

# ALL-THREAD BAR

## Grade 80



CMC's all-thread bar is currently available in Grade 80 and features a continuous hot-rolled pattern of threaded deformations along its entire length so it can be cut and coupled in the field at any point, allowing for job site flexibility. Rolling the thread form onto the bar during the manufacturing process produces a durable thread, and the deformations allow nuts and couplers to thread onto the bars at any position. Our all-thread bar offers a simple, reliable splice that requires less time for assembly than welded or swaged splices.

### Quality and Testing

CMC's all-thread bar is produced to meet the mechanical properties detailed below. Throughout the entire production process, careful attention to detail is paid to ensure that we produce only the highest-quality product. Our product meets the mechanical properties specified in ASTM A615\*\*.

### Sizes and Grades

CMC all-thread bar is manufactured in lengths up to 70 feet, and is available in the following range of sizes: #8 (25mm) to #24 (76mm). We currently produce all-thread bar to meet the mechanical properties specified in ASTM A615 Grade 80 specifications. For additional information on properties and strength of our all-thread bar, see the table below.

Nominal Bar Diameter	Nominal Area Thru Threads	Minimum Ultimate Strength	Minimum Yield Strength	Nominal Weight	Approx. Thread Major Dia.
#8 - 1" - (25 mm)	0.79 in <sup>2</sup> (510 mm <sup>2</sup> )	83 kips (369.2 kN)	63.2 kips (281.1 kN)	2.67 lbs./ft. (3.97 Kg/M)	1-1/8" (28.6 mm)
#9 - 1-1/8" (29 mm)	1.00 in <sup>2</sup> (645 mm <sup>2</sup> )	105 kips (467.1 kN)	80 kips (355.9 kN)	3.4 lbs./ft. (5.06 Kg/M)	1-1/4" (31.8 mm)
#10 - 1-1/4" - (32 mm)	1.27 in <sup>2</sup> (819 mm <sup>2</sup> )	133.4 kips (593.2 kN)	101.6 kips (451.9 kN)	4.3 lbs./ft. (6.404 Kg/M)	1-3/8" (34.9 mm)
#11 - 1-3/8" - (36 mm)	1.56 in <sup>2</sup> (1006 mm <sup>2</sup> )	163.8 kips (728.6 kN)	124.8 kips (555.1 kN)	5.313 lbs./ft. (7.907 Kg/M)	1-1/2" (38.1 mm)
#14 - 1-3/4" - (43 mm)	2.25 in <sup>2</sup> (1452 mm <sup>2</sup> )	236.3 kips (1050.9 kN)	180 kips (800.7 kN)	7.65 lbs./ft. (11.38 Kg/M)	1-7/8" (47.6 mm)
#18 - 2-1/4" - (57 mm)	4.00 in <sup>2</sup> (2581 mm <sup>2</sup> )	420 kips (1868.2 kN)	320 kips (1423.4 kN)	13.6 lbs./ft. (20.24 Kg/M)	2-7/16" (61.9 mm)
#20 - 2-1/2" - (64 mm)	4.91 in <sup>2</sup> (3168 mm <sup>2</sup> )	515.6 kips (2293.3 kN)	392.8 kips (1747.3 kN)	16.7 lbs./ft. (24.8 Kg/M)	2-3/4" (69.9 mm)
#24 - 3" - (76 mm) *	7.07 in <sup>2</sup> (4534 mm <sup>2</sup> )	742.4 kips (3302.1 kN)	565.6 kips (2515.6 kN)	24.0 lbs./ft. (35.7 Kg/M)	3-3/16" (81.0 mm)

### Welding

Specific provisions regarding welding of all-thread bars are not available, so care should be taken. Use ANSI/AWS D1.4 as a reference for procedures to follow.

### Accessories

We offer a full range of all-thread bar accessories to meet your needs. Couplers, full strength nuts, and lock nuts are available in sizes up to #24. Accessories for #14 to #24 have a round collar style, and accessories for #11 and below are a hex collar style, both with flats machined onto the outer diameter. All hardware has been designed and tested to achieve 125% minimum yield strength of the bar, as defined by ACI. Please contact our sales team for more information or to place an order.

**CMCAIThread@cmc.com | 888.870.0766**

\*\*The #24 all-thread bars are not covered under ASTM A615.

## CORROSION PROTECTION OPTIONS

There are a variety of corrosion resistant options when working with all-thread bar, including pre-grouted bars, epoxy coating, galvanizing and corrosion resistant steel. CMC offers the following options for corrosion protection that can be applied to our all-thread product range. The level of corrosion protection needed is dependent on several factors including how corrosive or severe the environment is, installation and the required service life of the product. Our team can work with you to determine the best fit for your project needs, depending on the circumstances and requirements of your project. Please contact your CMC representative for additional information.

### Epoxy Coating

Epoxy coated bars and fasteners are produced in accordance with ASTM A775 or ASTM A934. Coating thickness is between 7 to 12 millimeters. Epoxy coated bars and components can be damaged if mishandled. Fasteners are often galvanized, even though the bar may be epoxy coated, to protect against damage in the field. Epoxy coating patch kits are provided for field for repairs when surfaces are nicked or scratched.

### Galvanizing

Galvanizing adds a coating of zinc to the bar, extending the service life of the base steel underneath. Galvanized bars have excellent bond characteristics to grout or to concrete. Galvanization may be applied to bars and all accessories. CMC offers both ASTM A153 and ASTM 1094 coatings with thickness for steel bars and components between 2 and 4 millimeters.

### ChromX®

ChromX® ASTM 1035 reinforcing steel is an alternative option for corrosion resistant coatings. Offered in grades 100 and 120, ChromX® is an uncoated, high strength, corrosion resistant steel produced by CMC. Depending on the level of corrosiveness of the environment, ChromX® offers two levels of corrosion protection, with the highest offering up to 100-year service life.



**For more information, contact us at [CMCAIThread@cmc.com](mailto:CMCAIThread@cmc.com) or 888.870.0766.**

**A CENTURY OF INDUSTRY EXPERIENCE** Founded in 1915, Commercial Metals Company and its subsidiaries recycle, manufacture and fabricate steel, metal products and related materials through a network of facilities throughout the United States and around the globe. As a publically traded company (NYSE: CMC) on the Fortune 1000 list, our long-standing professionalism and exceptional level of service have been recognized among the best in our industry. We set the standard for being an environmentally responsible, efficient, high quality, and low cost metal recycler, steel manufacturer and fabricator.