

## ASTM A36



### Mechanical Requirements

Tensile, ksi	58 - 80
Yield, min ksi	36
Elongation, min % in 2"	20
Elongation, min % in 8"	23

*This abridged table shows only the mechanical requirements for bars.*

The complete table can be found in the ASTM standard at [www.astm.org](http://www.astm.org)

### Scope

ASTM A36 covers the chemical and mechanical requirements for carbon steel shapes, plates, and bars of structural quality for use in riveted, bolted, or welded construction of bridges, buildings, and general structural purposes. Bolts manufactured from A36 steel include ASTM specifications A307 and F1554 Grade 36 as well as SAE J429 Grade 2.

### Chemical Requirements

Thickness, inches	Up to 3/4"	Over 3/4" to 1-1/2"	Over 1- 1/2" to 4"	Over 4"
Carbon, max %	0.26	0.27	0.28	0.29
Manganese, %		0.60 - 0.90	0.60 - 0.90	0.60 - 0.90
Phosphorous, max %	0.04	0.04	0.04	0.04
Sulfur, max %	0.05	0.05	0.05	0.05
Silicon, max %	0.4	0.4	0.4	0.4
Copper, min % when copper is specified	0.2	0.2	0.2	0.2

*This abridged table shows only the chemical requirements for bars. The complete table including shapes and plates can be found in the ASTM standard at [www.astm.org](http://www.astm.org)*

### Commentary Regarding Appurtenant Materials

This is not to say that the materials listed above conform to or can be made from A36 steel, simply that if the purchaser calls out a product per A36, but one that is not covered in the above scope (shapes, bars, plates), the manufacturer or supplier can supply product conforming to the above standards. For example, anchor bolts called out as A36 would be supplied as F1554 Grade 36.

### Appurtenant Materials

*When components of a steel structure are identified with this ASTM designation, but the product form is not listed in the scope of this specification, the material shall conform to one of the standards listed below unless otherwise specified by the purchaser.*

Material	ASTM Designation
Bolts	A307 Grade A
High Strength Bolts	A325
Nuts	A563
Forgings	A668 Class D
Anchor Bolts	F1554 Grade 36

*Table abridged to show only those items relevant to Mudge Fasteners*

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