



STAINLESS PRODUCT & PROCESSING

FOR MACHINING APPLICATIONS



Penn Stainless offers a number of products and services for machining applications. Whether you require full random-length bars of rounds, hexes, flats, squares, or cut-to-size blanks, Penn Stainless can fill your order. We can cut hollow bar, heavy plate or large diameter bar up to 27" to your precise requirement.

Our products and services include:

Stainless Inventory

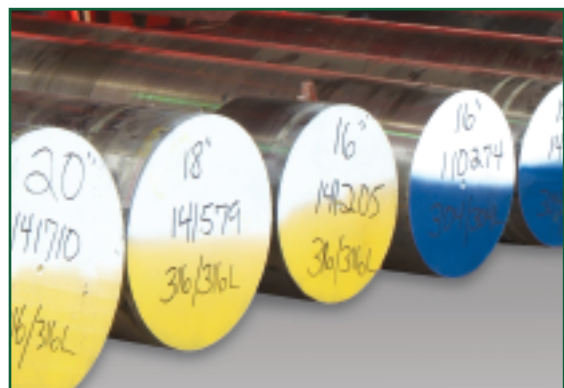
- 1/8" thru 24" dia. bar in 304/304L, 316/316L
- More than 20 grades of stainless rounds, including 303, 309/S, 310/S, 321, 17-4PH, Alloy 20, 400 series, heat treated grades and more
- Accuracy and bearing-quality bar in 304, 316 and 303
- Hex, square and rolled flat bars in 304/304L, 316/316L & 303
- Hollow bar, seamless tubing & pipe in 304/304L & 316/316L
- Plate in more than 15 grades of stainless, through 6" thick
- PRODEC® Plate for improved machinability and lower cost parts in 304/304L & 316/316L

Processing & Service Capabilities

- Bar and tubular product can be cut to your custom requirements.
- Multiple cutting stations enable large volume cutting jobs to be completed quickly.
- Amada cold saw cutting can produce thousands of tight tolerance parts in a matter of hours. Rounds, squares, hexes and flats can be cut on our Amada CM100CNC Carbide-Tipped Circular Saw.
- Full plate processing – plasma & high quality plasma, sawing, dynamic waterjet cutting for complex part geometry
- Machine cut rings & discs, tube sheet processing



Amada large-diameter bar cutting



Large-diameter bar through 24" in stock

**NEED A BLOCK OF STAINLESS,
7" X 9" X 16" OR SOMETHING SIMILAR?
WE CUT LARGE STAINLESS BLOCKS.**

*Ask us about Pennment 2000 stocked in round, hex and square bar for superior machining.
We stock PRODEC® Plate for improved machinability.*

SALES@PENNSTAINLESS.COM • WWW.PENNSTAINLESS.COM

SPECIFICATIONS & TOLERANCES

STAINLESS ROUND BAR SPECIFICATIONS

T303	ASTM A582, QQ-S-764, SAE AMS5640
T304/304L	ASTM A276, ASTM A479, QQ-S-763, SAE AMS5639, SAE AMS5647, ASME SA479
T316/316L	ASTM A276, ASTM A479, QQ-S-763, SAE AMS5648, SAE AMS5653, ASME SA479
T416	ASTM A582, QQ-S-764, SAE AMS5610
T630 (17-4 PH)	ASTM A564, SAE AMS5643, ASME SA564
T309	ASTM A276, ASTM A479, AMS 5650E, QQS-763, QQ-S-763F, ASME SA479
T310	ASTM A276, ASTM A479, AMS 5651, QQS-763, QQ-S-763F, ASME SA479
T321	ASTM A276, ASTM A479, AMS 5645P, QQS-763, QQ-S-763F, ASME SA479
T347	ASTM A276, ASTM A479, AMS 5646, QQS-763, QQ-S-763F, ASME SA479
T410	ASTM A276, ASTM A479, AMS 5613, QQS-763, QQ-S-763F, ASME SA479
T2205	ASTM A276, ASTM A479, ASME SA479
Alloy 20	ASTM B473, ASME SB473

CF Tolerances				Plus	Minus
1/8"	to	5/16"	(exclusive)	0.001	0.001
5/16"	to	1/2"	(exclusive)	0.0015	0.0015
1/2"	to	1"	(exclusive)	0.002	0.002
1"	to	1-1/2"	(exclusive)	0.0025	0.0025
1-1/2"	to	4"	(inclusive)	0.003	0.003

HF Tolerances				Plus	Minus
Over 2"	to	2-1/2"	(inclusive)	1/32	0.000
Over 2-1/2"	to	3-1/2"	(inclusive)	3/64	0.000
Over 3-1/2"	to	4-1/2"	(inclusive)	1/16	0.000
4-1/4"	to	5-1/2"	(inclusive)	5/64	0.000
5-1/2"	to	6-1/2"	(inclusive)	1/8	0.000
6-1/2"	to	8"	(inclusive)	5/32	0.000
8"	to	12"	(inclusive)	3/16	0.000
12"	to	15"	(inclusive)	7/32	0.000
15"	to	24"	(inclusive)	1/4	0.000

STAINLESS COLD COLD FINISHED HEX AND SQUARE BAR SPECIFICATIONS

T303	ASTM A582, QQ-S-764, SAE AMS5640
T304/304L	ASTM A276, ASTM A479, QQ-S-763, SAE AMS5639, SAE AMS5647, ASME SA479
T316/316L	ASTM A276, ASTM A479, QQ-S-763, SAE AMS5648, SAE AMS5653, ASME SA479

CF Tolerances				Plus	Minus
1/8"	to	5/16"	(exclusive)	0.000	0.002
5/16"	to	1/2"	(exclusive)	0.000	0.003
1/2"	to	1"	(inclusive)	0.000	0.004
Over 1"	to	2"	(inclusive)	0.000	0.006
Over 2"	to	3"	(inclusive)	0.000	0.008

STAINLESS HOT FINISHED FLATS ROLLED AS BAR SPECIFICATIONS

T304/304H	ASTM A276, ASTM A479, QQ-S-763, SAE AMS5639, ASME SA479
T304/304L	ASTM A276, ASTM A479, QQ-S-763, SAE AMS5639, SAE AMS5647, ASME SA479
T316/316L	ASTM A276, ASTM A479, QQ-S-763, SAE AMS5648, SAE AMS5653, ASME SA479

		Thickness Tolerance in Inches						
Width (inches)	Width Tolerance	1/8 - 1/2	over 1/2 - 1	over 1 - 2	over 2 - 4	over 4 - 6	over 6 - 8	
to 1 (incl)	+0.015 -0.015	+0.008 -0.008	+0.010 -0.010	— —	— —	— —	— —	
over 1 to 2	+0.031 -0.031	+0.012 -0.012	+0.015 -0.015	+0.031 -0.031	— —	— —	— —	
over 2 to 4	+0.062 -0.031	+0.015 -0.015	+0.020 -0.020	+0.031 -0.031	+0.062 -0.031	— —	— —	
over 4 to 6	+0.093 -0.062	+0.015 -0.015	+0.020 -0.020	+0.031 -0.031	+0.062 -0.031	+0.093 -0.062	— —	
over 6 to 8	+0.125 -0.156	+0.016 -0.016	+0.025 -0.025	+0.031 -0.031	+0.062 -0.031	+0.093 -0.062	+0.125 -0.156	
over 8 to 10	+0.156 -0.187	+0.020 -0.020	+0.031 -0.031	+0.031 -0.031	+0.062 -0.031	+0.093 -0.062	+0.125 -0.156	

PRECISION BAR

Tolerances	Plus	Minus
Bearing Quality (up to 2" incl.)	—	0.001" to 0.003" incl.
Accuracy Bar (up to 2" incl.) with a 32RMS finish or better	0.0005"	0.0005"



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