



**WILLIAMS METALS  
AND WELDING ALLOYS INC.**

[www.wmwa.net](http://www.wmwa.net)

1-877-435-6543

Call us today!

[sales@wmwa.net](mailto:sales@wmwa.net)

## Brazing & Braze Welding Filler Metals

Brazing is a versatile method of joining metals. Brazing creates a metallurgical bond between the filler metal and the surfaces of the metals that are being joined. It does not melt the base metals and also creates a smaller, less noticeable joint versus a welded joint.

Brazing & Braze Welding Filler Metals					AWS/SFA A5.8				
Grade	Ag	Cu	Zn	Cd	P	Sn	Ni	Other	Solids/Liquids
BAG-24	50	20	28	-	-	-	2	.15 Max	1220/1305° F
BAG-7	56	22	17	-	-	5	-	.15 Max	1145/1205° F
BAG-3	50	16	16	16	-	-	3	.15 Max	1170/1270° F
BAG-1	45	15	16	24	-	-	-	.15 Max	1125/1145° F
BCuP-5	15	80	-	-	5	-	-	.15 Max	1190/1475° F
BCuP-3	5	89	-	-	6	-	-	.15 Max	1190/1495° F

### % IACS

BAG-24	15
BAG-7	83
BAG-3	18
BAG-1	27.6
BCuP-5	9.9
BCuP-3	9.6

### Applications

BAG-24	300 Series Stainless, Nickel & Steel
BAG-7	Food Handling, Equipment & Steel
BAG-3	Non-Food Service 300 Series Stainless Steel, Bronze & Tungsten Carbide Inserts
BAG-1	Tight Joints, Nickel, Steel & Copper Base
BCuP-5	Copper Without Flux & Brass With Flux
BCuP-3	Ability to Fill Gaps & Form Fillets Without Affecting Joint Strength

### Joint Design Considerations:

Tensile Strength of Weakest Member			Lap Length = Factor x W (W = Thickness of Weakest Member)	
35,000	psi	-241.3	MPa	2 x W
60,000	psi	-413.7	MPa	3 x W
100,000	psi	-689.5	MPa	5 x W
130,000	psi	-896.3	MPa	6 x W
175,000	psi	1206.6	MPa	8 x W

NOTE: ksi c 6.8948 = 1 MPa

Williams Metals & Welding Alloys proudly carries a full range of Silver Based Alloys.

Materials are available in wire, straight lengths, coils, strip, powder, cast or preforms determined by the customer's specification.

*We also carry brazing and soldering fluxes, as well as lead-free solder.*

*Available for immediate shipment from stock. No minimum order for silver brazing materials.*

• Birmingham, AL • Concord, NC • Garrettsville, OH • Mansfield, OH • Pittsburgh, PA • St. Louis, MO • Wayne, PA Corporate





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**Copper**

C101, C102, C103, C107, C110, C116, C122, C145, C147, C172, C17510, C18150, C182, C706, C715  
Rod \* Bar \* Plate \* Strip \* Sheet \* Pipe \* Coil \* Extruded Shapes \* *Machined to Print Services Available*

**Brass**

C210, C220, C230, C260, C272, C353, C360, C385, C464, C485

Coil \* Rod \* Bar \* Plate \* Pipe \* Sheet

**Bronze**

C314, C510, C544, C630, C655, C673, C954, C959, C863, C89835,  
C932 (SAE 660), C936 (Modified SAE 64), SAE 841, SAE 863

Rod \* Bar \* Plate \* Continuous Cast Tube \* Centrifugal Cast Tube \* Sand Casting

**Aluminum**

6061, 6063, 6101

Pipe \* Angles \* UABC \* Bar \* Rod

**BAR & ROD PRODUCTS**

Copper	Sizes Available
101, 110, 145, 147 Round	1/8" thru 8"
110, 107, 116 Square	1/4" thru 3"
110 Rectangular Bus	1/16" thru 2" thick, 1/2" thru 12" wide
<i>Square, Full Round, Radius *Silver Plated *Tin Plated 12 foot and 20 foot lengths</i>	
Class III Round C17510	.50" thru 5.5"
Class II Round 18150, 182	5/16" thru 4"

Brass	Sizes Available
360	
Round	1/4" thru 10"
Hex	3/16" thru 2.5"
Flat Bar	1/16" thru 2.5" thick, 1/4" thru 6" wide
464 Round	1/4" thru 6"
544 Round	3/16" thru 6"

Aluminum	Sizes Available
6101, 6061, 6063 Rectangle Bar	1/8" thru 1"
T61, 63, 65	
<i>Square, Full Round, Radius, *Tin Plated</i>	
6101, 6061, 6063 Round	.250" and Up

**TUBE PRODUCTS**

260	1/8" OD thru 3" OD
272	1/16" OD thru 4.25" OD
330	1/16" OD thru 4.25" OD

**PIPE PRODUCTS**

Copper	Sizes Available
102, 110, 715 Schedule 40 and 80 20 and 40 foot lengths	.250" thru 10"
Aluminum	Sizes Available
6063, 6061, 6101 Schedule 40 and 80 20, 30, and 40 foot lengths	.250" thru 12"

**SHEET & PLATE PRODUCTS**

Copper	Sizes Available
101, 102, 103, 110, 706	.016" thru 6"
Brass	Sizes Available
210, 220	.020" thru .625"
260	.020" thru .750"
464	.250" thru 2"

**COIL & STRIP PRODUCTS**

Copper	Sizes Available
110	.005" thru .125"
Brass	Sizes Available
220, 230, 260	.010" thru .125"
All Tempers	

**Welding Filler Metals**

Stainless Steel Solid, Metal Cored Wires/Electrodes  
AWS A5.4, A5.9

Stainless Steel Flux Cored Wires  
AWS A5.22

Aluminum Wires/Electrodes  
AWS A5.3, A5.10

Mild & Low Alloy Steel Flux Cored Wires  
AWS A5.13

Carbon, Mild & Low Alloy Steel Solid, Metal Cored Wires/Electrodes  
AWS A5.17, A5.18, A5.23, A5.1, A5.5

Copper & Copper Alloy Wire/Electrodes  
AWS A5.6, A5.7, A5.27

Titanium & Titanium Alloy Filler Metals  
AWS A5.16

Nickel Alloy Wires/Electrodes  
AWS A5.11, A5.14, A5.15

Silver Brazing Filler Metals  
AWS A5.8

Cobalt Alloys  
AWS A5.13