

Timken® 13- through 16-inch Round Bars

TIMKEN

Where You Turn

We're expanding...

At The Timken Company, performance is our priority, whether it's the performance of our customers or that of our own products. This includes our rolled carbon and alloy steel. We produce some of the cleanest, highest-quality steels in the world for the most demanding applications, and we have the expertise to tailor production heats to customer specifications.

We continually look for ways to meet customer needs through value-added products and services. Now, we're helping to make it easier for customers to manufacture their own products **by expanding our rolled carbon and alloy steel round bar capabilities to a maximum diameter of 16 inch (406 mm).**

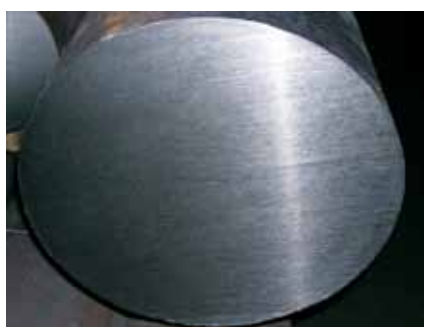
This new, larger diameter bar improves yield and efficiency through:

- Enhanced product consistency due to rolled-bar diameter
- Enhanced size control reducing or eliminating the need to rough turn
- Larger heats leading to less product testing
- Length optimization

Our new capability allows us to offer a broader size range of products across the globe, and the increased size range makes Timken the only North American steel company that direct rolls steel to the following specifications:

Bar Size OD (inch)	Bar Size OD (mm)	Bar Size Length (feet)	Bar Size Length (meters)	Bar Size Reduction Ratio*
13 in.	330 mm	27 ft	8.2 m	5.9:1
14 in.	356 mm	23 ft	7.0 m	5.1:1
15 in.	381 mm	20 ft	6.1 m	4.4:1
16 in.	406 mm	18 ft	5.50 m	3.9:1

*Based on utilizing our 28 in. x 28 in. (711 mm x 711 mm) ingot.



In addition to unique products like these, Timken's supply chain and application development groups offer added value by consulting with customers on their specific requirements in order to identify the optimum material type and process path.



Ring Rollers, Forgers and Rolled Bar

Ring rollers and forgers use rolled bar to create parts for various industrial and oil and gas applications such as gears, bearings, valves, tool joints and reamers. Our rolled bar features a consistent diameter along the full length of the bar. This significantly improves the ability to cut parts to exacting weight controls. Rolled bar also has more hot work than cast ingots, which may allow for an increased height-to-diameter ratio when upset forging. These longer lengths can significantly reduce material handling and increase productivity, and our larger heat size will minimize testing costs.

Applications

Rolled product can be produced from a variety of ingot sizes to meet your center soundness needs. With knowledge of your downstream processing path, Timken associates will select the ingot size necessary to help assure you meet or exceed your center soundness requirements. Many customers convert this bar into a component by forging, ring rolling or removing the center. These customers don't require as much center work. Conversely, other customers machine these bars directly into finished components and have stringent UT requirements. In either case, during our specification review, we will select the process path required to meet your needs while providing the most economical solution.

Rolled Bar Specifications:

- Casting method: Ingot cast
- Quality levels: Aircraft, bearing and commercial quality
- Typical conditions: Hot rolled - forged quality, machined bar
- Grade limitations: 0.80% C maximum
- Straightness: Standard mill straightness
- Surface inspection: Visual inspection and grinding
- Minimum diameter to be removed (for ring rolling and trepan applications): Ingot cast size can require minimum center stock removal of up to 25% as is common for ring rolling or trepanning

Timken is a leading manufacturer of carbon and alloy bar. Timken is Where You Turn® for ingot-cast and continuous-cast steel bars that will help your product perform more effectively and improve performance in the most demanding applications. Size ranges offered are:

- **Rounds:**
1 in. (25.4 mm) through 16 in. (406 mm)
- **Round-cornered squares:**
3.2 in. (81 mm) through 12.5 in. (317 mm)

For more information on Timken® steel and other value-added services or products, call +1-866-284-6536 (U.S.A.), +44-1455-8266320 (international), fax 1-330-471-4118 (U.S.A.) or visit our Web site at www.timken.com/products/alloysteel.

TIMKEN
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Oil and Gas

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