

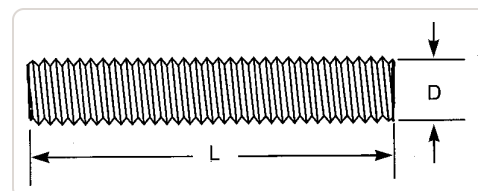


PRODUCT DATA SHEET

All Threaded Rods – Inch Series

1.0 Dimensions ASME B18.31.3

- Threaded rods have only two dimensions: **thread** and **length**.
- Thread:** ASME B1.1
- Length (L):** measured from end to end. Tolerance is $\pm 1/4"$ for nominal lengths less than 6 feet and $\pm 1/2"$ for nominal lengths 6 feet & longer.
- Threaded rod ends are **not pointed** (not chamfered).



THREAD FIT

ASTM A307 Grade A	Plain: 1A. Zinc Plated: 1A before zinc plating; after zinc plating should meet 3A GO and 1A NO GO thread ring gage condition. Hot Dip Galvanized: 1A before coating.
ASTM F1554 Grade 36	Plain: 1A. Zinc Plated: 1A before zinc plating; after zinc plating should meet 3A GO and 1A NO GO thread ring gage condition.
ASTM F1554 Grade 55 S1 Weldable	Plain: 1A.
ASTM F593 304 & 316	Passivated: 1A.
ASTM A193/A193M or ASME SA-193/SA-193M Grade B7	Plain: 2A. Zinc Plated: 2A before zinc plating; after zinc plating should meet 3A GO and 2A NO GO thread ring gage condition.
ASTM A193/A193M or ASME SA-193/SA-193M Grade B8 & B8M	Plain: 2A.
ASTM A354 Grade BD	Class 2A.
Aluminum 6061-T6 & Brass C36000	Class 2A.

2.0 Mechanical Properties

2.1 STEEL

Standard / Grade	Hardness	Tensile Strength		
ASTM A307 Grade A	100 HRB Max	Minimum 60,000 PSI		

Standard / Grade	Tensile Strength	Yield Strength	Elongation Minimum	Reduction of Area Minimum
ASTM F1554 Grade 36	Min 58,000 PSI Max 80,000 PSI	Minimum 36,000 PSI	In 8": 20% In 2": 23%	40%
ASTM F1554 Grade 55 S1 Weldable	Min 75,000 PSI Max 95,000 PSI	Minimum 55,000 PSI	In 8": 18% In 2": 21%	30%

Standard / Grade	Hardness	Tensile Strength	Yield Strength	Elongation Minimum	Reduction of Area Minimum
ASTM A193/A193M or ASME SA-193/SA-193M Grade B7	35 HRC Max	Minimum 125,000 PSI	Minimum 105,000 PSI	16%	50%
ASTM A354 Grade BD 1/4" to 2-1/2" incl.	HRC 33 to 39	Minimum 150,000 PSI	Minimum 130,000 PSI	14%	40%
ASTM A354 Grade BD Over 2-1/2" to 4" incl.	HRC 31 to 39	Minimum 140,000 PSI	Minimum 115,000 PSI	14%	40%

2.2 STAINLESS STEEL

Standard / Grade	Diameter	Condition	Hardness	Tensile Strength	Yield Strength
ASTM F593 304 (18-8) & 316	1/4" to 5/8" incl.	CW1	HRB 95 to HRC 32	100,000 to 150,000 PSI	65,000 PSI
ASTM F593 304 (18-8) & 316	3/4" to 1-1/2" incl.	CW2	HRB 80 to HRC 32	85,000 to 140,000 PSI	45,000 PSI

Standard / Grade	Hardness	Tensile Strength	Yield Strength	Elongation Minimum	Reduction of Area Minimum
ASTM A193/A193M or ASME SA-193/SA-193M Grade B8 & B8M	96 HRB Max	Minimum 75,000 PSI	Minimum 30,000 PSI	30%	50%

2.3 ALUMINUM & BRASS

Material / Standard	Diameter	Temper	Tensile Strength	Yield Strength	Elongation Minimum
Aluminum 6061-T6 ASTM B211	#8 to 3/4" incl.	T6	Minimum 42,000 PSI	Minimum 35,000 PSI	10%
Brass C36000 (360) ASTM B16	1/2" & under	H02 (Half Hard)	Minimum 57,000 PSI	Minimum 25,000 PSI	7%
Brass C36000 (360) ASTM B16	Over 1/2" to 1" incl.	H02 (Half Hard)	Minimum 55,000 PSI	Minimum 25,000 PSI	10%

3.0 Surface Finish Plain / Zinc / HDG

Properties	Zinc Clear	Hot Dip Galvanized (HDG)
Type	Trivalent (Cr+3), RoHS Compliant	–
Color	Clear	–
Coating Thickness	0.0001" / 3 microns minimum	Sizes 3/8" & under: minimum 0.0017" (43 microns). Sizes over 3/8": minimum 0.0020" (50 microns).
Specification	ASTM F1941/F1941M, Fe/Zn 3AN	ASTM F2329/F2329M or ASTM A153/A153M

Note: Stainless steel threaded rods will be passivated. Aluminum and brass threaded rods are supplied plain (uncoated); brass yield strength is measured at 0.5% extension under load.

4.0 Frequently Asked Questions

Q. Does Nutty's threaded rod meet ASTM A36 grade?

ASTM A36 is a standard specifying the requirements of the raw material steel. It is not a specification for any fastener. Raw material meeting ASTM A36 can be used to manufacture different grades of fasteners – for example ASTM A307 Grade A, ASTM F1554 Grade 36 and SAE J429 Grade 2. Therefore the customer should also specify the grade of threaded rod required, such as ASTM A307 Grade A, ASTM F1554 Grade 36 or SAE J429 Grade 2.

Q. Can I substitute ASTM A307 Grade A threaded rod for a customer's requirement for ASTM F1554 Grade 36?

No. The mechanical properties of ASTM A307 Grade A are not the same as ASTM F1554 Grade 36. The MTR for ASTM F1554 Grade 36 threaded rod includes test results for tensile strength, yield strength, % elongation and % reduction of area. An MTR for ASTM A307 Grade A threaded rod only includes hardness & tensile strength. A customer asking for ASTM F1554 Grade 36 will require all of these results and may not accept the substitution. Even if ASTM A307 Grade A rod from stock were tested in a laboratory, it may not meet the mechanical requirements of ASTM F1554 Grade 36 – especially % elongation and % reduction of area – and it may exceed the maximum tensile strength requirement.



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