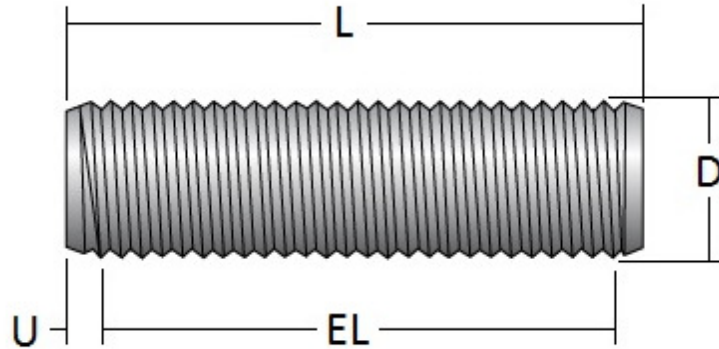


### Stud Bolts, ASTM A193/A193M and ASME SA193/SA193M, Grade B7 Stud with 2H Heavy Hex Nut, Plain, Assembly

The information below lists the required dimensional, chemical and physical characteristics of the products in this purchase order. If the order received does not meet these requirements, it may result in a supplier corrective action request, which could jeopardize your status as an approved vendor. Unless otherwise specified, all referenced consensus standards must be adhered to in their entirety.



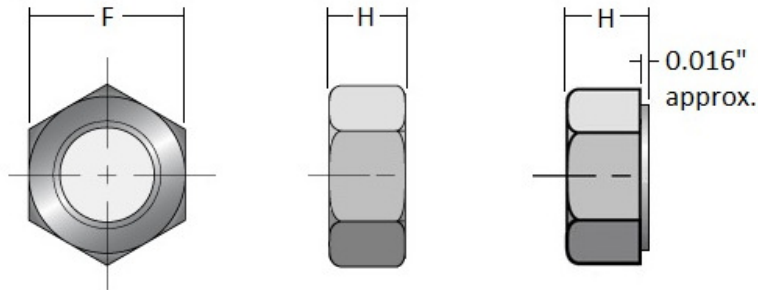
Nominal Size	D (inch)	
	Major Diameter	
	Min.	Max.
1/4"	.2408	.2489
5/16"	.3026	.3113
3/8"	.3643	.3737
7/16"	.4258	.4361
1/2"	.4876	.4985
9/16"	.5459	.5609
5/8"	.6112	.6233
3/4"	.7353	.7482
7/8"	.8592	.8731
1"	.9830	.9980
1-1/8"	1.1079	1.1229
1-1/4"	1.2329	1.2479
1-3/8"	1.3578	1.3728
1-1/2"	1.4828	1.4978

EL	
Effective Length	Tolerance
$\leq 12$ inch	+/- 0.062"
$12 \leq 18$ inch	+/- 0.125"
18 inch <	+/- 0.250"

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Date: May 22, 2017	<b>FASTENAL</b>	STB.B7.ASMBL.P

### Stud Specification Requirements:

- **Dimensions:** See Table Above
- **Stud Ends (U length):** Ends of the stud may be flat and chamfered, rounded or sheared at the manufacturer's option; except that the "U" length shall not exceed 2 thread pitches in length at each end.
- **EL Diameters:** Diameters within the Effective Length shall be of full thread form throughout its entire length and shall conform to System 21, thread gaging per ASME B1.3
- **Mechanical & Chemical Properties:** ASTM A193/A193M and ASME SA193/SA193M; B7
- **Thread Requirements:** ASME B1.1, 2A
  - UNC for all stud diameters 1" and smaller
  - UN8 for all stud diameters greater than 1"
- **Finish:** Light Protective Oil
- **Product Marking:** Grade mark in accordance with ASTM A193/A193M and ASME SA193/SA193M:  
B7 and manufacturer's identification symbols shall be applied to one end of studs  $\frac{3}{8}$  in. [10 mm] in diameter and larger. If the available area is inadequate, the grade symbol may be marked on one end and the manufacturer's identification symbol marked on the other end of studs.
- **Material Test Reports:** The MTR must have documented lot traceability, dimensional results, full chemical test results and full mechanical test results to the specification(s) above. In addition, the MTR shall be in full compliance with Fastenal's MTR Requirements.



Nominal Size	F		H	
	Width Across Flats		Thickness	
	Max.	Min.	Max.	Min.
1/4	.500	.488	.250	.218
5/16	.562	.546	.314	.280
3/8	.688	.669	.377	.341
7/16	.750	.728	.441	.403
1/2	.875	.850	.504	.464
9/16	.938	.909	.568	.526
5/8	1.062	1.031	.631	.587
3/4	1.250	1.212	.758	.710
7/8	1.438	1.394	.885	.833
1	1.625	1.575	1.012	.956
1 1/8	1.812	1.756	1.139	1.079
1 1/4	2.000	1.938	1.251	1.187
1 3/8	2.188	2.119	1.378	1.310
1 1/2	2.375	2.300	1.505	1.433

#### Nut Specification Requirements:

- Dimensions: ASME B18.2.2 Heavy Hex
- Thread Requirements: ASME B1.1, 2B
  - UNC for all stud diameters 1" and smaller
  - UN8 for all stud diameters greater than 1"
- Nut Material & Mechanical Properties: Grade 2H per ASTM A194/A194M and ASME SA194/SA194M
- Nut Product Marking: Manufacturer ID and 2H for forged, or 2HB if machined from bar stock
- Finish: Light Protective Oil
- Material Test Reports: The MTR must have documented lot traceability, dimensional results, full chemical test results and full mechanical test results to the specification(s) above, for the entire assembly. In addition, the MTR shall be in full compliance with Fastenal's MTR Requirements.