



**RIMCO** OVERSEAS

# STUD BOLT SIZE CHART

[export@rimcooverseas.com](mailto:export@rimcooverseas.com)

Compare the stud bolt size chart with different manufacturers, Our service provide case studies over solution for problems of stud head bolts in class 150 to 2500. Stud bolts used with flanges for better load distribution.

---

## Address

Mumbai (India)

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

---





## Table Of Content

- ❖ Threaded Stud Specifications
- ❖ Stud Bolt Size Chart for Flanges
- ❖ Stud Bolt Size for API Flanges
- ❖ Stud Head Bolts Thread Type
- ❖ Stud Bolt Types
- ❖ Calculating Method for Stud Bolt Length
- ❖ Stud Bolts Dimensions for RF
- ❖ Stud Bolts Dimensions for RTJ
- ❖ Threaded Stud Bolt Materials
- ❖ Standards for Stud Bolt

## Top 7 Key Features of Flange Stud Bolt

- ❖ Dual-Threaded Design
- ❖ Nut Flexibility
- ❖ Enhancing Accessibility
- ❖ Tension Control
- ❖ Variability in Stud Bolt Types
- ❖ Corrosion Resistance
- ❖ Compatibility with Flanges

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



# Threaded Stud Specifications

## STUD BOLT

- ✓ Size in Ready Stock : M2 to M80
- ✓ Use : Join Two Parts
- ✓ Benefits : Dual Threaded Design
- ✓ DIN Standard : DIN 976
- ✓ BS Standard : BS 4882
- ✓ Applications : Oil and Gas

SINCE 2018

- ✓ Specifications : ASME B1.1
- ✓ Environments : Harsh Chemicals
- ✓ Threads : Fully Threaded
- ✓ Coating : PTFE & Teflon
- ✓ Stud Bolts Face : RTJ & RJ
- ✓ Stud Bolts Class : 150# To 2500#



[www.rimcooverseas.com](http://www.rimcooverseas.com)  
VISIT OUR WEBSITE



MORE INFORMATION EMAIL  
[export@rimcooverseas.com](mailto:export@rimcooverseas.com)



**RIMCO** OVERSEAS



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



## Stud Bolt Size Chart for Flanges

| Size Class 150 (1/16 RF) |                   |                     |              |                |
|--------------------------|-------------------|---------------------|--------------|----------------|
| NPS                      | Stud Bolts Length | Headed Bolts Length | Bolts Number | Bolts Diameter |
| 1/2                      | 2-1/4             | 1-3/4               | 4            | 1/2            |
| 3/4                      | 2-1/4             | 2                   | 4            | 1/2            |
| 1                        | 2-1/2             | 2                   | 4            | 1/2            |
| 1-1/2                    | 2-3/4             | 2-1/4               | 4            | 1/2            |
| 2                        | 3                 | 2-3/4               | 4            | 5/8            |
| 3                        | 3-1/2             | 3                   | 4            | 5/8            |
| 4                        | 3-1/2             | 3                   | 8            | 5/8            |
| 6                        | 3-3/4             | 3-1/4               | 8            | 3/4            |
| 8                        | 4                 | 3-1/2               | 8            | 3/4            |
| 10                       | 4-1/2             | 3-3/4               | 12           | 7/8            |
| 12                       | 4-1/2             | 4                   | 12           | 7/8            |
| 14                       | 5                 | 4-1/4               | 12           | 1              |
| 16                       | 5-1/4             | 4-1/2               | 16           | 1              |
| 18                       | 5-3/4             | 4-3/4               | 16           | 1-1/8          |
| 20                       | 6                 | 5-1/4               | 20           | 1-1/8          |
| 24                       | 6-3/4             | 5-3/4               | 20           | 1-1/8          |

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



| Size Class 300 (1/16" RF) |                   |                     |                |              |
|---------------------------|-------------------|---------------------|----------------|--------------|
| NPS                       | Stud Bolts Length | Headed Bolts Length | Bolts Diameter | Bolts Number |
| 1/2                       | 2-1/2             | 2                   | 1/2            | 4            |
| 3/4                       | 2-3/4             | 2-1/2               | 5/8            | 4            |
| 1                         | 3                 | 2-1/2               | 5/8            | 4            |
| 1-1/2                     | 3-1/2             | 3                   | 3/4            | 4            |
| 2                         | 3-1/4             | 3                   | 5/8            | 8            |
| 3                         | 4                 | 3-1/2               | 3/4            | 8            |
| 4                         | 4-1/4             | 3-3/4               | 3/4            | 8            |
| 6                         | 4-3/4             | 4-1/4               | 3/4            | 12           |
| 8                         | 5-1/4             | 4-3/4               | 7/8            | 12           |
| 10                        | 6                 | 5-1/4               | 1              | 16           |
| 12                        | 6-1/2             | 5-3/4               | 1-1/8          | 16           |
| 14                        | 6-3/4             | 6                   | 1-1/8          | 20           |
| 16                        | 7-1/4             | 6-1/2               | 1-1/4          | 20           |
| 18                        | 7-1/2             | 6-3/4               | 1-1/4          | 24           |
| 20                        | 8                 | 7                   | 1-1/4          | 24           |
| 24                        | 9                 | 7-3/4               | 1-1/2          | 24           |

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



| Size Class 600 (19/4" RF) |                   |                     |                |              |
|---------------------------|-------------------|---------------------|----------------|--------------|
| NPS                       | Stud Bolts Length | Headed Bolts Length | Bolts Diameter | Bolts Number |
| 1/2                       | 3                 | 2-1/2               | 1/2            | 4            |
| 3/4                       | 3-1/4             | 2-3/4               | 5/8            | 4            |
| 1                         | 3-1/2             | 3                   | 5/8            | 4            |
| 1-1/2                     | 4                 | 3-1/2               | 3/4            | 4            |
| 2                         | 4                 | 3-1/2               | 5/8            | 8            |
| 3                         | 4-3/4             | 4-1/4               | 3/4            | 8            |
| 4                         | 5-1/2             | 5                   | 7/8            | 8            |
| 6                         | 6-1/2             | 6                   | 1              | 12           |
| 8                         | 7-1/2             | 7                   | 1-1/8          | 12           |
| 10                        | 8-1/4             | 7-3/4               | 1-1/4          | 16           |
| 12                        | 8-1/2             | 8                   | 1-1/4          | 20           |
| 14                        | 9                 | 8-1/2               | 1-3/8          | 20           |
| 16                        | 9-3/4             | 9-1/4               | 1-1/2          | 20           |
| 18                        | 10-1/2            | 10                  | 1-5/8          | 20           |
| 20                        | 11-1/4            | 10-3/4              | 1-5/8          | 24           |
| 24                        | 12-3/4            | 12-1/4              | 1-7/8          | 24           |

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



## Stud Bolt Size for API Flanges

| Pressure Rating<br>Of API Flanges | API Flanges Size | Studs With Nuts |                 |
|-----------------------------------|------------------|-----------------|-----------------|
|                                   |                  | Studs Size      | Number Of Bolts |
| 2000 PSI                          | 2 1/16"          | 5/8 x 4 1/2     | 8               |
|                                   | 2 9/16"          | 3/4 x 5         | 8               |
|                                   | 3 1/8"           | 3/4 x 5 1/4     | 8               |
|                                   | 4 1/16"          | 7/8 x 6         | 8               |
|                                   | 7 1/16"          | 1 x 7           | 12              |
|                                   | 9"               | 1 1/8 x 8       | 12              |
|                                   | 11"              | 1 1/8 x 8 3/4   | 16              |
|                                   | 13 5/8"          | 1 1/4 x 9       | 20              |
| 3000 PSI                          | 2 1/16"          | 7/8 x 6         | 8               |
|                                   | 2 9/16"          | 1 x 6 1/2       | 8               |
|                                   | 3 1/16"          | 7/8 x 6         | 8               |
|                                   | 4 1/16"          | 1 1/8 x 7       | 8               |
|                                   | 7 1/16"          | 1 1/8 x 8       | 12              |
|                                   | 9"               | 1 1/8 x 9       | 12              |
|                                   | 11"              | 1 3/8 x 9 1/2   | 16              |
|                                   | 13 5/8"          | 1 3/8 x 10 1/4  | 20              |
| 5000 PSI                          | 2 1/16"          | 7/8 x 6         | 8               |
|                                   | 2 9/16"          | 1 x 6 1/2       | 8               |
|                                   | 3 1/16"          | 1 1/8 x 7 1/4   | 8               |
|                                   | 4 1/16"          | 1 1/4 x 8       | 8               |
|                                   | 7 1/16"          | 1 3/8 x 10 3/4  | 12              |
|                                   | 9"               | 1 3/8 x 12      | 12              |
|                                   | 11"              | 1 7/8 x 13 3/4  | 12              |

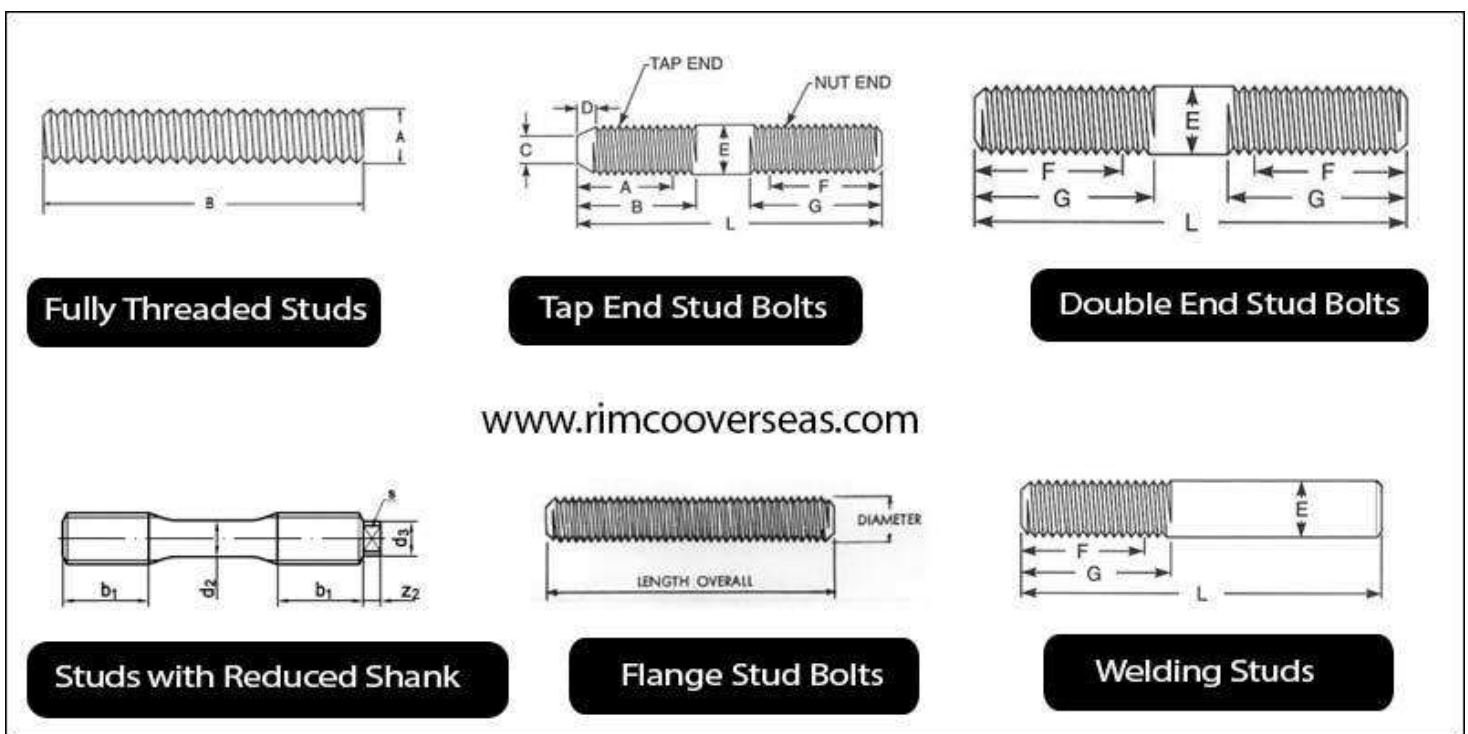
[www.rimcooverseas.com](http://www.rimcooverseas.com)



## Stud Head Bolts Thread Type

| Series        | Thread       | Grade                                         |
|---------------|--------------|-----------------------------------------------|
| 8-Thread      | 8UN          | ASTM A193 B7, A193 B8/B8M                     |
| Fine Thread   | UNF and UNRF | Tensile Strength (Grade 8.8, 10.9)            |
| Coarse Thread | UNC and UNRC | Mild Steel, Aluminium, Soft Alloys and Copper |

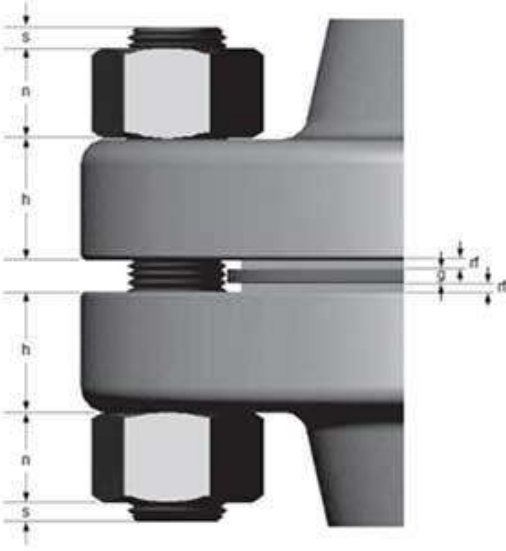
## Stud Bolt Types



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



## Calculating Method for Stud Bolt Length



**Calculating Method for Stud Bolt Length**

$$L = 2(s + n + h + rf) + g$$

- s = free threads
- n = nut thickness
- h = flange thickness
- rf = height of RF
- g = gasket thickness



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

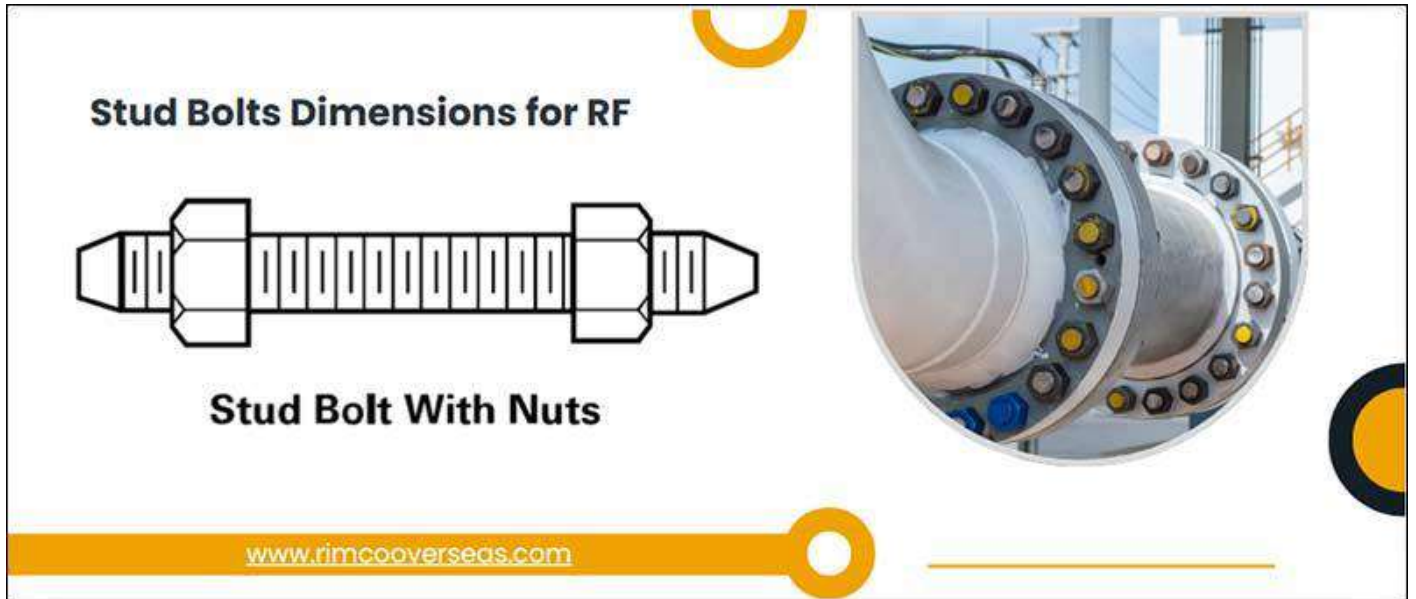
Threaded Stud Bolt Dimensions in RTJ/ RJ as per ASME B16.5



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



## Stud Bolts Dimensions for RF



### Class 150

| Size  | ISO Stud | Stud Bolts | RF Stud |
|-------|----------|------------|---------|
| -     | Size     | Number     | Length  |
| 15mm  | M14      | 4          | 55      |
| 20mm  | M14      | 4          | 65      |
| 40mm  | M14      | 4          | 70      |
| 50mm  | M16      | 4          | 85      |
| 80mm  | M16      | 4          | 90      |
| 90mm  | M16      | 8          | 90      |
| 100mm | M16      | 8          | 90      |
| 150mm | M20      | 8          | 100     |
| 200mm | M20      | 8          | 110     |
| 300mm | M24      | 12         | 120     |
| 400mm | M27      | 16         | 135     |
| 500mm | M30      | 20         | 160     |
| 600mm | M33      | 20         | 170     |



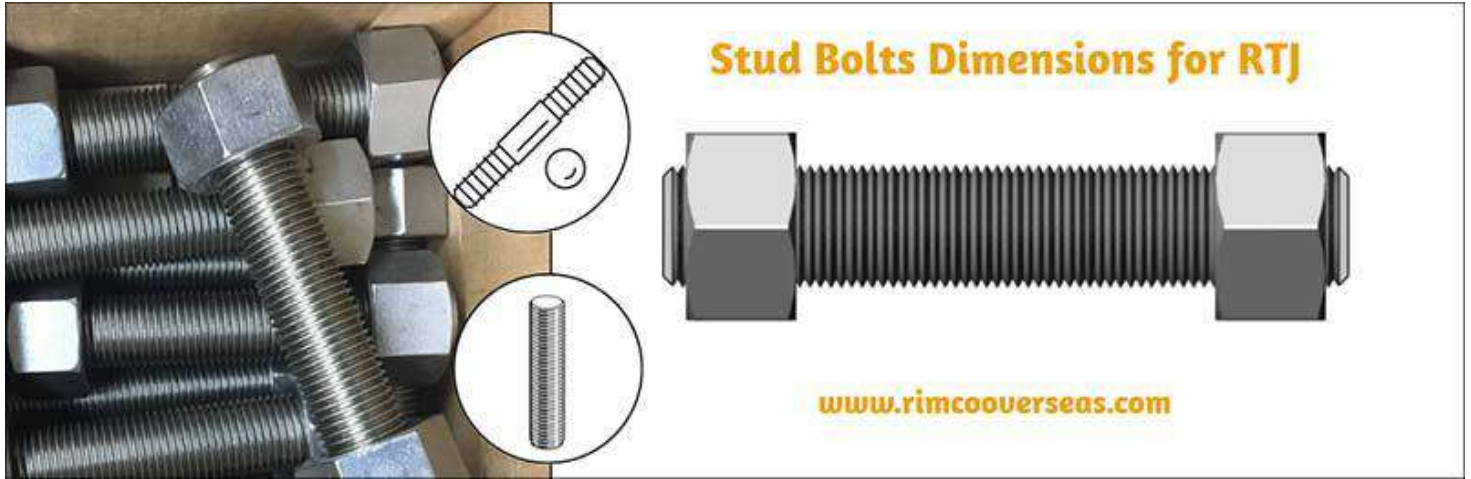
## Class 300

| Size  | ISO Stud | Stud Bolts | Stud Bolt<br>UNC | RF Stud |
|-------|----------|------------|------------------|---------|
| Inch  | Size     | Number     | Size             | Length  |
| 1/2   | M14      | 4          | 1/2              | 65      |
| 3/4   | M16      | 4          | 5/8              | 75      |
| 1     | M16      | 4          | 5/8              | 75      |
| 1 1/2 | M20      | 4          | 3/4              | 90      |
| 2     | M16      | 8          | 5/8              | 90      |
| 3     | M20      | 8          | 3/4              | 110     |
| 4     | M20      | 8          | 3/4              | 115     |
| 6     | M20      | 12         | 3/4              | 120     |
| 8     | M24      | 12         | 7/8              | 140     |
| 10    | M27      | 16         | 1                | 160     |
| 12    | M30      | 16         | 1 1/8            | 170     |
| 14    | M30      | 20         | 1 1/8            | 180     |
| 16    | M33      | 20         | 1 1/4            | 190     |
| 18    | M33      | 24         | 1 1/4            | 195     |
| 20    | M33      | 24         | 1 1/4            | 205     |
| 24    | M39      | 24         | 1 1/2            | 230     |

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



## Stud Bolts Dimensions for RTJ



### Class 150

| Normal Pipe Size | Stud bolts | Stud Bolts | RTJ    |
|------------------|------------|------------|--------|
| Inch             | Number     | Diameter   | Length |
| 1/2              | 4          | 1/2        | -      |
| 3/4              | 4          | 1/2        | -      |
| 1                | 4          | 1/2        | 75     |
| 1.1/2            | 4          | 1/2        | 85     |
| 2                | 4          | 5/8        | 95     |
| 3                | 4          | 5/8        | 100    |
| 4                | 8          | 5/8        | 100    |
| 6                | 8          | 3/4        | 115    |
| 8                | 8          | 3/4        | 120    |
| 10               | 12         | 7/8        | 125    |
| 12               | 12         | 7/8        | 135    |
| 14               | 12         | 1          | 145    |
| 16               | 16         | 1          | 145    |
| 18               | 16         | 1 1/8      | 160    |
| 20               | 20         | 1 1/8      | 170    |
| 24               | 20         | 1 1/4      | 185    |

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



## Class 300

| Normal Pipe Size | Stud bolts | Stud bolts | RTJ    |
|------------------|------------|------------|--------|
| Inches           | Number     | Diameter   | Length |
| 1/2              | 4          | 1/2        | 75     |
| 3/4              | 4          | 5/8        | 90     |
| 1                | 4          | 5/8        | 90     |
| 1.1/4            | 4          | 5/8        | 95     |
| 1.1/2            | 4          | 3/4        | 100    |
| 2                | 8          | 5/8        | 100    |
| 2.1/2            | 8          | 3/4        | 115    |
| 3                | 8          | 3/4        | 120    |
| 3.1/2            | 8          | 3/4        | 125    |
| 4                | 8          | 3/4        | 125    |
| 5                | 8          | 3/4        | 135    |
| 6                | 12         | 3/4        | 140    |
| 8                | 12         | 7/8        | 150    |
| 10               | 16         | 1          | 170    |
| 12               | 16         | 1 1/8      | 185    |
| 14               | 20         | 1 1/8      | 190    |
| 16               | 20         | 1 1/4      | 205    |
| 18               | 24         | 1 1/4      | 210    |
| 20               | 24         | 1 1/4      | 220    |
| 24               | 24         | 1 1/2      | 255    |

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



## Stud Head Bolts Size Temperature Wise Materials

### Threaded Stud Bolt Materials

| Design Temperature | Stud Bolt Grade                            | Hex Nuts Grade | Flange Material                     |
|--------------------|--------------------------------------------|----------------|-------------------------------------|
| -195° to 102°C     | <a href="#">ASTM A320 Grade B8 Class 2</a> | A194 Grade 8A  | ASTM A 182 F304/ F304L, F316/ F316L |
| -101° to -47°C     | ASTM A320 L7                               | A194 Grade 7   | ASTM A 350 LF2                      |
| -29° to 427°C      | <a href="#">ASTM A193 Grade B7</a>         | A194 Grade 2H  | ASTM A105                           |
| 538° to 648°C      | <a href="#">ASTM A193 B8 Class 1</a>       | A194 Grade 8A  | ASTM A182 F11 and F22               |
| 649° to 815°C      | <a href="#">ASTM A193 B8M Class 1</a>      | A194 Grade 8A  | ASTM A182 F304H and F316 H          |

### Most Popular Materials

| Marine Grade                                                                                                                                                                                                                                                                                                                                                                                                                            | Aerospace Grade                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>▪ <a href="#">Stainless Steel 304 Fasteners</a></li> <li>▪ <a href="#">Stainless Steel 304L Fasteners</a></li> <li>▪ <a href="#">Stainless Steel 316 Fasteners</a></li> <li>▪ <a href="#">Stainless Steel 316L Fasteners</a></li> <li>▪ <a href="#">Stainless Steel 904L Fasteners</a></li> <li>▪ <a href="#">Duplex Fasteners</a></li> <li>▪ <a href="#">Super Duplex 2507 Bolts</a></li> </ul> | <ul style="list-style-type: none"> <li>❖ <a href="#">Inconel Fasteners</a></li> <li>❖ <a href="#">Hastelloy Fasteners</a></li> <li>❖ <a href="#">Monel Fasteners</a></li> <li>❖ <a href="#">Titanium Fasteners</a></li> <li>❖ <a href="#">Copper Nickel Fasteners</a></li> <li>❖ <a href="#">Brass Bolts</a></li> </ul> |

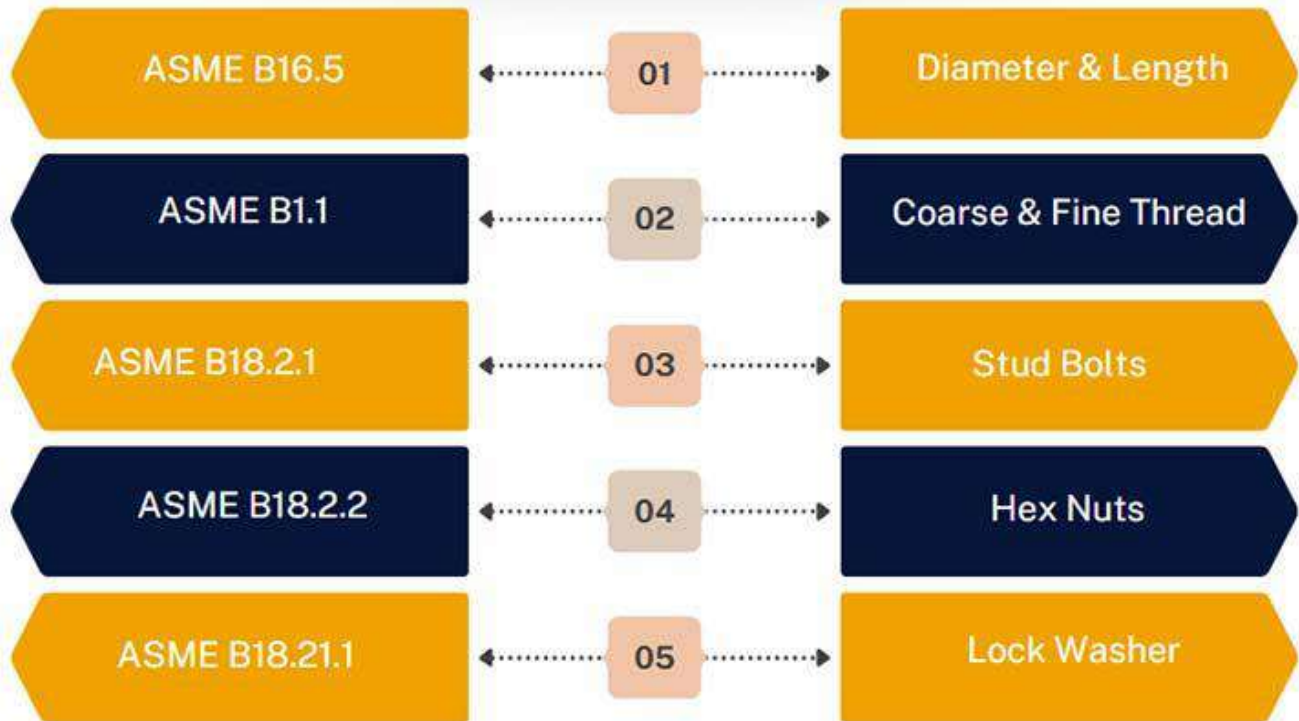
[www.rimcooverseas.com](http://www.rimcooverseas.com)



## Standards for Stud Bolt

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

### Standards for Stud Bolt



Studs Available in Coarse Thread as per ASME B1.1

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



## Coarse Thread Studs Diameter

| Size   | Hex Nut Size | Pitch | Diameter |
|--------|--------------|-------|----------|
| Metric | Size         | MM    | Inch     |
| M12    | 19           | 1.75  | 0.47     |
| M14    | 22           | 2     | 0.55     |
| M16    | 24           | 2     | 0.62     |
| M20    | 30           | 2.5   | 0.78     |
| M22    | 32           | 2.5   | 0.86     |
| M24    | 36           | 3     | 0.94     |
| M30    | 46           | 3.5   | 1.18     |
| M33    | 50           | 3.5   | 1.29     |
| M42    | 65           | 4.5   | 1.65     |
| M48    | 75           | 5     | 1.88     |
| M52    | 80           | 5     | 2.04     |
| M56    | 85           | 5.5   | 2.20     |
| M64    | 95           | 6     | 2.51     |
| M72    | 105          | 6     | 2.83     |
| M80    | 115          | 6     | 3.14     |
| M90    | 130          | 6     | 3.54     |
| M100   | 145          | 6     | 3.93     |
| M110   | 155          | 6     | 4.33     |

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

