

# AMS 4590-C63020

Containing over 10% aluminum by weight, C63020 is a nickel-aluminum bronze known for its high strength and corrosion resistance. Wieland Concast provides this alloy as a standard-stocked product.

Product description	Nickel-aluminum bronze
Tempers	TQ50 quenched and tempered
Tubes	2 3/4" to 6" O.D.
Solids	3/4" to 4" O.D.
Hex	Consult mill (not standard stocked)
Standard lengths	24"

Wieland Concast certifications:  
AS9100:2016 | ISO 9001:2015

## Product characteristics

- Standard shape: round tubes and solids
- Standard length: 24"
- 23 sizes in stock

## Typical uses:

Industrial:

- bearings, bushings, forming dies for roll bearings, hydraulic bushing for earth moving equipment, valve balls, valve parts



# AMS 4590-C63020 overview

## Chemical composition

Cu (%)	Pb (%)	Sn (%)	Zn (%)	Fe (%)	Ni (%) <sup>1</sup>	Al (%)	Co (%)	Cr (%)	Mn (%)	Si (%)
Remain	0.03	0.25	0.30	4.00-5.50	4.20-6.00	10.00-11.00	0.20	0.05	1.50	0.15

Chemical composition according to AMS 4590

<sup>1</sup>Ni value includes Co.

Note: Cu + sum of named elements, 99.5% min. Single values represent maximums.

## Mechanical properties

Size range, diameter inclusive	Tensile strength, min		Yield strength, at 0.2% offset, min		Elongation, in 2 in. (50.8 mm) or 4D, min	Rockwell "C" hardness	
	inches	ksi	MPa	ksi	MPa	%	
up to 1		135	931	100	689	6	26
over 1 to 2		130	896	95	655	6	26
over 2 to 4		130	896	90	621	6	26

## Stocked size schedule

### Tubes

Nominal size I.D. x O.D.	Weight per inch	Weight per foot	Nominal size I.D. x O.D.	Weight per inch	Weight per foot	Nominal size I.D. x O.D.	Weight per inch	Weight per foot
1.500 x 2.750	1.151	13.812	2.500 x 4.250	2.570	30.845	3.000 x 5.000	3.468	41.620
x 3.000	1.462	17.542				5.500	4.604	55.248
			2.750 x 4.500	2.761	33.137	6.000	5.850	70.198
1.750 x 3.250	1.625	19.500				4.000 x 6.000	4.304	51.648
2.000 x 3.500	1.787	21.449						
4.000	2.600	31.195						

### Solids

Size O.D.	Weight per inch	Weight per foot	Size O.D.	Weight per inch	Weight per foot	Size O.D.	Weight per inch	Weight per foot
0.750	0.121	1.452	1.750	0.660	7.920	2.750	1.630	19.560
1.000	0.216	2.592	2.000	0.862	10.344	3.000	1.940	23.280
1.250	0.337	4.044	2.250	1.091	13.092	4.000	3.449	41.388
1.500	0.485	5.820	2.500	1.347	16.164			

Wieland Concast | 14315 State Route 113 | Wakeman, OH 44889

P 440-965-4455 | sales.concast@wieland.com | concast.com



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