

MATERIAL SAFETY DATA SHEET

MSDS NUMBER: DNW03112

PRODUCT NAME: **Silicon Bronze Filler Metals for welding according to AWS A5.7**

Copper-Zinc Filler Metals for welding according to AWS A5.8

FORMULA: **ERCuSi-A, RBCuZn-A, RBCuZn-B, RBCuZn-C**

SECTION 1. ISSUED BY

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SECTION 2. CHEMICAL COMPOSITION

2.1 FOR SILICON BRONZE FILLER METALS , %

AWS A5.7-84 Classification	UNS Number ^d	Cu Including Ag	Zn	Sn	Mn	Fe	Si	Al	Pb	Total other elements
ERCuSi-A	C65600	Remainder	1.0	1.0	1.5	0.5	2.8-4.0	0.01	0.02	0.5

Note: Single values shown are maximum.

2.2 FOR COPPER-ZINC FILLER METALS , %

AWS A5.8-92 Classification	UNS Number ^b	Cu	Zn	Sn	Fe	Mn	Ni	Pb	Al	Si	Total other elements
RBCuZn-A ^f	C47000	57.0-61.0	Remainder	0.25-1.00	*	*	—	0.05*	0.01*	*	0.50 ^f
RBCuZn-B ^f	C68000	56.0-60.0 ^g	Remainder	0.80-1.10	0.25-1.20	0.01-0.50	0.20-0.80 ^h	0.05*	0.01*	0.04-0.15	0.50 ^f
RBCuZn-C ^f	C68100	56.0-60.0	Remainder	0.80-1.10	0.25-1.20	0.01-0.50	—	0.05*	0.01*	0.04-0.15	0.50 ^f

Note: 1. Single values shown are maximum.

2. f-The total of all other elements including those for which a maximum value or asterisk is shown, shall not exceed the value specified in "Total other elements".

3. g-Silver residual is included in Cu analysis.

4. h-Includes cobalt.

SECTION 3. STANDARD SIZE

Form	Level Wound on spools							Straight length		
Diameter ^{a,b}	in.	0.030	0.035	0.045	0.062 (1/16)	0.078 (5/64)	0.094 (3/32)	1/16 (0.062)	3/32 (0.096)	1/8 (0.125)
	mm	0.8	0.9	1.2	1.6	2.0	2.4	1.6	2.4	3.2

SECTION 4. WINDING

4.1 Each coil with spool contains one continuous length of filler metal made from one single heat or one lot of material. Butt joint is properly made so as not to interface with the uniform, uninterrupted feeding of the filler metal on automatic and semiautomatic equipment.

4.2 Spooled filler metal is closely level wound in layers. The winding is such that kinks, waves, sharp bends, overlapping, or wedging are not encountered, leaving the filler metal free to unwind without restriction. The outside of the spooled filler metal is identified so that it can be readily located and is fastened to the spool to avoid unwinding.

4.3 The cast and helix of filler metal on spools shall be such that the filler metal will feed in an uninterrupted manner in automatic and semiautomatic equipment.

SECTION 5. PACKAGING AND PACKAGE MARKING

5.1 Nominal weight is 30lb (13.6kg) for 12in. (300mm) spool and 50lb (22.8kg) for 36in. (914mm) carton.

5.2 Spools are of a special material and design so as to provide protection against damage or distortion of themselves or the filler metal due to normal handling and use.

5.3 Spools and cartons are sufficiently clean and dry to maintain cleanliness of the filler metal.

5.4 Spools are constructed to electrically insulate the filler metal from the spool.

5.5 AWS specification, Standard size, weight, heat number, shall be legibly marked so as

to be visible from the outside of each unit package.

SECTION 6. DESCRIPTION AND INTENDED USE

6.1 FOR SILICON BRONZE FILLER METALS

6.1.1 They are used for gas tungsten and gas metal arc welding of copper-silicon and copper-zinc base metals, to themselves and also to steel.

6.1.2 When gas metal arc welding with ERCuSi-A filler metals, it generally is best to keep the weld pool small and the interpass temperature below 150°F (65°C) to minimize hot cracking. The use of narrow weld passes reduces contraction stresses and also permits faster cooling through the hot-short temperature range.

6.1.3 When gas tungsten arc welding with ERCuSi-A filler metals, best results are obtained by keeping the weld pool small. Preheating is not required. Welding can be done in all positions. But the flat position is preferred.

6.2 FOR COPPER-ZINC FILLER METALS

6.2.1 They are used on steels, copper, copper alloys, nickel, nickel alloys, and stainless steel where corrosion resistance is not of importance. They are used with torch, furnace, and induction brazing processes.

6.2.2 Fluxing is generally required, and a borax-boric acid flux is commonly used.

6.2.3 Joint clearances from 0.002 to 0.005 in. (0.005 to 0.13 mm) are suitable.

6.2.4 They are used for joining various ferrous and nonferrous metals. They can also be used with various brazing process. Overheating should be avoided. Voids may be formed in the joint by entrapped zinc vapors.

SECTION 7. SPECIAL PROTECTION INFORMATION

Fumes and gases can be dangerous to your health. **ARC RAYS** can injure eyes and burn skin. **ELECTRIC SHOCK** can kill.

★ Read and understand our instructions and your employer's safety practices.

- ★ Keep your head out of fumes.
- ★ Use enough ventilation, exhaust at the arc, or both to keep fumes and gases away from your breathing zone, and the general area.
- ★ Wear correct eye, ear and body protection.
- ★ Do not touch live electrical parts.
- ★ First aid: call for medical aid. Provide fresh air.

SECTION 8. ADDITIONAL INFORMATION

The information above is furnished without warranty. We are attempted to provide current and accurate information about the safety, but not liability for any loss, damage and injury in application.

In case of question, please call us.