



Bar Program

Items shown are produced regularly for quick delivery from stock or within competitive industry lead times. Please contact your Outokumpu representative for availability.

Round bar

Dimensions (inches) and conditions	Prodec® range for superior machinability				Moda range for mildly corrosive environments		Forta range for duplex and other high strength				Ultra range for extremely corrosive environments			
	303	304L	316L	17-4PH	430	430F	DX 2205+2	LDX 2101	DX 2304	SDX 2507	904L	254 SMO	317L	XM-19
3/16-1 CDA	x	x	x	x										x
1/2-1 CFA	x	x	x	x	x	x		x			x		x	
>1-3 3/4 CFA	x	x	x	x	x	x	x	x	x	x	x	x	x	x ⁽²⁾
2-3 3/4 HRART	x	x	x	x	x	x	x	x	x	x	x	x	x	x ⁽²⁾
>3 1/2-7 HRART	x	x	x	x	x	x	x			x	x	x	x	x
>7-10 HRART		x	x	x							x		x	
>10-15 HRART		x	x											

Dimensions (inches) and conditions	Dura range heat treatable for greater hardness and strength						Therma range for high service temperatures							
	410	416	440C	15-5PH	N60	XM-25	253 MA	304H	321H	304HN	309	310	316H	347H
3/16-1 CDA								x	x				x	x
1/2-1 CFA	x	x	x ⁽¹⁾	x	x ⁽¹⁾	x ⁽¹⁾	x	x	x		x	x	x	x
>1-3 3/4 CFA	x	x	x	x	x ⁽²⁾	x	x	x	x ⁽²⁾		x	x	x	x
2-3 3/4 HRART	x	x	x	x	x	x	x	x	x ⁽²⁾		x	x	x	x
>3 1/2-7 HRART	x	x		x	x	x		x			x	x	x	x

CDA=Cold Drawn Annealed, CFA=Cold Finished Annealed, HRART=Hot Rolled Annealed Rough Turned, ¹ Alloy only available down to 3/4", ² HS available from 1 3/8" to 3 1/2"

Hex bar

Dimensions (inches) and conditions	Prodec® range for superior machinability			Therma range for high service temperature	
	303	304L	316L	321H	347H
3/4-1	x	x	x	x	x
1-1 1/2		x	x	x	x

Square bar

Dimensions (inches) and conditions	Prodec® range for superior machinability			Therma range for high service temperature	
	303	304L	316L	321H	347H
3/8-7/8	x	x	x	x	x

Other value features of our bar program

PRODEC: For improved machinability 303, 304L, 316L and 317L come standard as Prodec Quality Material.

Complete program: Standard and special grades, in sizes from 3/16" to 15" round, 3/8" to 7/8" CD squares, and 1/4" to 1 1/2" hex.

Quality: Outokumpu bar is ISO 9001 approved. Each bundle is XRF grade assured.

Conditions: 17-4 & 15-5 aged conditions, strain hardened austenitics, and Q&T martensitics available upon inquiry.

DFARS compliant: All material produced is 225.7002-3B1 & 252.225.7014 compliant.

Polished surface: CD and CF products 3/16" to 3" (including hex and squares to 1").

Centerless grinding: 1/4 to 1/2 standard tolerance available in 3/16" to 4" diameters.

Eddy current testing: Standard for 303 and 416 grades. Available upon request in other grades.

Chamfering: Both ends in drawn products and one end for CF products through 3 3/4".

Specifications

Outokumpu name	UNS	ASTM	ASME	Federal	AMS
Prodec 303	S30300	A 582	NA	NA	5640
Prodec 304/304L	S30400/S30403	A 276, A 479	SA-479, SA-276	QQS 763F	5639, 5647, QQS 763
Prodec 316/316L	S31600/S31603	A 276, A 479	SA-479, SA-276	QQS 763F	5648, 5653, QQS 763
Prodec 17-4PH	S17400	A 564	SA-564		5643
Moda 430	S43000	A 276, A 479	SA-479, SA-276		5627
Moda 430F	S43020	A 582			
Forta 2205 Code plus two	S31803/S32205	A 276, A 479	SA-479, SA-276		
Forta LDX 2101	S32101	A 276, A 479	SA-479, SA-276		
Forta 2507	S32750	A 276, A 479	SA-479, SA-276		
Ultra 254 SMO	S31254	A 276, A 479	SA-479, SA-276		
Ultra 317/317L	S31700/S31703	A 276, A 479	SA-479, SA-276		QQS 763
Ultra XM-19	S20910	A 276, A 479	SA-479, SA-276		
Dura 410	S41000	A 276, A 479	SA-479, SA-276	QQS 763F	5612, 5613, QQS 763
Dura 416	S41600	A 582			5610
Dura 440C	S44004	A 276		QQS 763F	QQS 5763, 5630, 5880
Dura 15-5PH	S15500	A 565	SA-565		5659
Dura N60	S21800	A 276, A 479			5848
Therma 253 MA	S30815	A 276, A 479	SA-479, SA-276		
Therma 304HN	S30452				
Therma 321H	S32100/S32109	A 276, A 479	SA-479, SA-276		5645
Therma 309/309H/309S	S30900/S30909/S30908	A 276, A 479	SA-479, SA-276		5650
Therma 310/310H/310S	S31000/S31009/S31008	A 276, A 479	SA-479, SA-276		5651
Therma 347H	S34700/S34709	A 276, A 479	SA-479, SA-276		5646

Tolerances — stainless steel bar

Conforms to ASTM A 484						
Round bar/cold finished		Round bar/hot rolled and rough turned			Square bar and hexagons/cold finished	
Size (in)	Tolerances	Size (in)	Tolerances	Out of round	Size (in)	Tolerances
Under $\frac{1}{16}$	± 0.001	Over 2–2½	+ $\frac{1}{32}$ –0	0.023	Under $\frac{1}{16}$	+0.000–0.002
$\frac{1}{16}$ up to but excluding $\frac{1}{8}$	± 0.0015	Over 2½–3½	+ $\frac{1}{16}$ –0	0.035	Over $\frac{1}{16}$ to under $\frac{1}{4}$	+0.000–0.003
$\frac{1}{8}$ up to but excluding 1	± 0.002	Over 3½–4½	+ $\frac{1}{16}$ –0	0.046	$\frac{1}{2}$ up to and including 1	+0.000–0.004
1 up to but excluding 1½	± 0.0025	Over 4½–5½	+ $\frac{1}{16}$ –0	0.058	Over 1 up to and including 2	+0.000–0.006
1½ up to but excluding 3¼	± 0.003	Over 5½–6½	+ $\frac{1}{16}$ –0	0.070	Over 2 up to and including 3	+0.000–0.008
Over 3¼ up to and including 4½	± 0.005	Over 6½–8	+ $\frac{1}{32}$ –0	0.085	Over 3	+0.000–0.010
Over 4½ up to and including 6	± 0.008	Over 8–12	+ $\frac{1}{16}$ –0	0.094		

Length capabilities

Diameter (in)	Condition	Length (ft)
$\frac{1}{16}$ – $\frac{1}{2}$	CDA	12 std, 16 max
$>\frac{1}{2}$ –1	CDA	12 std, 14 max
$\frac{1}{2}$ –3¼	CFA	12 std, 24 max
2–3½	HRART	12 std, 24 max
$>3\frac{1}{2}$ –7	HRART	12 std, 30 max
>7 –15 (in feet)	HRART	Inquire

Additional products

Forging billet, extrusion billet, stainless steel rebar, stainless steel wire rod

Weight formulas for steel

Weight estimates per linear foot

$$\text{Rounds} = D^2 \times 2.6729$$

$$\text{Hex} = D^2 \times 2.9473$$

$$\text{Sq} = D^2 \times 3.4032$$

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