



# Bar/Long Products **OUTOKUMPU**

## Stocked Inventory

Items shown are produced regularly for quick delivery from stock or with an expected availability within 30 days. Many other items are also available in stock — please check our website, or call an Outokumpu representative.

### Round Bar

Size	Type	303	304L	316L	416	17-4
1/4	CD	X	X	X		
5/16	CD	X	X	X		
3/8	CD	X	X	X		
7/16	CD	X	X	X		
1/2	CD	X	X	X	X	
1/2	CF					X
9/16	CD		X	X		
9/16	CF	X				
5/8	CD		X	X		
5/8	CF	X	X	X		X
11/16	CD		X	X		
11/16	CF	X				
3/4	CF	X	X	X	X	X
13/16	CF	X				
7/8	CF	X	X	X		X
15/16	CF	X				
1	CF	X	X	X	X	X
1 1/8	CF	X	X	X		X
1 1/4	CF	X	X	X	X	X
1 3/8	CF	X	X	X		X
1 7/16	CF					X
1 1/2	CF	X	X	X	X	X
1 5/8	CF	X	X	X		X
1 3/4	CF	X	X	X	X	X
1 7/8	CF	X	X	X		X
2	CF	X	X	X	X	X
2 1/4	CF	X	X	X	X	X
2 1/2	CF	X	X	X	X	X

**Table 1**

Size	Type	303	304L	316L	416	17-4
2 3/4	CF	X	X	X	X	X
3	CF	X	X	X		X
3	HRART	X	X	X		
3 1/2	CF	X	X	X		X
3 1/2	HRART	X	X	X		
3 3/4	CF					X
4	HRART	X	X	X		
4 1/4	HRART	X	X	X		
4 1/2	HRART	X	X	X		X
4 3/4	HRART		X	X		
5	HRART	X	X	X		X
5 1/4	HRART	X	X	X		X
5 1/2	HRART	X	X	X		X
5 3/4	HRART			X		
6	HRART	X	X	X		X
6 1/4	HRART	X	X	X		
6 1/2	HRART	X	X	X		
6 3/4	HRART			X		
7	HRART	X	X	X		
7 1/4	HRART		X	X		
7 1/2	HRART		X	X		
7 3/4	HRART		X	X		
8	HRART		X	X		
8 1/2	HRART		X	X		
9	HRART		X	X		
9 1/2	HRART		X	X		
10	HRART		X	X		

### Square Bar

**Table 2**

Size	Type	303	304L
3/8	CD		X
1/2	CD	X	X
9/16	CD	X	
5/8	CD		X
3/4	CD	X	X

### Hex Bar

**Table 3**

Size	Type	303	304L	316L
5/16	CD	X		
3/8	CD	X		
7/16	CD	X	X	
1/2	CD	X		X
9/16	CD	X		X
5/8	CD	X		X
11/16	CD	X		X
3/4	CD	X	X	X
13/16	CD	X	X	
7/8	CD	X	X	X
15/16	CD	X		
1	CD	X	X	X

## Weight Formulas for Steel

Weight estimates per linear foot

Rounds=  $D^2 \times 2.6729$

Hex=  $D^2 \times 2.9473$

Sq=  $D^2 \times 3.4032$

## Specifications

Table 4

Grade	ASTM	ASME	Federal	AMS
303	A 582	—	QQS 763	5640
PRODEC 303	A 581, A 582	—	QQS 764	5640
304	A 182, A 276, A 479	SA-182, SA-479	QQS 763	5639
PRODEC 304/304L	A 276, A 479	SA-479	QQS 763	5639
304L	A 182, A 276, A 479	SA-182, SA-479	QQS 763	5647
316	A 182, A 276, A 479	SA-182, SA-479	QQS 763	5648
316L	A 182, A 276, A 479	SA-182, SA-479	QQS 763	5653
PRODEC 316/316L	A 276, A 479	SA-479	QQS 763	5648/5653
317L	A 276, A 479	SA-479	QQS 763	—
17-4	A 564	SA-564	QQS 763	5643
2205 Code Plus Two®	A 182, A 276, A 479	SA-479	—	—
254 SMO®	A 182, A 276, A 479	SA-479	—	—

## Special Grades

Table 5

<b>PH</b>	17-4PH, 17-7PH
<b>Heat resistant</b>	321, 347, 309, 310, 330, 153 MA®, 253 MA®
<b>Duplex</b>	2205 Code Plus Two®, SAF 2304®, LDX 2101® (New "Lean" Duplex)
<b>Ferritics</b>	409, 430, 430F
<b>Martensitics</b>	410 and 416
<b>Other</b>	304 HN, 317L, 254 SMO® (6 Mo), XM-19, 904L

Our standard PRODEC grades are 303, 304L, and 316L. PRODEC is manufactured to enhance machineability in most applications.

## Tolerances — Stainless Steel Bar

Table 6

Conforms to ASTM A 484						
Round Bar/Cold Finished		Round Bar/Hot Rolled and Rough Turned			Square Bar and Hexagons/Cold Finished	
Size	Tolerances	Size	Tolerances Size	Out of Round	Size	Tolerances
Under 5/16 in.	+/-0.001	Over 2 in. to 2 1/2 in.	+1/32, -0	0.023	Under 5/16 in.	+0.000, -0.002
Over 5/16 in. to 1/2 in. incl.	+/-0.0015	Over 2 1/2 in. to 3 1/2 in.	+3/64, -0	0.035	Over 5/16 in. to under 1/2 in.	+0.000, -0.003
Over 1/2 in. to 1 in. incl.	+/-0.002	Over 3 1/2 in. to 4 1/2 in.	+, -0	0.046	1/2 in. to 1 in. incl.	+0.000, -0.004
Over 1 in. to under 1 1/2 in.	+/-0.0025	Over 4 1/2 in. to 5 1/2 in.	+5/64, -0	0.058	Over 1 in. to 2 in. incl.	+0.000, -0.006
1 1/2 in. to 4 in. incl.	+/-0.003	Over 5 1/2 in. to 6 1/2 in.	+1/8, -0	0.070	Over 2 in. to 3 in. incl.	+0.000, -0.008
Over 4 in. to 4 1/2 in. incl.	+/-0.005	Over 6 1/2 in. to 8 in.	+5/32, -0	0.085	Over 3 in.	+0.000, -0.011
Over 4 1/2 in. to 6 in. incl.	+/-0.008					

## Straightness Tolerances for Machine-Straightened Bar

Table 7

Hot Finished	Cold Finished
1/8 in. in any 5 ft. but may not exceed 1/8 in. x length in feet 5	1/16 in. in any 5 ft. but may not exceed 1/16 in. x length in feet 5

## Other "Value" features of our program:

**Polished surface** — CD and CF products 9/16" to 3" (Including hex and squares to 1")

**Chamfering** — Two sides in drawn products and one side for CF products through 3"

**Eddy Current testing** — Standard for 303 and 416 grades. Available upon request in other grades.

**Centerless Grinding** — 1/4- to 1/2-standard tolerance available in 3/16" to 4" diameters

**Lengths** — For sizes through 1" 12' exact (+ 2", -0), R/L's over 1", Lengths to 24' over 9/16" round.

**Continuous line marking** — Available in sizes 1 1/8" to 3 1/2"

**Complete program** — Standard and special grades, in sizes from 3/16" to 10" round, 3/8" to 15/16" CD squares, and 1/4" to 1 5/8" hex.

**Quality** — Outokumpu Stainless Bar is ISO 9001 approved. Each bundle is "X-ray" grade assured.

*Outokumpu Stainless is a core business within Outokumpu, a dynamic metals and technology group operating worldwide and marketing its metals, metal products, technology and services to customers in a wide range of industries.*

*LDX 2101, 153 MA, 253 MA, PRODEC and 254 SMO are trademarks of Outokumpu Stainless. 2205 Code Plus Two is a trademark of Outokumpu Stainless, Inc.*

Outokumpu Stainless, Inc., Bar/Long Products 3043 Crenshaw Pkwy, Richburg, SC 29729 USA  
Tel. 1-888-458-4600 Fax 1-803-789-3177 stainless.info@outokumpu.com

