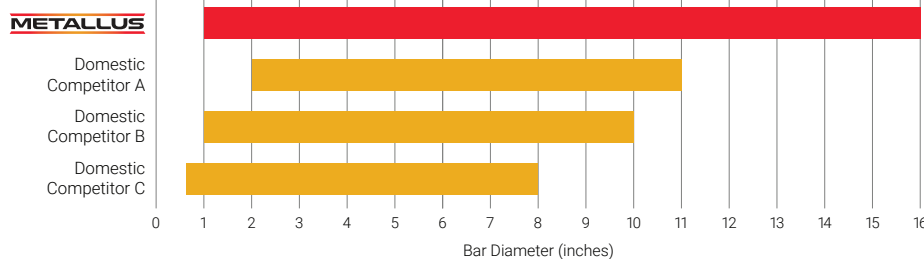


# SBQ STEEL CAPABILITIES

Leveraging advanced air-melt techniques since 1917, we offer unparalleled reliability, efficiency and performance in special bar quality (SBQ) steel bar and billets, setting the standard for critical-use applications.

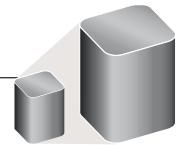
## BAR

Extensive SBQ bar sizing options—the industry’s most comprehensive range from 1" to 16" (25mm–406mm).



## Rounded-Corner Squares

3.1"–12.5"  
(79mm–318mm)



## Bar

1"–16"  
(25mm–406mm)



## Blooms (semi-finished)

13"–24"  
(330mm–610mm)



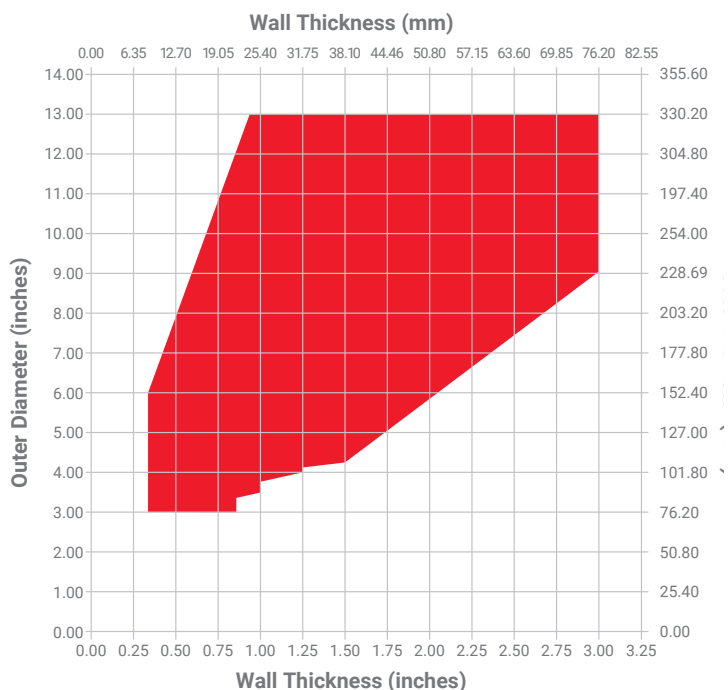
**WITH THE JUMBO BLOOM VERTICAL CASTER'S LARGE CROSS-SECTIONAL AREAS AS WELL AS OUR BOTTOM-POUR INGOT CAPABILITIES, METALLUS OFFERS THE LARGEST REDUCTION RATIOS OF ANY SBQ PRODUCER IN NORTH AMERICA. (6:1 UP TO 12.5" OD)**

## TUBE

With manufacturing rooted firmly in the USA, Metallus leads domestically as the largest seamless mechanical tube (SMT) producer.

- Our seamless mechanical tubing offers customers substantial savings versus conventional forgings and machined from bar parts.
- With over 14 million configurations, we boast the largest range of sizing capabilities.
- We excel in heavy-wall solutions with thicknesses up to 3" (76mm).

## SEAMLESS MECHANICAL TUBE SIZE RANGE



## MELT

Metallus transforms over 100 years of metallurgical know-how into more than 500 SBQ steel grades.

- Alloy, carbon, microalloy, high-strength, H-band, Metallus exclusive, made-to-order

### Metallus-Exclusive Steels

**4145HSX:** Meets heightened mechanical property demands for drill collars and other drilling applications.

**4130ModSS:** Engineered for sour service and high-strength (110 and 125 ksi) requirements.

**AF9628:** High-strength low-alloy steel for aerospace and defense, including bomb and missile systems.

**D6A/D6AC:** Ultra-high-strength steel used in military vehicle frames, aircraft rotors and naval vessel propeller shafts.

**HF1:** High-fragmentation steel for munitions.

**Impact 7:** Specifically formulated to resist fracture and deformation in mining, construction and heavy equipment manufacturing, but also to increase strength, toughness and corrosion resistance in oil well completion accessories.

**MicroTec® Family:** Improves machinability, minimizes distortions and reduces costs by eliminating heat treatment and streamlining processing.

### Quality Levels

|  |
|--|
| <b>Vacuum Melt</b><br>Purchased Melt                               |
| <b>Ultrapremium® Quality</b><br>NM SEM Image Analysis              |
| <b>Parapremium® Quality</b><br>AMS 2304                            |
| <b>Bearing Quality</b><br>ASTM A534, A295, A485                    |
| <b>Aircraft Quality</b><br>AMS 2301                                |
| <b>Electric Furnace Quality</b><br>0.025 Max Phosphorus and Sulfur |
| <b>Commercial Quality</b>  |

## FINAL-STAGE SOLUTIONS

We offer end-to-end support with advanced post-production capabilities and manufacturing customization.

### Thermal Treatment

With a comprehensive suite of thermal treatments, we are uniquely positioned to meet exacting mechanical properties.

- Annealing (softens), spheroidize annealing (1% C levels), normalizing (finer grain size), quench and temper (mechanical properties), temper (toughens), stress relieve (residual stress reduction)

### Manufactured Components

Achieve capital conservation and inventory efficiency through our streamlined program management and just-in-time supply model.

- Precision cutting (bar and tube components), drilling, boring/honing, thermal treating, hot- and cold-forging, green machining, milling, broaching, castellation, inspection, certification

From components to complete end products, we serve diverse industries.

- **Mobile:** Machined-to-print, ready-to-assemble components for gear and shaft applications for ICE and EV propulsion: planetary ring gears, pinion gears, sun gears, final drive/output gears, transfer/counter-driven gears, drive pinion gears, motor shafts
- **Industrial/Energy:** Power transmission components (gears, bearings, shafts, pinions), large thin-wall tubular components (cylinder liners, sleeves, jackets), long-length bar and tubular components (pressure tubing for LDPE manufacturing, stators, drill pipe)
- **Defense:** Preforms for weaponry (motor cases, bodies, fuse components), gun barrels, ground vehicle components

|                    |  |   |  |
|--------------------|--|---|--|
| <b>SELECTION</b>   | 500+ common grades                             | Metallus-exclusive steels                             | Cleanest air-melt steel  |
| <b>SIZE</b>        | SBQ bar 1" to 16" (25mm–406mm)                 | SBQ rounded-corner squares 3.1" to 12.5" (79mm–318mm) | Seamless tubing 3" to 13" (76mm–330mm)                               |
| <b>STRENGTH</b>    | Centralized operation (Canton, Ohio)           | 1.2 M tons annual melt capacity across three plants   | Premier heat treat capabilities; largest vertical bloom caster in NA |
| <b>SERVICE</b>     | End-to-end program and supply chain management | Technical support and testing                         | Application and conversion services                                  |
| <b>STEWARDSHIP</b> | 100% of products include recycled material     | EAF process with fewer emissions than a blast furnace | 44% drop in combined scopes 1 and 2 GHG emissions since 2018         |

Visit [METALLUS.COM](http://METALLUS.COM), call us at 866.284.6536 (USA) or email [quotes@metallus.com](mailto:quotes@metallus.com).

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