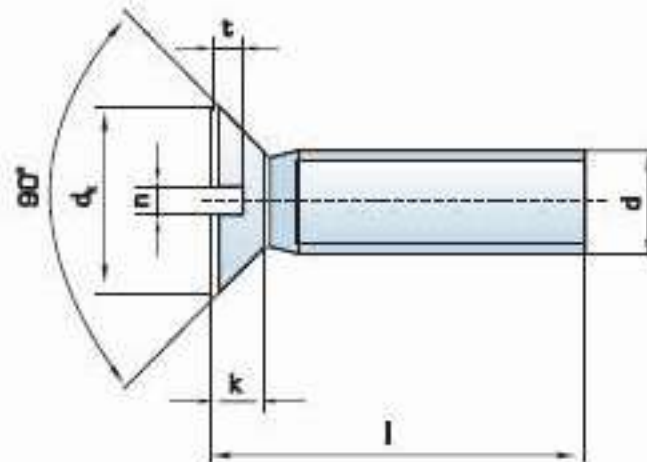


Thread size d		M4	M5	M6	M8	M10
e	min.	7.66	8.79	11.05	14.38	18.9
m	max.	5.0	6.0	7.5	9.5	12.00
	min.	4.7	5.7	7.14	9.14	11.57
n	min.	1.2	1.4	2.0	2.5	2.8
	max.	1.45	1.65	2.25	2.75	3.05
s	max.	7.0	8.0	10.0	13.0	17
	min.	6.78	7.78	9.78	12.73	16.73
w	max.	3.2	4	5	6.5	8
	min.	2.9	3.7	4.7	6.14	7.64

* All Dimensions in mm

DIN 963 / IS : 1365 -1978 / ISO 2009

Slotted Countersunk Head Screws

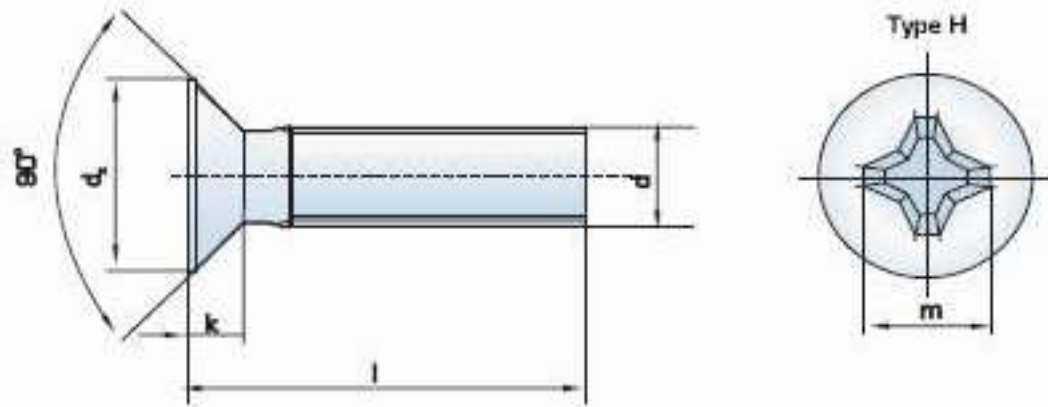


Thread size d	M 2	[M 2.5]	M 3	M 3.5	M 4	M 5	M 6	M 8	M 10	M 12	M 16
Pitch	0.4	0.45	0.5	0.6	0.7	0.8	1	1.25	1.5	1.75	2
d _k	max.	3.8	4.7	5.6	6.5	7.5	9.2	11	14.5	18	29
	min.	3.5	4.4	5.3	6.14	7.14	8.84	10.57	14.07	17.57	28.48
k max.	1.2	1.5	1.65	1.93	2.2	2.5	3	4	5	6	8
n	min	0.5	0.6	0.8	0.8	1.0	1.2	1.6	2.0	2.5	4.0
	max	0.7	0.8	1	1	1.2	1.51	1.91	2.31	2.81	4.37
t	min	0.4	0.5	0.6	0.7	0.8	1	1.2	1.6	2	3.2
	max	0.6	0.7	0.85	1	1.1	1.3	1.6	2.1	2.6	4

* All Dimensions in mm.

DIN 965 / IS : 7485 - 1985 / ISO 7046

Cross recessed Countersunk Flat Head Screws

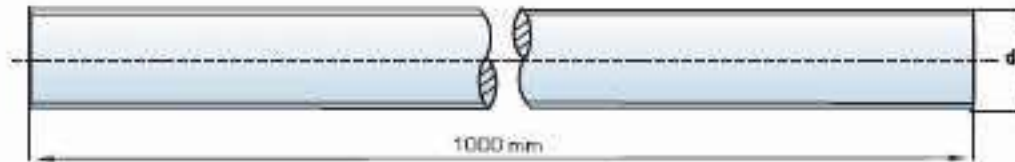


Thread size [d]	M2	M2.5	M3	[M3.5]	M4	M5	M6	M8	M10
Pitch	0.4	0.45	0.5	0.6	0.7	0.8	1	1.25	1.5
d _s	max	3.8	4.7	5.6	6.5	7.5	9.2	11	14.5
	min	3.5	4.4	5.3	6.14	7.14	8.84	10.57	17.57
k max	1.2	1.5	1.65	1.93	2.2	2.5	3	4	5
Cross recess no.	1			2			3	4	
m	2.35	2.7	2.9	3.9	4.4	4.6	6.6	8.7	9.6
penetration: min	0.95	1.25	1.5	1.4	1.9	2.1	2.8	3.9	4.8
type H									
Depth max	1.25	1.55	1.8	1.9	2.4	2.6	3.3	4.4	5.3

* All Dimensions in mm

DIN 975

Threaded Rods



Thread size d	M2	M2.5	M3	M4	M5
Pitch	0.4	0.45	0.5	0.7	0.8

Thread size d	M6	M8	M10	M12	(M14)
Pitch	1.0	1.25	1.50	1.75	2.0

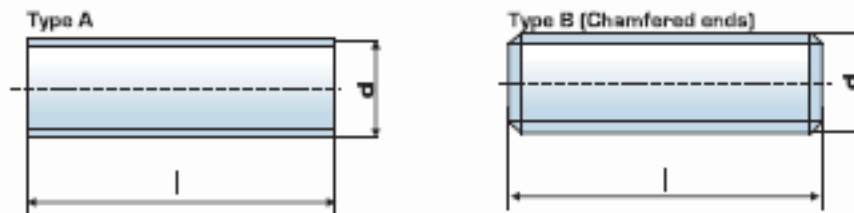
Thread size d	M16	(M18)	M20	M22	M24
Pitch	2.0	2.50	2.50	2.5	3.0

* All Dimensions in mm



DIN 976

Stud Bolts



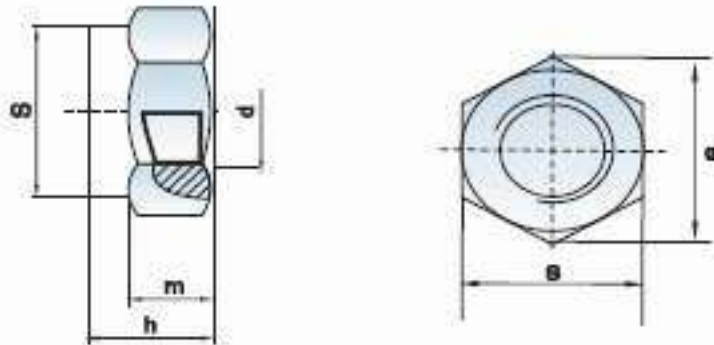
Thread Size d	M2	M2.5	M3	M4	M5	M6
Pitch	0.4	0.45	0.5	0.7	0.8	1.0

Thread Size d	M8	M10	M12	M16	M20	M24
Pitch	1.25	1.50	1.75	2	2.5	3

* All Dimensions in mm

DIN 982 / IS : 7002 - 1972 / ISO 7040

Prevailing Torque Type Hexagon Nonmetallic Insert (Nylock Nut)



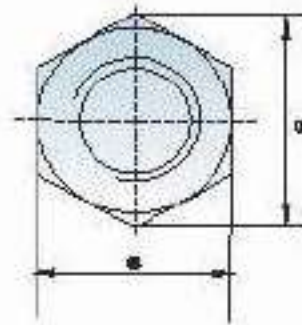
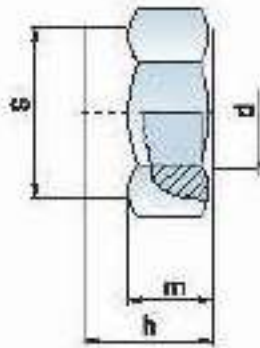
Thread size [d]	M5	M6	M8	M10	M12	M14	M16	M 20
Pitch	0.8	1	1.25	1.5	1.75	2	2	2.5
h	max.	6.3	8	9.5	11.5	14	16	18
	min.	6	7.7	9.14	11.14	13.64	15.3	17.3
s	max.	8	10	13	17	19	22	24
	min.	7.78	9.78	12.73	16.73	18.67	21.67	23.67
m	min.	4.4	4.9	6.44	8.04	10.37	12.1	14.1
e	min.	8.79	11.05	14.38	18.9	21.1	24.49	26.75

* All Dimensions in mm



DIN 985

Prevailing Torque Type Hexagon Thin Nuts with Nonmetallic Insert (Thin Nylock Nut)

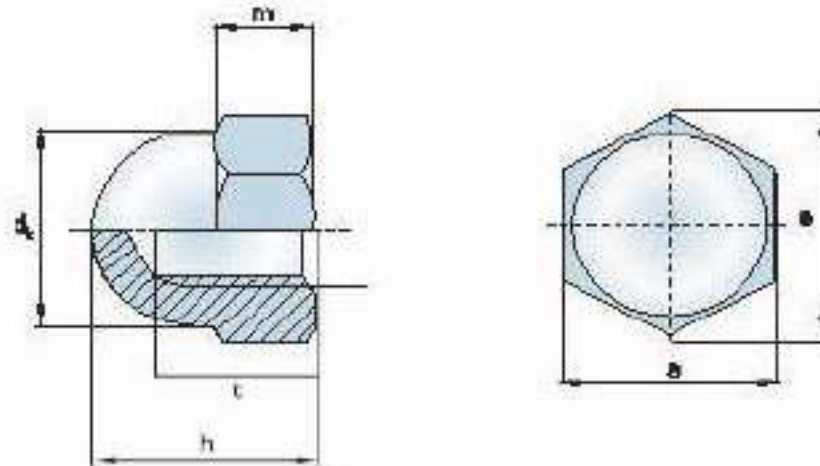


Thread size (d)	M3	M4	M5	M6	M8	M10	M12	M14	M16	M20
	0.5	0.7	0.8	1	1.25	1.5	1.75	2	2	2.5
e	6.01	7.66	8.79	11.05	14.38	18.9	21.1	24.49	26.75	32.95
h	4	5	5	6	8	10	12	14	16	20
	3.7	4.7	4.7	5.7	7.64	9.64	11.57	13.3	15.3	18.7
s	5.5	7	8	10	13	17	19	22	24	30
	5.32	6.78	7.78	9.78	12.73	16.73	18.67	21.67	23.67	29.16
m	2.4	2.9	3.2	4	5.5	6.5	8	9.5	10.5	14

* All dimensions in mm

DIN 1587 / IS : 7790 - 1975

Hexagon Domed Cap Nuts



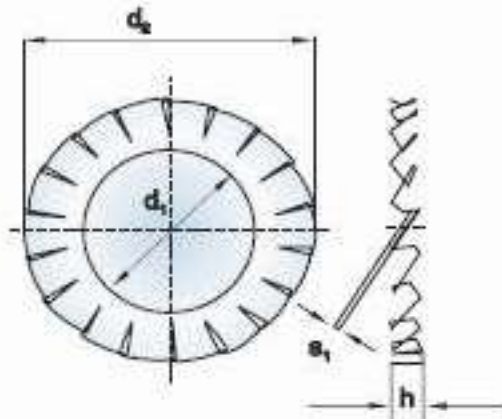
Thread size [d]		M4	M5	M6	M8	M10	M12	M16
Pitch		0.7	0.8	1.0	1.25	1.5	1.75	2.0
h	max.	8.0	10.0	12.0	15.0	18.0	22.0	28.0
m	max.	3.2	4.0	5.0	6.5	8.0	10.0	13.0
	min.	2.9	3.7	4.7	6.14	7.64	9.64	12.3
s	max.	7.0	8.0	10.0	13.0	17	19	24.0
d_s	max.	6.5	7.5	9.5	12.5	16	18	23.0
t	min.	5.26	7.21	7.71	10.65	12.65	15.65	20.58
	max.	5.74	7.79	8.29	11.35	13.35	16.35	21.42

* All Dimensions in mm

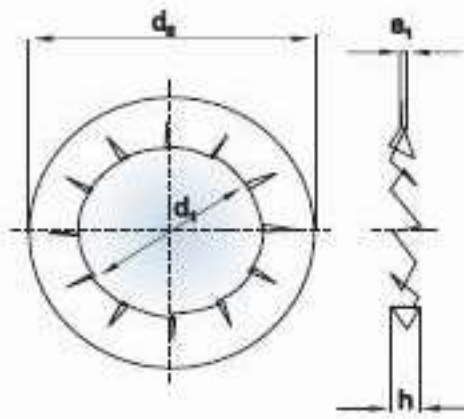
DIN 6798/ IS : 5556 - 1970

Serrated Lock Washers

Type A ,with external teeth



Type J ,with external teeth

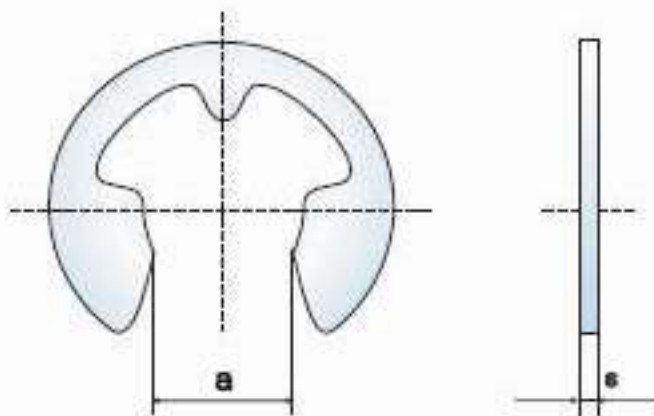


Nominal size	For thread dia.	d _i		d _e		No. Of Teeth	
		min	max	max	min	A Type	J Type
1.7	1.6	1.7	1.84	3.6	3.3	9.0	7.0
2.2	2.0	2.2	2.34	4.5	4.2	9.0	7.0
2.7	2.5	2.7	2.84	5.5	5.2	9.0	7.0
3.2	3.0	3.2	3.38	6.0	5.7	9.0	7.0
3.7	3.5	3.7	3.88	7.0	6.64	10.0	8.0
4.3	4.0	4.3	4.48	8.0	7.64	11.0	8.0
5.3	5.0	5.3	5.48	10.0	9.64	11.0	8.0
6.4	6.0	6.4	6.62	11.0	10.57	12.0	9.0
8.4	8.0	8.4	8.62	15.0	14.57	14.0	10.0
10.5	10.0	10.5	10.77	18.0	17.57	16.0	12.0
13.0	12.0	13.0	13.27	20.5	19.98	16.0	12.0
15.0	14.0	15.0	15.27	24.0	23.48	18.0	14.0
17.0	16.0	17.0	17.27	26.0	25.48	18.0	14.0
19.0	18.0	19.0	19.33	30.0	29.48	18.0	14.0
21.0	20.0	21	21.33	33.0	32.38	20.0	16.0

* All Dimensions in mm.

DIN 6799

Retaining Washer For Shaft (E-Clip)

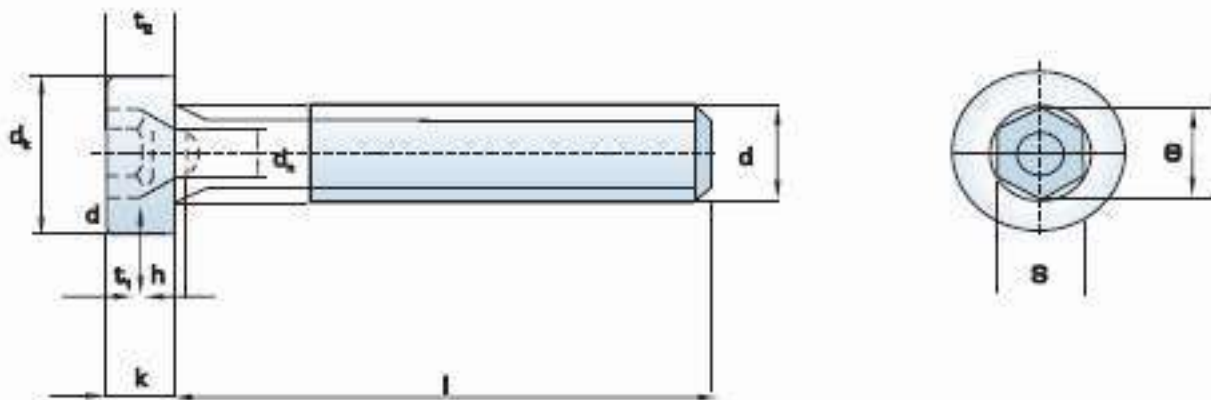


Nominal size	s	Lock Washers a
3.2	0.6	2.70
4	0.7	3.34
5	0.7	4.11
6	0.7	5.26
7	0.9	5.84
8	1.0	6.52
9	1.1	7.63
10	1.2	8.32
12	1.3	10.45
15	1.5	12.61

* All Dimensions in mm

DIN 6912

Socket Head Cap Screw, Low Head - Pilot Recess

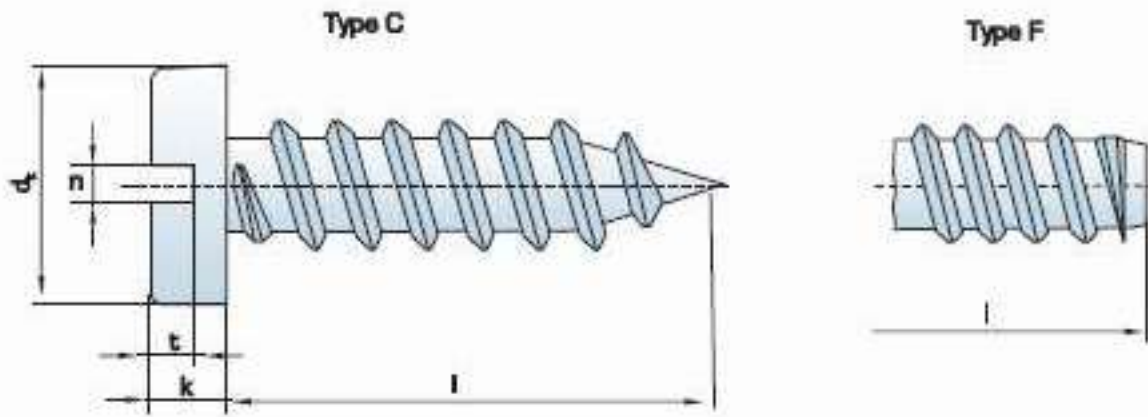


Thread size d	M4	M5	M6	M8	M10	M12	M16	M20
Pitch	0.7	0.8	1	1.25	1.5	1.75	2	2.5
d _s	max	7	8.5	10	13	16	18	24
	min	6.78	8.28	9.78	12.73	15.73	17.73	23.67
d _h max	2	2.5	3	4	5	6	8	10
e max	3.44	4.58	5.72	6.86	9.15	11.43	16	19.44
k	max	2.8	3.5	4	5	6.5	7.5	10
	min	2.66	3.32	3.82	4.82	6.28	7.28	9.78
s	min	3.0	4.0	5.0	6.0	8.0	10.0	14.0
	max	3.10	4.12	5.14	6.14	8.175	10.175	14.212
t _s	min	1.48	1.88	2.38	2.88	3.35	3.85	5.35
	max	1.72	2.12	2.62	3.12	3.65	4.15	5.65
t _h	min	3.3	4	5	6.5	7.5	9	11.5
	max	3.6	4.3	5.3	6.86	7.86	9.36	11.93

* All Dimensions in mm

DIN 7971/IS : 7173-1974/ISO 1481

Slotted Pan Head Tapping Screws

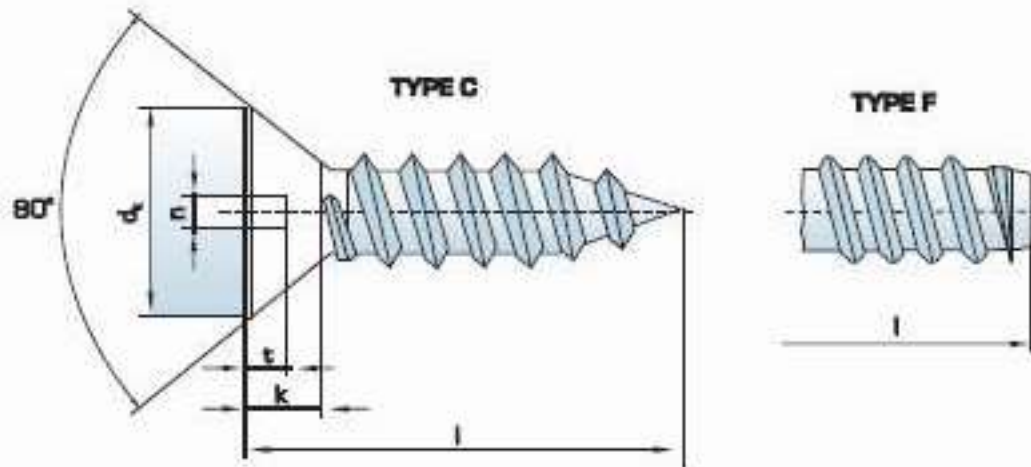


Thread size	ST 2.2	ST 2.9	ST 3.5	ST 4.2	ST 4.8	ST 5.5	ST 6.3
No	#4	#5	#6	#8	#10	#12	#14
Pitch	0.8	1.1	1.3	1.4	1.6	1.8	1.8
d _s	max	4.2	5.6	6.9	8.2	9.5	10.8
	min	3.9	5.3	6.54	7.84	9.14	10.37
k	max	1.35	1.75	2.1	2.45	2.8	3.2
	min	1.15	1.5	1.85	2.15	2.5	2.85
n	min	0.6	0.8	1.0	1.2	1.2	1.6
	max	0.8	1	1.2	1.51	1.51	1.91
t	min	0.55	0.75	0.95	1.15	1.35	1.55
	max	0.8	1	1.25	1.5	1.7	1.95

* All Dimensions in mm

DIN 7972/IS :7170 - 1974/ISO 1482

Slotted Countersunk Head Tapping Screws

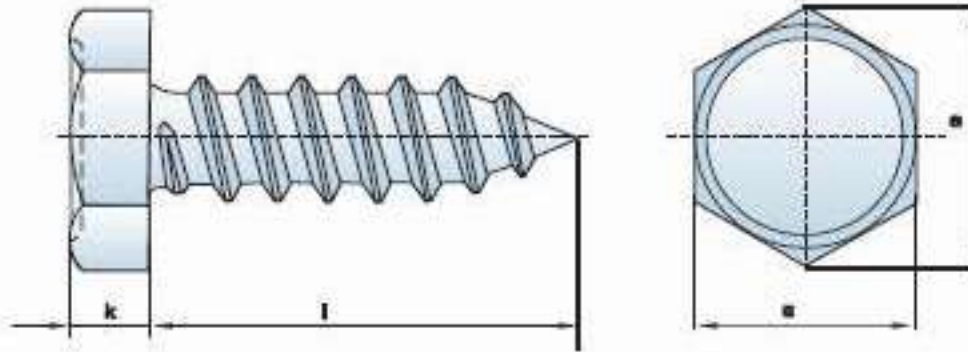


Thread size	ST 2.2	ST 2.9	ST 3.5	ST 4.2	ST 4.8	ST 5.5	ST 6.3
No	#4	#5	#6	#8	#10	#12	#14
Pitch	0.8	1.1	1.3	1.4	1.6	1.8	1.8
d _k	max	4.3	5.5	6.8	8.1	9.5	10.8
	min	4	5.2	6.44	7.74	9.14	10.37
k	1.3	1.7	2.1	2.5	3	3.4	3.8
n	min	0.6	0.8	1.0	1.2	1.2	1.6
	max	0.8	1	1.2	1.51	1.51	1.91
t	min	0.4	0.5	0.6	0.75	0.85	1
	max	0.6	0.75	0.95	1.15	1.35	1.5

* All Dimensions in mm

DIN 7976

Hexagon Head Tapping Screws, ISO - 1479

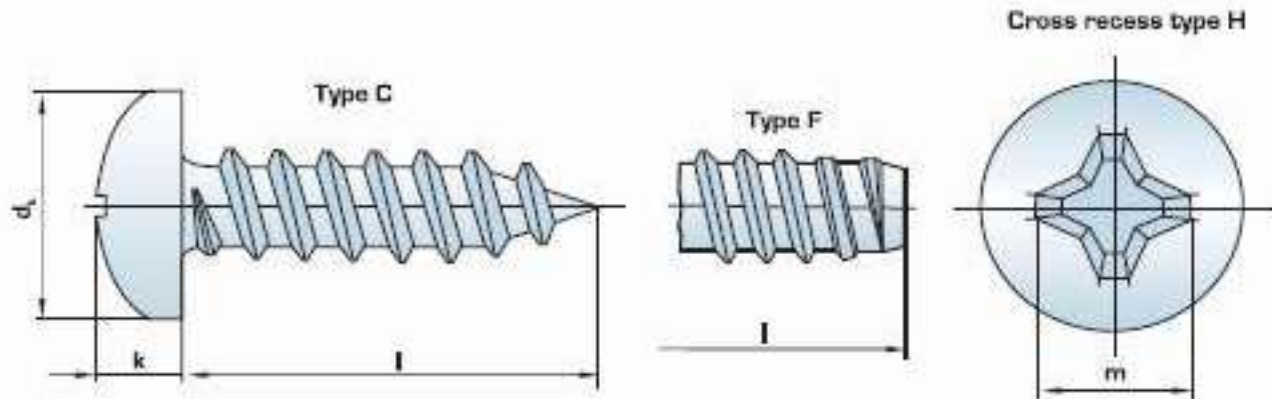


Thread size [d]	ST 2.9	ST 3.5	ST 4.2	ST 4.8	ST 5.5	ST 6.3
No	#5	#6	#8	#10	#12	#14
Pitch	1.1	1.3	1.4	1.6	1.8	1.8
e min	5.4	5.96	7.59	8.71	8.71	10.95
k	min	1.38	2.18	2.68	3.85	4.65
	max	1.62	2.42	2.92	4.15	4.95
s	max	5.0	5.5	7.0	8.0	10
	min	4.82	5.32	6.78	7.78	9.78

* All Dimensions in mm

DIN 7981 / ISO 7049

Cross Recessed Pan Head Tapping Screws

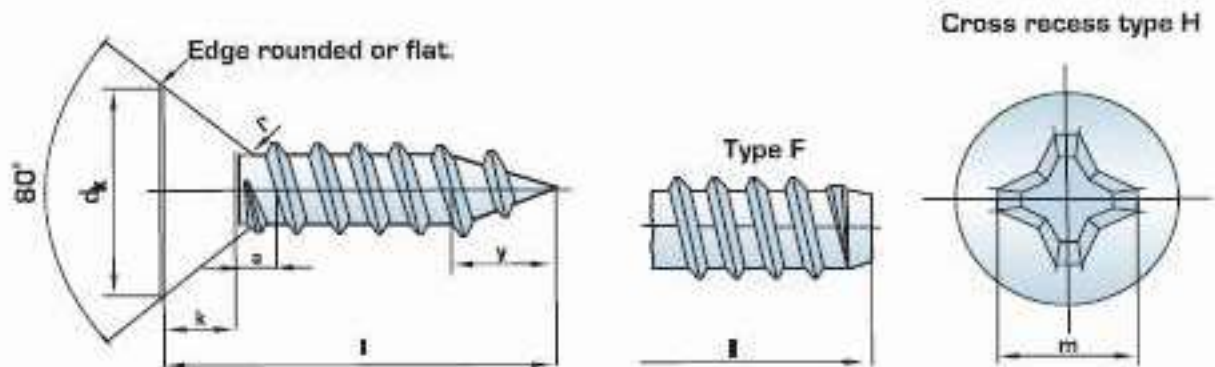


Thread size d	ST 2.2	ST 2.9	ST 3.5	ST 4.2	ST 4.8	ST 5.5	ST 6.3
No	#4	#5	#6	#8	#10	#12	#14
Pitch	0.8	1.1	1.3	1.4	1.6	1.8	1.8
d_h	max	4.2	5.6	6.9	8.2	9.5	10.8
	min	3.9	5.3	6.54	7.84	9.14	10.37
k	max	1.8	2.2	2.6	3.05	3.55	3.95
	min	1.55	1.95	2.35	2.75	3.25	3.65
Cross recess No.	1		2				3
M [~]	2.6	3	4.2	4.6	5	6.5	7.1
Penetration min	0.86	1.35	1.4	1.8	2.26	2.49	3
Type H depth max	1.32	1.8	2.03	2.46	2.87	3.15	3.66

* All Dimensions in mm

DIN 7982 / ISO 7050

Cross Recessed Countersunk Head Tapping

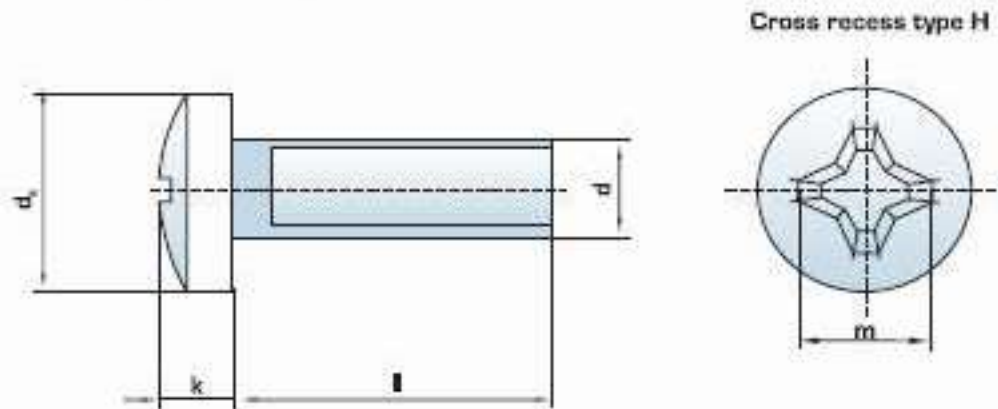


Thread size d	ST 2.2	ST 2.9	ST 3.5	ST 4.2	ST 4.8	ST 5.5	ST 6.3
No	#4	#5	#6	#8	#10	#12	#14
Pitch	0.8	1.1	1.3	1.4	1.6	1.8	1.8
d _h	max	4.3	5.5	6.8	8.1	9.5	10.8
	min	4	5.2	6.44	7.74	9.14	10.37
k	1.3	1.7	2.1	2.5	3	3.4	3.8
Cross recess No.	1		2				3
M ⁺	2.5	3	4.2	4.7	5.1	6.8	7.1
Penetration min	1.02	1.4	1.62	2.11	2.59	2.95	3.33
Type H depth max	1.32	1.7	2.12	2.62	3.1	3.53	3.91

* All Dimensions in mm

DIN 7985/IS : 7483 -1985/ISO 7045

Cross Recessed Raised Cheese Head Screws (PAN Philip Screw)

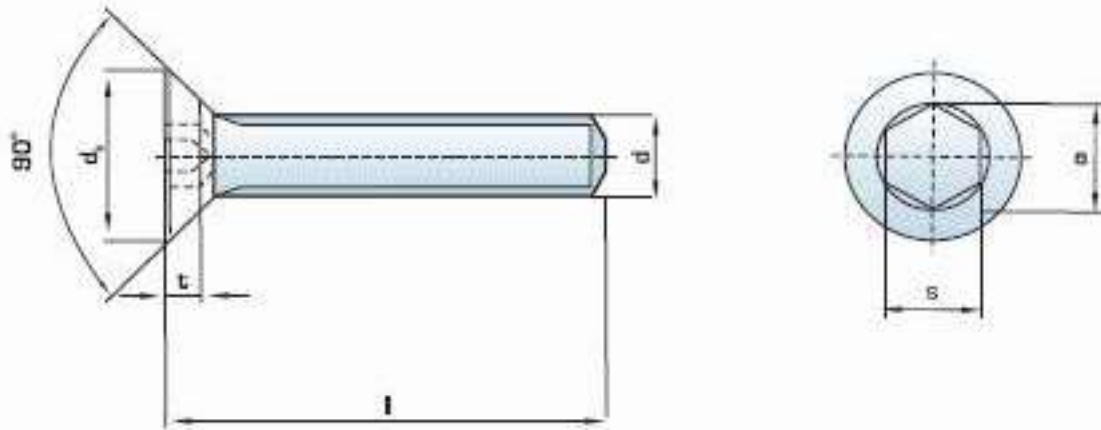


Thread size d	M1.6	M2	M2.5	M 3	M3.5	M4	M5	M6	M8	M10	
Pitch	0.35	0.4	0.45	0.5	0.6	0.7	0.8	1	1.25	1.5	
d _s	max	3.2	4	5	6	7	8	10	12	16	20
	min	2.9	3.7	4.7	5.7	6.64	7.64	9.64	11.57	15.57	19.48
k	max	1.42	1.72	2.12	2.52	2.82	3.25	3.95	4.75	6.15	7.68
	min	1.18	1.48	1.88	2.28	2.58	2.95	3.65	4.45	5.85	7.32
Cross recess No.	0	1			2			3	4		
M	1.8	2.5	2.7	3.1	4.2	4.6	5.3	6.8	9	10.2	
Penetration min	0.72	1.1	1.3	1.7	1.74	2.04	2.77	3.03	4.18	5.38	
Type H depth max	1.02	1.4	1.6	2	2.24	2.54	3.27	3.53	4.68	5.88	

* All Dimensions in mm.

DIN 7991/IS : 6761 - 1972

Hexagon Socket Countersunk Head Cap Screws

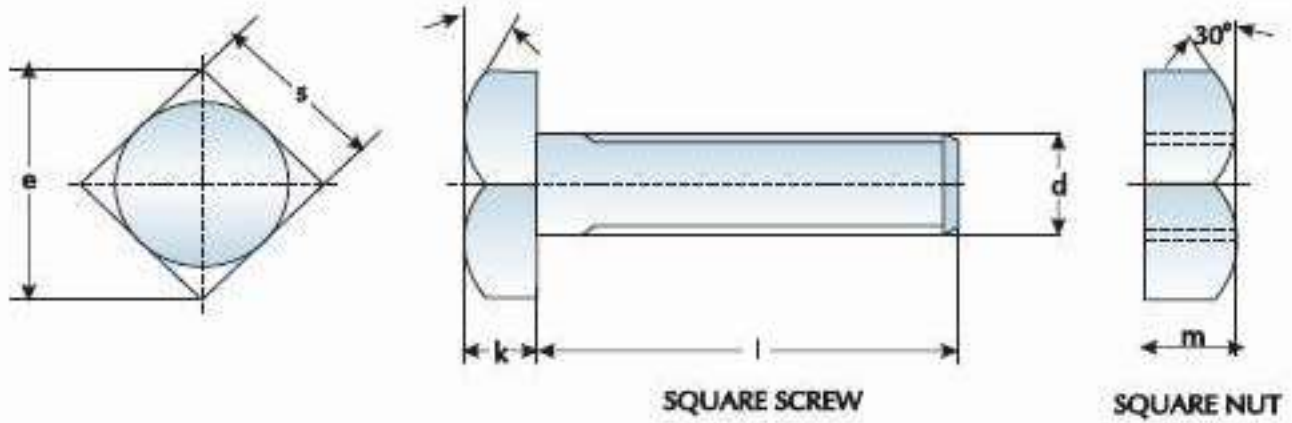


Thread size d	M3	M4	M5	M6	M8	M10	M12	M14	M16
Pitch	0.5	0.7	0.8	1	1.25	1.5	1.75	2	2
d ₁	max	6	8	10	12	16	20	24	30
	min	5.7	7.64	9.64	11.57	15.57	19.48	23.48	29.48
e	min	2.3	2.87	3.44	4.58	5.72	6.86	9.15	11.43
s	min	2.0	2.5	3.0	4.0	5.0	6.0	8.0	10.0
	max	2.10	2.60	3.10	4.12	5.14	6.14	8.175	10.175
t	max	1.2	1.8	2.3	2.5	3.5	4.4	4.8	5.3
	min	0.95	1.55	2.05	2.25	3.2	4.1	4.3	5

* All Dimensions in mm

IS : 2585 - 1968

Square Bolts, Screws

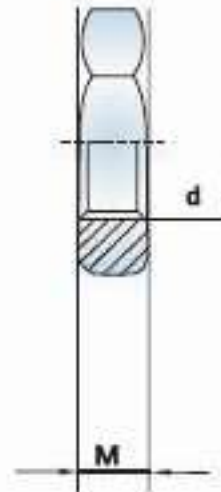
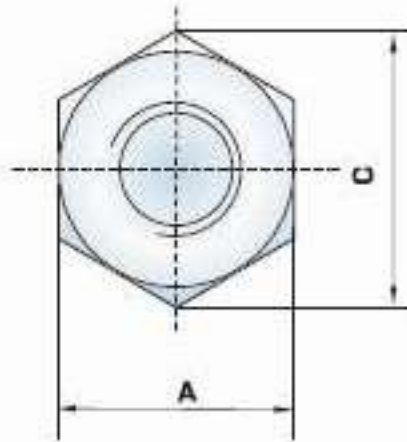


Thread size d		M6	M8	M10	M12	M14	M16	M18
s	max	10.00	13.00	17.00	19.00	22.00	24.00	27.00
	min	9.64	12.57	16.57	18.48	21.16	23.16	26.16
e	min	12.53	16.34	21.54	24.02	27.51	30.11	34.01
k	min	4.38	5.88	7.45	8.45	9.45	10.45	12.55
	max	3.62	5.12	6.55	7.55	8.55	09.00	11.45
m	max	5.38	6.95	8.45	10.45	11.55	13.55	15.55
	min	4.62	6.05	7.55	9.55	10.45	12.45	14.45

* All Dimensions in mm

BS 439

Hexagon Thin Nuts



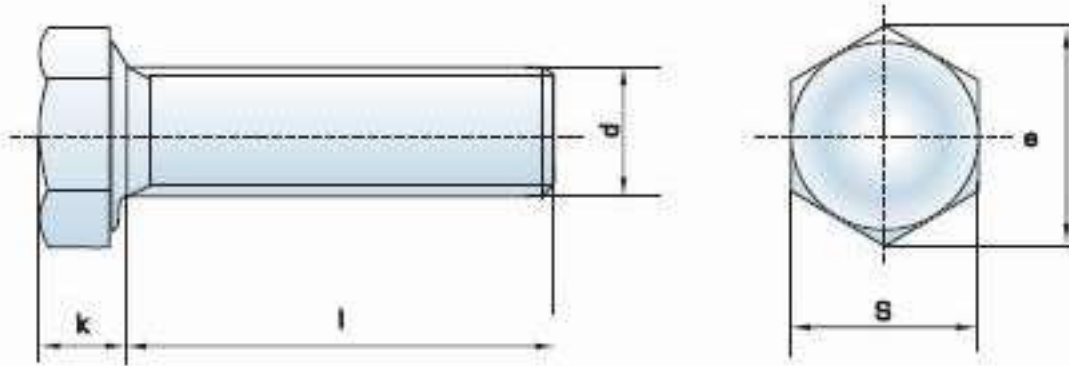
Nom. Size D	Number of Threads per Inch		Width			Thickness	
			Across Flats A		Across Flats C	Lock H	
	B.S.W.	B.S.F.	Max.	Min.	Max.	Max.	Min.
1/4	20	26	0.445	0.438	0.51	0.185	0.180
5/16	18	22	0.525	0.518	0.61	0.210	0.200
3/8	16	20	0.600	0.592	0.69	0.260	0.250
7/16	14	18	0.710	0.702	0.82	0.275	0.265
1/2	12	16	0.820	0.812	0.95	0.300	0.290
5/8	11	14	1.010	1.000	1.17	0.375	0.365
3/4	10	12	1.200	1.190	1.39	0.458	0.448

* All Dimensions in inch



BS 1083 / 1965

Precision Hexagon Bolts

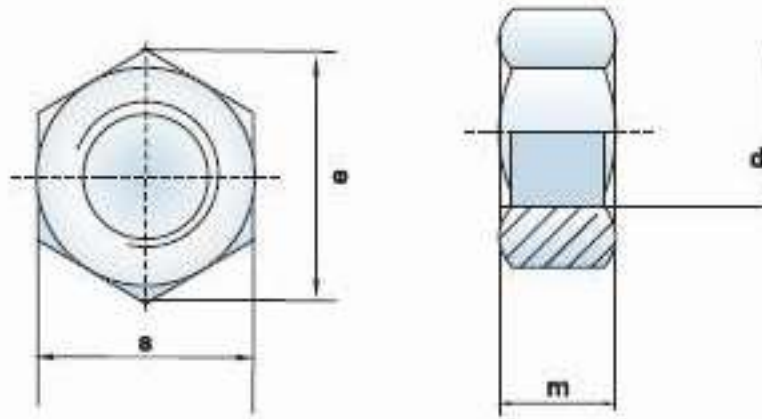


Nom. Size D	Number of Threads per Inch		Width			Thickness	
			Across Flats A		Across Flats C	F	
	B.S.W.	B.S.F.	Max.	Min.	Max.	Max.	Min.
1/4	20	26	0.445	0.438	0.51	0.176	0.166
5/16	18	22	0.525	0.518	0.61	0.218	0.208
3/8	16	20	0.600	0.592	0.69	0.260	0.250
7/16	14	18	0.710	0.702	0.82	0.302	0.292
1/2	12	16	0.820	0.812	0.95	0.343	0.333
5/8	11	14	1.010	1.000	1.17	0.417	0.407
3/4	10	12	1.200	1.190	1.39	0.500	0.480

* All Dimensions in inch

BS 1083 / 1965

Hexagon Nuts



Nom. Size D	Number of Threads per Inch		Width			Thickness	
			Across Flats s		Across Flats e	Ordinary m	
	B.S.W.	B.S.F.	Max.	Min.	Max.	Max.	Min.
1/4	20	26	0.445	0.438	0.51	0.200	0.190
5/16	18	22	0.525	0.518	0.61	0.250	0.240
3/8	16	20	0.600	0.592	0.69	0.312	0.302
7/16	14	18	0.710	0.702	0.82	0.375	0.365
1/2	12	16	0.820	0.812	0.95	0.437	0.427
5/8	11	14	1.010	1.000	1.17	0.562	0.552
3/4	10	12	1.200	1.190	1.39	0.687	0.677

* All Dimensions in inch



A-9, Pushp Industrial Arcade,
Gomtipur-Rakhial Road, Nr. Patel Mill, Rakhial,
Ahmedabad - 380023, Gujarat, India.

Telephone :

+91 - 79 - 22940884

+91 - 79 - 22940885

 +91 - 93758 01558

+91 - 94264 80391

E-mail : info@stainlessmetal.co.in

Website : www.stainlessmetal.co.in