



TITANIUM ULTRABAR®

Small-diameter titanium ULTRABAR offers tight dimensional tolerances and exceptional diameter uniformity for Swiss-style machine applications. With stringent roundness, straightness, and finish requirements, as well as better overall size variability than conventionally ground precision bar, titanium ULTRABAR leads the way with unprecedented consistency from end-to-end, bar-to-bar, and lot-to-lot.

Mill-supplied ULTRABAR works extremely well with auto-loaders and moves efficiently through guide bushings, allowing for higher speeds and feed rates that may optimize production and yield productivity improvements. ULTRABAR can also minimize interruptions in production, reduce downtime for machine adjustments, and virtually eliminate machining vibration and the need for conversion and finish grinding.

UP TO 25% IMPROVED PRODUCTIVITY WITH ULTRABAR PRECISION

Titanium ULTRABAR was developed to meet the needs of customers who were taking conventional precision bar to custom grinding houses. Through a proprietary grinding process, ULTRABAR provides an in-stock solution for the exceptional dimensional accuracy high-precision products require.

One such customer—a contract medical implant producer that specializes in bone screws, spinal implants, femoral knee joints, and fixation systems—began using titanium ULTRABAR small-diameter, extra precision ground titanium bar on its computer numerically controlled (CNC) Swiss-type screw machines. Accuracy was crucial: 65% of implants machined with Swiss lathes are bone screws, which must be very precisely machined and exhibit extreme tolerances. In addition to meeting tight tolerances, using ULTRABAR resulted in efficiency improvements of 25% or more on certain jobs. Operators also spent less time on material set up and process optimization.

SETTING THE ULTRABAR

Carpenter Technology's proprietary process combines leading technology with state-of-the-art processing, resulting in a new industry standard for machining bar.

AVAILABLE OPTIONS		
Bar diameters	3–12 mm (0.11811–0.47244 in)	
Lengths	up to 4.26 m (14 ft)	
	Ti 6Al-4V	Ti 6Al-4V ELI
Available	Ti 6Al-7Nb	CP Ti - Grade 1
Medical grades:	CP Ti - Grade 2	CP Ti - Grade 3
	CP Ti - Grade 4	

Additional sizes and titanium grades available on application

Applications specifically suggested for material described herein are made solely for the purpose of illustration to enable the reader to make his/her own evaluation and are not intended as warranties, either express or implied, of fitness for these or other purposes. There is no representation that the recipient of this literature will receive updated editions as they become available.

TOLERANCE CHARTS

METRIC: DIAMETER RANGE (MM) (H5)		
>	≤	TOLERANCE (MM)
—	3	+0 / -0.004
3	6	+0 / -0.005
6	10	+0 / -0.006
10	12	+0 / -0.008

ENGLISH: DIAMETER RANGE (IN)		
>	≤	TOLERANCE (IN)
—	0.11811	+0 / -0.000157
0.11811	0.23622	+0 / -0.000196
0.23622	0.39370	+0 / -0.000236
0.39370	0.47244	+0 / -0.000314

WHEN YOU NEED RAW MATERIAL THAT PERFORMS AS WELL AS YOUR EQUIPMENT

Carpenter Technology manufactures a wide range of specialty alloys and stainless steels used in surgical, diagnostic, orthopedic, cardiovascular, dental, and medical applications throughout the world. We combine an industry-leading product offering with knowledgeable materials support and responsive, on-time delivery. Product forms include loose powder, billet and long form bar, wire, precision strip, fine wire, and ribbon, plate, and custom-shaped bar and wire.

TRUST THE MATERIALS EXPERTS

To discuss your titanium alloy needs or request a quote, call a sales representative near you or visit CarpenterTechnology.com.

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