

Specifications

This document provides the detailed specifications for supply of Austenitic Stainless Steel metric fasteners.

1. Scope of supply

The scope of supply covered in this tender is indicated in the Table 1 below.

Table 1

Sr. No.	Item Description	Quantity per set	Supply Quantity
1.	Hexagonal Head Bolt (Full threaded)	As per table A	One set
2.	Hexagon socket head (Allen) cap bolt (Full threaded)	As per table B	
3.	Plain Washer	As per table C	
4.	Hexagonal Nut	As per table D	
5.	Cheese Head Screws (Full threaded)	As per table E	
6.	Full threaded studs	As per table F	

- ***Bidder shall submit offer for one set and shall not quote cost of individual items.***
- ***Bidder shall offer for all the items. If the bidder does not offer for all the items, the offer shall be considered incomplete and may not be considered.***

Table A Hexagonal Head Bolt (Full threaded)

S. No.	Size	Quantity
A1.	M4 X 30	500
A2.	M4 X 50	500
A3.	M5 X 30	500
A4.	M5 X 50	500
A5.	M6 X 25	1000
A6.	M6 X 40	1000
A7.	M6 X 60	1000
A8.	M8 X 20	500
A9.	M8 X 30	500
A10.	M8 X 40	500
A11.	M8 X 50	1000
A12.	M8 X 60	1000
A13.	M8 X 80	1000
A14.	M10 X 40	500
A15.	M10 X 50	1000
A16.	M10 X 60	1000
A17.	M10 X 80	500
A18.	M12 X 50	200
A19.	M12 X 80	300
A20.	M14 X 80	100
A21.	M16 X 100	50
A22.	M16 X 150	50

Table B Hexagon socket head (Allen) cap bolt (Full threaded)

S. No.	Size	Quantity
B1.	M3 X 20	500
B2.	M3 X 50	300
B3.	M4 X 40	300
B4.	M5 X 20	250
B5.	M5 X 30	250
B6.	M5 X 50	250
B7.	M6 X 25	500
B8.	M6 X 35	500
B9.	M6 X 60	500
B10.	M8 X 30	500
B11.	M8 X 50	500
B12.	M8 X 60	500
B13.	M8 X 100	500
B14.	M10 X 30	200
B15.	M10 X 50	500
B16.	M10 X 80	500

Table C Plain Washer

S. No.	Size	Quantity	Thickness (mm)
C1.	M 3	1600	1.0
C2.	M 4	2600	1.0
C3.	M 5	3500	1.0
C4.	M 6	9000	1.0
C5.	M 8	13000	1.0
C6.	M 10	8400	1.2
C7.	M 12	1000	1.2
C8.	M 14	200	1.2
C9.	M 16	200	1.5

Table D Hexagonal Nut

S. No.	Size	Quantity
D1.	M3	800
D2.	M4	1300
D3.	M5	1750
D4.	M6	4500
D5.	M8	6500
D6.	M10	4200
D7.	M12	500
D8.	M14	100
D9.	M16	100

Table E Cheese Head Screws (Full threaded)

S. No.	Size	Quantity
E1.	M3 X 20	1000
E2.	M3 X 30	1000
E3.	M4 X 30	1000
E4.	M4 X 50	1000
E5.	M5 x 30	1000
E6.	M5 x 50	1000

Table F Full Threaded Studs

S. No.	Size	Quantity
F1.	M6 X 40 (with or without screwdriver slot)	500
F2.	M8 X70 (with or without screwdriver slot)	1000
F3.	M10 X80 (with or without screwdriver slot)	500
F4.	M5 x 1000	50

F5.	M6 x 1000	100
F6.	M8 x 1000	100
F7.	M10 x 1000	100

2. Technical Specification

2.1 Applicable standard:-

- All hexagonal head bolts shall confirm to IS: 1367 (Part 14/Sec 1) : 2018 or latest or DIN 931/933 or ISO 3506-1:2009.
- All hexagonal nuts shall confirm to IS: 1367 (Part 14/Sec 1) or latest or DIN 934/970 or ISO 4032.
- All plain washers shall confirm to ASME or DIN or ISO standard
- All Hexagon socket head (Allen) cap bolt shall confirm to IS 2269 : 2006 or equivalent DIN / ISO 4762 : 2004.

2.2 Mechanical properties:- The fasteners should be of following group and grade with the indicated strength as per IS: 1367 (Part 14/Sec 1) : 2018 or ISO 3506-1:2009 or DIN ISO 3506.

Item	Group	Grade	Property Class	Tensile Strength N/mm ² (min.)
Bolt	Austenite	A2	70	700
Washer	Austenite	A2	70	700
Nut	Austenite	A2	70	700

2.3 Chemical properties:- The fasteners shall have following chemical composition as per IS: 1367 (Part 14/Sec 1) : 2018 or ISO 3506-1:2009 or DIN ISO 3506.

Group	Grade	C	Si	Mn	Cr	Ni
Austenite	A2	0.10	1.0	2.0	15.0-20.0	8.0-19.0

2.4 Marking:- All the Hexagon head screws, Allen Head screws and nuts of M5 thread diameter and greater shall be clearly marked in accordance with the designation system mentioned in IS : 1367 or equivalent DIN / ISO standard.

2.5 Supply condition:- Unless otherwise specified, stainless steel fasteners shall be supplied clean and bright.

2.6 Magnetic Properties:- All austenitic stainless steel fasteners shall be non-magnetic (relative permeability $\mu_r \leq 1.3$).

3. Packing

- a. All fasteners shall be supplied only in cardboard / plastic boxes except studs. Studs may be supplied in gunny bags / cardboard packing.
- b. Marking of the designation is mandatory on all packages or containers of all sizes.

4. Acceptance criteria

Following would be the acceptance criteria for the supplied items.

- i. Supplier shall supply all items indicated in the scope of supply
- ii. Supplier shall submit test certificates for chemical composition, mechanical properties and magnetic permeability along with supply of material.
- iii. Supply would be treated as complete only after receipt of all items indicated in the scope of supply.
- iv. Material packing shall be as per packing clause

5. Delivery period

The items shall be supplied within **two months** from the date of purchase order. The items shall be supplied along with test certificates.