

BrushBronze™ 95510

BrushBronze™ 95510 is an Aluminum-Nickel-Bronze alloy that combines high strength, ductility, and good abrasion resistance under severe loading conditions. This material, specified as **AMS 4880**, is frequently used for very demanding aerospace applications, including, but not limited to: bushings, spherical and rod end bearings, rub pads, and wear strips. This material is also commonly used for applications in the oil & gas and other durable goods market.

Brush Wellman's new 50,000 square foot mill in Lorain, Ohio is a state-of-the-art facility which utilizes EquaCast™ technology. The EquaCast™ process produces an extremely uniform, fine grained microstructure and promotes excellent dispersion of alloying elements. This allows Brush Wellman to provide materials of unparalleled quality and consistency.

BrushBronze™ 95510 (AMS 4880) offers several significant advantages over other materials available in the marketplace due to the EquaCast™ process:

- **Higher and more consistent mechanical properties**
BrushBronze™ 95510 offers higher yield strength and ductility minimums on product over 1.0" according to AMS 4880. Additionally, Brush Wellman product offers typical mechanical property values of 20 - 30% above specification minimums.
- **Improved service life**
BrushBronze™ 95510 (AMS 4880) offers enhanced corrosion resistance and fatigue life due to the alloy dispersion and refined, "wrought-like" microstructure.
- **Superior quality**
Brush Wellman's Vertical Continuous Casting Process is less likely to produce porosity than other casting methods used for manufacturing this product.
- **Ease of use**
The mechinability of BrushBronze™ 95510 (AMS 4880) has been rated superior by costumers from major airframers to small machine shops.
- **Cost effectiveness**
AMS 4880 is commonly allowed as a substitute for AMS 4640.

BRUSHWELLMAN
ENGINEERED MATERIALS

BrushBronze™ 95510 Chemical Composition (Weight Percent)

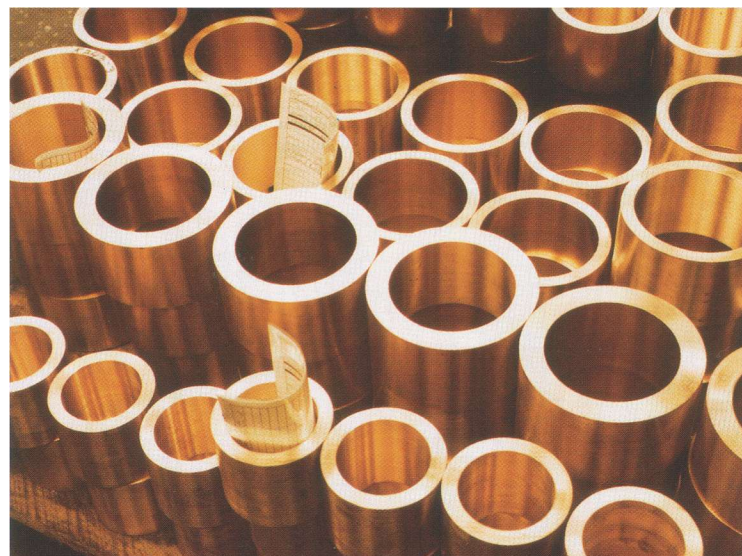
Aluminum	Nickel	Iron	Manganese	Zinc	Tin	Copper
9.7 - 10.9	4.5 - 5.5	2.0 - 3.5	1.5 Max	0.3 Max	0.2 Max	78.0 Min

Minimum Mechanical Properties of Quench Hardened and Temper Annealed AMS 4880 Castings

	Size Range	Tensile Strength (ksi)	Yield Strength (ksi)	Elongation %
Centrifugal Castings	0.250" - 1.0 "	105.0	62.5	9
	1.0" - 17.0"	95.0	50.0	8
Continuous Castings (BrushBronze™ 95510)	0.250" - 4.0 "	105.0	62.5	9
	4.0" - 17.0"	95.0	56.0	9

BrushBronze™ 95510 (AMS 4880) is truly a premium product at a competitive price. Standard sizes available from Brush Wellman are listed below. Size tolerances are specified to ASTM B505. Other sizes and shapes with outside diameters ranging from 1.0" to 17.0" available upon request. Full certifications supplied. For further information on BrushBronze™ materials, please contact us at 888-BW-BRONZE.

Standard BrushBronze™ 95510 Tube Sizes	
1.00" ID x 2.00" OD	3.00" ID x 4.50" OD
1.25" ID x 2.25" OD	3.00" ID x 5.00" OD
1.50" ID x 2.50" OD	3.50" ID x 5.75" OD
1.75" ID x 3.00" OD	3.50" ID x 6.00" OD
2.00" ID x 3.00" OD	3.50" ID x 6.50" OD
2.00" ID x 4.00" OD	4.00" ID x 5.50" OD
2.25" ID x 3.25" OD	5.00" ID x 7.00" OD
2.25" ID x 3.50" OD	5.25" ID x 6.75" OD
2.50" ID x 4.00" OD	5.50" ID x 6.75" OD
2.75" ID x 3.75" OD	8.00" ID x 9.75" OD
2.75" ID x 4.35" OD	



As illustrated above, the EquaCast™ process produces a superior, fine grain structure which translates into enhanced mechanical properties of Brush Wellman materials.

Handling BrushBronze™ alloys in solid form poses no special health risk. Like many industrial materials, the metals in these products may pose a health risk if recommended safe handling practices are not followed. The Occupational Safety and Health Administration (OSHA) has set mandatory limits on occupational respiratory exposures. Read and follow the guidance in the Material Safety Data Sheet (MSDS) before working with these materials. For additional information on safe handling practices or technical data on BrushBronze™ alloys, contact Brush Wellman Inc. at 1-888-BW-BRONZE.