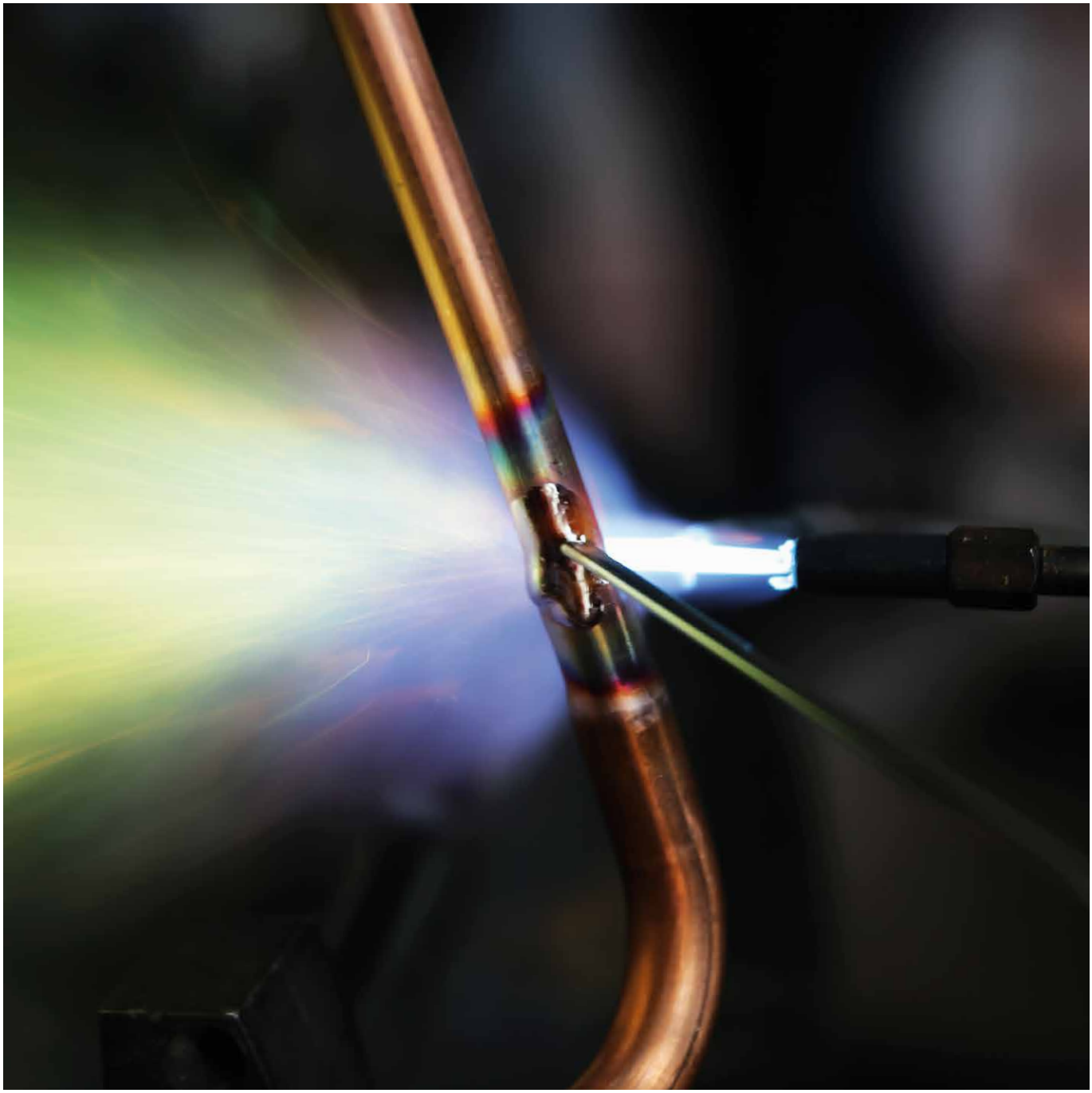
magmaweld

10 / 2019



# BRAZING PRODUCTS

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# WE MANUFACTURE WELDING CONSUMABLES & EQUIPMENT

Magmaweld is a manufacturer of Stick Electrodes, MIG/MAG & TIG Wires, Flux Cored Wires, Submerged-Arc Wires and Fluxes, Welding Machines, Welding Ancillary Products and Automation Systems in Turkey. Oerlikon Kaynak Elektrodları ve Sanayi A.Ş. was founded in 1957 in order to manufacture stick electrodes as a licensee of Oerlikon-Buehrle AG.


Welding Consumables Factory
Organize Sanayi Bölgesi 2. Kısım, Manisa / Turkey


Welding Machines and Automation Factory
Organize Sanayi Bölgesi 5. Kısım, Manisa / Turkey

In the year 1996, in order to reduce costs, to strengthen the leading position in Turkey and turn Magmaweld into a global brand, two old factories in Istanbul were moved to new, state of the art factory in Manisa, situated in the west of Turkey. In 2010 the second factory has been opened also in Manisa to produce high-tech welding equipment as well as to integrate robotic automation systems.

The MAGMAWELD brand came out as an analogy between the molten core of the earth, the MAGMA and the WELDPOOL.

Magmaweld greatly values technical education and has been contributing to the training and education of thousands of welders through regular, free of charge courses since 1961. This service helps to increase consumer awareness and technical competence throughout the industry.

Magmaweld strives for customer satisfaction and process excellence. In order to satisfy customer needs, all questions and remarks about products, training, welding technologies, welding procedures, standards, work safety and automation are processed through the call center at +90 444 WELD (444 93 53) or through live support from www.magmaweld.com where the relevant information is directed to Magmaweld's experts.

# BRAZING

Brazing is the method by which same or different metals are welded without being melted with an additional metal (brazing alloy) that melts above 450°C. If the parts to be welded have been designed to be on top of each other, face-to-face or in nested form, the brazing alloy flows into the welding area by capillary effect and provides a firm and tight welding. This brazing method is called capillary brazing. The most important advantage of this process is that it enables the welding of metals without the need for melting of the metals. Thus, the protection of geometric and physical properties of metals is secured. If the welding end of the parts to be welded such as V-, U-, X- is opened and welding is done by filling with brazing alloy,this welding method is called by brazing. The brazing method can be applied for surface coating purposes besides welding purposes.

## Copper-Phosphorus / Copper-Phosphorus-Silver Alloys

Used for joining of the copper-phosphorus and copper-copper alloys. The proportions of phosphorus content in these alloys determine the level of viscosity in theusage field. Use of flux for copper-copper welding is not necessary. Used for the brazing of copper-phosphorus -silver brazing alloys, copper-copper and copper-brass welding. Should be used together with BF13 flux for the welding of copper-brass. Since particularly its silver content increases the ductility of the wire, it is used in applications where copper subjected to vibration and thermal stresses and bearing mechanical load is required to be welded with copper. These alloys cannot be used for welding steels and other ferrous metals. It is extensively used in plumbing, electrical industry, air conditioning and cooling sector.

| Product Name and Standards | | Ag % | Cu % | P % | Sn % | Operating Temperature (ºC) | Melting Range (ºC) | Recommended Flux | Typical Features |
|---|---|---|---|---|---|---|---|---|---|
| **BR 1203** | | - | 94 | 6 | - | 760 | 710-890 | BF 13 | Its cavity-filling capacity is good in workpieces where copper and brass materials cannot provide proper opening. Low viscosity degree Recommended gap between the materials is 0.051 ÷ 0.127 mm (0.002" ÷ 0.005") |
| ISO 17672:2016 | CuP 179 | | | | | | | | |
| EN 1044 | CP 203 | | | | | | | | |
| EN ISO 3677 | B-Cu94P 710-890 | | | | | | | | |
| DIN 8513 | L-CuP6 | | | | | | | | |
| **BR 1204** | | - | 93 | 7 | - | 730 | 710-820 | BF 13 | Its cavity-filling capacity is good in workpieces where copper and brass materials cannot provide proper opening. Medium viscosity degree. Recommended gap between the materials is 0.051 ÷ 0.127 mm (0.002" ÷ 0.005") |
| ISO 17672:2016 | CuP 180 | | | | | | | | |
| EN 1044 | CP 202 | | | | | | | | |
| EN ISO 3677 | B-Cu93P 710-820 | | | | | | | | |
| AWS 5.8 | BCuP-2 | | | | | | | | |
| DIN 8513 | L-CuP7 | | | | | | | | |
| **BR 1207** | | - | 86 | 7 | 7 | 700 | 650-700 | BF 13 | It is a brazing wire with good viscosity especially in copper-brass brazing used in copper and its alloys. It has high viscosity degree. Performs high resistance for corrosion and provides high tensile strenght. |
| ISO 17672:2016 | CuP 386 | | | | | | | | |
| EN 1044 | CP 302 | | | | | | | | |
| EN ISO 3677 | B-Cu86SnP 650-700 | | | | | | | | |
| DIN 8513 | L-CuSn7 | | | | | | | | |
| **BR 1208** | | - | 92 | 8 | - | 720 | 710-770 | BF 13 | Its cavity-filling capacity is good in workpieces where copper and brass materials cannot provide proper opening. It has high viscosity degree. Recommendedgap between the materials is 0.051 ÷ 0.127 mm (0.002" ÷ 0.005") |
| ISO 17672:2016 | CuP 182 | | | | | | | | |
| EN 1044 | CP 201 | | | | | | | | |
| EN ISO 3677 | B-Cu92P 710-770 | | | | | | | | |
| DIN 8513 | L-CuP8 | | | | | | | | |
| **BR 1301/1** | | 1 | 92 | 7 | - | 740 | 645-825 | BF 13 | Suitable for brazing of copper-copper based materials. It has good viscosity feature with a high filling capacity. Recommended for customers who desire lower silver amount. |
| **BR 1301/2** | | 2 | 91 | 7 | - | 740 | 645-825 | BF 13 | Suitable for brazing of copper-copper copper-brass materials. It has good viscosity feature with a high filling capacity. Recommended for customers who desire lower silver amount. |
| ISO 17672:2016 | CuP 279 | | | | | | | | |
| EN 1044 | CP 105 | | | | | | | | |
| EN ISO 3677 | B-Cu92PAg 645-825 | | | | | | | | |
| AWS 5.8 | BCuP-6 | | | | | | | | |
| DIN 8513 | L-Ag2P | | | | | | | | |
| **BR 1301/5** | | 5 | 89 | 6 | - | 710 | 645-815 | BF 13 | Suitable for brazing of copper-copper copper-brass materials. It has good viscosity feature with a high filling capacity. Suitable for brazing in the kiln under protective atmosphere and inductive heating. |
| ISO 17672:2016 | CuP 281 | | | | | | | | |
| EN 1044 | CP 104 | | | | | | | | |
| EN ISO 3677 | B-Cu89PAg 645-815 | | | | | | | | |
| AWS 5.8 | BCuP-3 | | | | | | | | |
| DIN 8513 | L-Ag5P | | | | | | | | |
| **BR 1301/15** | | 15 | 80 | 5 | - | 700 | 645-800 | BF 13 | Suitable for brazing of copper-copper copper-brass materials. It has excellent viscosity and high ductility due to its high silver content. Suitable for brazing in the kiln under protective atmosphere and inductive heating. |
| ISO 17672:2016 | CuP 284 | | | | | | | | |
| EN 1044 | CP 102 | | | | | | | | |
| EN ISO 3677 | B-Cu80PAg 645-800 | | | | | | | | |
| AWS 5.8 | BCuP-5 | | | | | | | | |
| DIN 8513 | L-Ag15P | | | | | | | | |

# BRAZING WIRES

## Copper-Zinc Brazing Alloys

It is used for the brazing of steel pipes, copper-zinc alloyed steels, cast irons and copper alloys. It is extensively used for ventilation systems, pipe and bodywork joining in automotive sector, decorations, accessory, metal furniture, hospital furniture, equipments, electrical panels, bathroom boilers, towel warmers, hydraulic-pneumatic equipments and repairing of the textile machinery. It is used with BF 11 or BF 12 fluxes in brazing applications.

| Product Name and Standards | | Ag % | Cu % | Zn % | Sn % | Ni % | Other % | Operating Temperature (°C) | Melting Range (°C) | Recommended Flux | Typical Features |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **BR 1101** | | - | 48 | Remain | - | 10 | Si:0.20 | 910 | 890-920 | BF 11 | A copper-zinc brazing wire with good viscosity feature. It is preferred when high tensile strength is desired since it contains nickel. |
| ISO 17672:2016 | CuP 773 | | | | | | | | | | |
| EN 1044 | Cu 305 | | | | | | | | | | |
| EN ISO 3677 | B-Cu48ZnNi(Si) 890-920 | | | | | | | | | | |
| AWS 5.8 | RBCuZn-D | | | | | | | | | | |
| DIN 8513 | L-CuNi10Zn42 | | | | | | | | | | |
| **BR 1102 Ag** | | 1 | 48 | Remain | - | 10 | Si:0.20 | 900 | 890-920 | BF 11 | A copper-zinc brazing wire with good viscosity feature. It is preferred when high tensile strength is desired since it contains nickel. Since it contains silver, it provides better viscosity and a ductile feature. |
| **BR 1210** | | - | 61 | Remain | 0.2 | - | - | 885 | 875-895 | BF 12 | A copper-zinc brazing wire with very good viscosity feature. |
| ISO 17672:2016 | Cu 470 | | | | | | | | | | |
| EN 1044 | Cu 302 | | | | | | | | | | |
| EN ISO 3677 | B-Cu60Zn(Sn) 875-895 | | | | | | | | | | |
| AWS 5.8 | RBCuZn-A | | | | | | | | | | |
| DIN 8513 | L-CuZn40 | | | | | | | | | | |
| **BR 1211 H** | | - | 60 | Remain | 0.2 | - | Mn:0.20 Si: 0.20 | 880 | 870-900 | BF 12 | A copper-zinc brazing wire with very good viscosity feature. |
| ISO 17672:2016 | Cu 471 | | | | | | | | | | |
| EN 1044 | Cu 304 | | | | | | | | | | |
| EN ISO 3677 | B-Cu60Zn(Sn)(Si)(Mn) 870-900 | | | | | | | | | | |
| DIN 8513 | L-CuZn39Sn | | | | | | | | | | |
| **BR 1211** | | - | 59 | Remain | 1 | 0.5 | Mn:0.20 Si: 0.15 | 880 | 870-900 | BF 12 | A copper-zinc brazing wire with very good viscosity feature. Suitable for brazing of galvanized metals. |
| ISO 17672:2016 | Cu 671 | | | | | | | | | | |
| EN 1044 | Cu 306 | | | | | | | | | | |
| EN ISO 3677 | B-Cu59Zn(Fn)(Ni)(Mn)(Si) 870-890 | | | | | | | | | | |
| DIN 8513 | L-CuZn39Sn | | | | | | | | | | |
| **BRF 1211** | | - | 59 | Remain | 1 | 0.5 | Mn:0.25 Si: 0.15 | 880 | 870-900 | BF 12 | A copper-zinc brazing wire with very good viscosity feature. Suitable for brazing of galvanized metals. Provides easy usage in repair and maintenance works since it is coated with flux. |
| ISO 17672:2016 | Cu 671 | | | | | | | | | | |
| EN 1044 | Cu 306 | | | | | | | | | | |
| EN ISO 3677 | B-Cu59Zn(Fn)(Ni)(Mn)(Si) 870-890 | | | | | | | | | | |
| DIN 8513 | L-CuZn39Sn | | | | | | | | | | |
| **BR 1211 Ag** | | 1 | 59 | Remain | 1 | 0.5 | Mn:0.25 Si: 0.15 | 880 | 870-890 | BF 12 | A copper-zinc brazing wire with very good viscosity feature. Suitable for brazing of galvanized metals. Since it contains silver, it provides better viscosity and a ductile feature. |

# BRAZING WIRES

## Silver Brazing Alloys

Silver-containing brazing alloys have low operating temperatures and thanks to their excellent technical properties, they are widely used in mass production and repair-maintenance applications in all industrial sectors where high quality fluids are required among different metals. It is suitable for many different metals except aluminum and aluminum alloys. It is used for metals such as steels, stainless steels, tempered cast irons, copper and alloys, nickel and alloys, etc. For all welding processes other than copper-copper, the use of BF 13 flux is required.

| Product Name and Standards | | Ag % | Cu % | Zn % | Cd % | Sn % | Ni % | Other % | Operating Temperature (ºC) | Melting Range (°C) | Recommended Flux | Typical Features |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BR 1303** | | 20 | 40 | Remain | 15 | - | - | - | 750 | 605-765 | BF 13 | It is a brazing wire with good viscosity, a high cavity filling capacity suitable for welding copper and copper alloys, unalloyed and alloyed steels, nickel and nickel alloys and forgeable cast iron. Color harmony with brass is excellent. Recommended material cavity is 0.1 ÷ 0.25 mm (0.004" ÷ 0.01") Contains cadmium. |
| EN 1044 | AG 309 | | | | | | | | | | | |
| ISO 3677 | B-Cu40ZnAgCd 605-765 | | | | | | | | | | | |
| DIN 8513 | L-Ag 20Cd | | | | | | | | | | | |
| **BR 1304** | | 25 | 30 | Remain | 18 | - | - | Si:0.05 Maks. | 700 | 605-720 | BF 13 | Brazing wire intended for general use. Contains cadmium. |
| ISO 17672:2016 | Ag 326 | | | | | | | | | | | |
| EN 1044 | AG 307 | | | | | | | | | | | |
| EN ISO 3677 | B-Cu30ZnAgCd 605-720 | | | | | | | | | | | |
| AWS 5.8 | B-Ag 33 | | | | | | | | | | | |
| DIN 8513 | L-Ag 25Cd | | | | | | | | | | | |
| **BR 1304/SN** | | 25 | 40 | Remain | - | 2 | - | Si:0.05 Max. | 750 | 680-760 | BF 13 | It is a brazing wire with good viscosity, a high cavity filling capacity suitable for welding copper and copper alloys, unalloyed and alloyed steels, nickel and nickel alloys and forgeable cast iron. Intended for general use. It is economical. Provides excellent color harmony with brass. Recommended material gap is 0.05 ÷ 0.13 mm (0.002" ÷ 0.005") |
| ISO 17672:2016 | Ag 125 | | | | | | | | | | | |
| EN 1044 | AG 108 | | | | | | | | | | | |
| ISO 3677 | B-Cu40ZnAgSn 680-760 | | | | | | | | | | | |
| AWS 5.8 | BAg-37 | | | | | | | | | | | |
| DIN 8513 | L-Ag 25Sn | | | | | | | | | | | |
| **BR 1305** | | 30 | 28 | Remain | 21 | - | - | - | 680 | 600-690 | BF 13 | It has extremely comfortable viscosity control thanks to long melting range and has high filling ability. Recommended material gap is 0.05 ÷ 0.13 mm (0.002" ÷ 0.005") Contains cadmium. |
| ISO 17672:2016 | Ag 330 | | | | | | | | | | | |
| EN 1044 | AG 306 | | | | | | | | | | | |
| ISO 3677 | B-Ag30CuCdZn 600-690 | | | | | | | | | | | |
| AWS 5.8 | BAg-2a | | | | | | | | | | | |
| DIN 8513 | L-Ag 30Cd | | | | | | | | | | | |
| **BR 1305/SN** | | 30 | 36 | Remain | - | 2 | - | Si:0.05 Max. | 750 | 665-755 | BF 13 | It is a brazing wire with the lowest operating temperature, containing high amount of silver. Has extremely high mechanical strength. Has good viscosity feature with a high filling capacity in narrow material welding processes. |
| ISO 17672:2016 | Ag 130 | | | | | | | | | | | |
| EN 1044 | AG 107 | | | | | | | | | | | |
| ISO 3677 | B-Cu36ZnAgSn 665-755 | | | | | | | | | | | |
| DIN 8513 | L-Ag 30Sn | | | | | | | | | | | |
| **BR 1306** | | 40 | 19 | Remain | 20 | - | - | - | 610 | 595-630 | BF 13 | It is a brazing wire with the lowest operating temperature containing high amount of silver. Has extremely high mechanical strength. It has good viscosity feature with high filling capacity in narrow material welding processes. Contains cadmium. |
| ISO 17672:2016 | Ag 340 | | | | | | | | | | | |
| EN 1044 | AG 304 | | | | | | | | | | | |
| ISO 3677 | B-Ag40ZnCdCu 595-630 | | | | | | | | | | | |
| DIN 8513 | L-Ag 40Cd | | | | | | | | | | | |
| **BR 1306/SN** | | 40 | 30 | Remain | - | 2 | - | - | 690 | 650-710 | BF 13 | It is a brazing wire with a low operating temperature, containing high amount of silver. Has extremely high mechanical strength. Has good viscosity feature with a high filling capacity in narrow material welding processes. |
| ISO 17672:2016 | Ag 140 | | | | | | | | | | | |
| EN 1044 | AG 105 | | | | | | | | | | | |
| ISO 3677 | B-Ag40CuZnSn 650-710 | | | | | | | | | | | |
| AWS 5.8 | BAg-28 | | | | | | | | | | | |
| DIN 8513 | L-Ag 40Sn | | | | | | | | | | | |

# BRAZING WIRES

## Silver Brazing Alloys

Silver-containing brazing alloys have low operating temperatures and thanks to their excellent technical properties, they are widely used in mass production and repair-maintenance applications in all industrial sectors where high quality fluids are required among different metals. It is suitable for many different metals except aluminum and aluminum alloys. It is used for metals such as steels, stainless steels, tempered cast irons, copper and alloys, nickel and alloys, etc. For all welding processes other than copper-copper, the use of BF 13 flux is required.

| Product Name and Standards | Ag % | Cu % | Zn % | Cd % | Sn % | Ni % | Other % | Operating Temperature (ºC) | Melting Range (°C) | Recommended Flux | Typical Features |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **BR 1311**<br>ISO 17672:2016 Ag 345<br>EN 1044 AG 302<br>EN ISO 3677 B-Ag45CdZnCu 605-620<br>AWS 5.8 BAg-1<br>DIN 8513 L-Ag 45Cd | 45 | 16 | Remain | 23 | - | - | - | 620 | 605-620 | BF 13 | It is a brazing wire with low operating temperature and good gap-filling capability. In particular, it is extensively used in welding tungsten carbides. Has high mechanical features.<br>Contains cadmium. |
| **BR 1312**<br>ISO 17672:2016 Ag 449<br>EN 1044 AG 502<br>EN ISO 3677 B-Ag49ZnCuMnNi 680-705<br>AWS 5.8 BAg-22<br>DIN 8513 L-Ag49 | 49 | 16 | Remain | - | 4.5 | - | Mn: 7.5 | 700 | 680-705 | BF 13 | It is a brazing wire containing nickel and manganese. It is especially used for welding tungsten carbides, titanium and tantalum containing materials. |
| **BR 1313**<br>ISO 17672:2016 Ag 350<br>EN 1044 AG 301<br>EN ISO 3677 B-Ag50CdZnCu 620-640<br>AWS 5.8 BAg-1a<br>DIN 8513 L-Ag 50Cd | 50 | 16 | Remain | 17 | - | - | - | 640 | 620-640 | BF 13 | It is a brazing wire with low operating temperature and good gap-filling capability. In particular, it is extensively used in welding tungsten carbides. Has high mechanical features.<br>Contains cadmium. |
| **BR 1314**<br>ISO 17672:2016 Ag 155<br>EN 1044 AG 103<br>EN ISO 3677 B-Ag55ZnCuSn 630-660<br>DIN 8513 L-Ag 55Sn | 55 | 21 | Remain | - | 2 | - | - | 650 | 630-660 | BF 13 | It is a brazing wire coated with flux and with a very good viscosity feature in low operating temperature. High corrosion resistance. Resistant to salt water. It has extensive usage in food, medical and marine industry. |
| **BR 1318**<br>ISO 17672:2016 Ag 220<br>EN 1044 AG 206<br>EN ISO 3677 B-Cu43ZnAg(Si) 690-810<br>DIN 8513 L-Ag 20 | 20 | 44 | Remain | - | - | - | Si:0.04 | 780 | 690-810 | BF 13 | It is suitable for the brazing of copper and copper alloys not containing cadmium and with good viscosity, unalloyed and alloyed steels, nickel and nickel alloys and forgeable cast iron. Intended for general use. |
| **BR 1319**<br>ISO 17672:2016 Ag 134<br>EN 1044 AG 106<br>EN ISO 3677 B-Cu36AgZnSn 630-730<br>DIN 8513 L-Ag 34Sn | 34 | 36 | Remain | - | 3 | - | - | 710 | 630-730 | BF 13 | Suitable for brazing of copper-copper based materials. It has good viscosity feature with a high filling capacity. Recommended for customers who desire lower silver amount. |
| **BR 1320**<br>ISO 17672:2016 Ag 145<br>EN 1044 AG 104<br>EN ISO 3677 B-Ag45CuZnSn 640-680<br>AWS 5.8 BAg-36<br>DIN 8513 L-AG 45Sn | 45 | 27 | Remain | - | 3 | - | - | 670 | 640-680 | BF 13 | It is a brazing wire extensively used in general welding of copper and steel materials. |

# BRAZING WIRES

## Silver Brazing Alloys

Silver-containing brazing alloys have low operating temperatures and thanks to their excellent technical properties, they are widely used in mass production and repair-maintenance applications in all industrial sectors where high quality fluids are required among different metals. It is suitable for many different metals except aluminum and aluminum alloys. It is used for metals such as steels, stainless steels, tempered cast irons, copper and alloys, nickel and alloys, etc. For all welding processes other than copper-copper, the use of BF 13 flux is required.

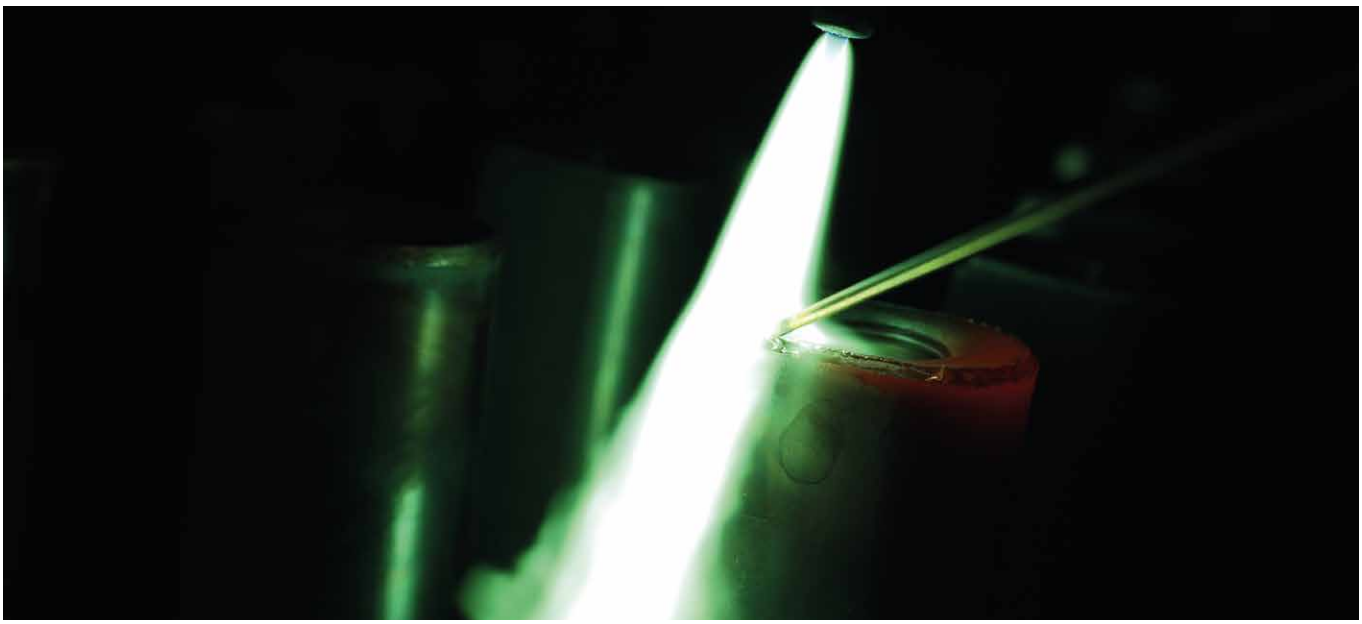
| Product Name and Standards | | Ag % | Cu % | Zn % | Cd % | Sn % | Ni % | Other % | Operating Temperature (ºC) | Melting Range (°C) | Recommended Flux | Typical Features |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BRF 1303** | | 20 | 40 | Remain | 15 | - | - | - | 750 | 605-765 | BF 13 | It is a brazing wire with good viscosity, coated with flux and with a high cavity filling capacity suitable for welding copper and copper alloys, unalloyed and alloyed steels, nickel and nickel alloys and forgeable cast iron. Intended for general use. It is economical. Provides excellent color harmony with brass. Recommended material gap is 0.1 ÷ 0.25 mm (0.004" ÷ 0.01"). Contains cadmium. |
| EN 1044 | AG 309 | | | | | | | | | | | |
| ISO 3677 | B-Cu40ZnAgCd 605-765 | | | | | | | | | | | |
| DIN 8513 | L-Ag 20Cd | | | | | | | | | | | |
| **BRF 1305** | | 30 | 28 | Remain | 21 | - | - | - | 680 | 600-690 | BF 13 | It is a brazing wire with good viscosity, coated with flux and with a low operating temperature suitable for welding copper and copper alloys, unalloyed and alloyed steels, nickel and nickel alloys and forgeable cast iron. Recommended material gap is 0.05 ÷ 0.13 mm (0.002" ÷ 0.005"). Contains cadmium. |
| ISO 17672:2016 | Ag 330 | | | | | | | | | | | |
| EN 1044 | AG 306 | | | | | | | | | | | |
| EN ISO 3677 | B-Ag30CuCdZn 600-690 | | | | | | | | | | | |
| AWS 5.8 | BAg-2a | | | | | | | | | | | |
| DIN 8513 | L-Ag 30Cd | | | | | | | | | | | |
| **BRF 1306** | | 40 | 19 | Remain | 20 | - | - | - | 610 | 595-630 | BF 13 | It is a brazing wire coated with flux and with the lowest operating temperature, containing high amount of silver. Has extremely high mechanical strength. Has good viscosity feature with a high filling capacity in narrow material welding processes. Contains cadmium. |
| ISO 17672:2016 | Ag 340 | | | | | | | | | | | |
| EN 1044 | AG 304 | | | | | | | | | | | |
| EN ISO 3677 | B-Ag40ZnCdCu 595-630 | | | | | | | | | | | |
| DIN 8513 | L-Ag 40Cd | | | | | | | | | | | |
| **BRF 1314** | | 55 | 21 | Remain | - | 2 | - | - | 650 | 630-660 | BF 13 | It is a brazing wire coated with flux and with a very good viscosity feature in low operating temperature. High corrosion resistance. Resistant to salt water. It has extensive usage in food, medical and marine industry. |
| ISO 17672:2016 | Ag 155 | | | | | | | | | | | |
| EN 1044 | AG 103 | | | | | | | | | | | |
| EN ISO 3677 | B-Ag55ZnCuSn 630-660 | | | | | | | | | | | |
| DIN 8513 | L-Ag 55Sn | | | | | | | | | | | |
| **BRF 1319** | | 34 | 36 | Remain | - | 3 | - | Si:0.05 Max. | 710 | 630-730 | BF 13 | It is coated with flux and has good viscosity feature and extensively used especially in welding copper and brass materials. Provides excellent color harmony with brass. |
| ISO 17672:2016 | Ag 134 | | | | | | | | | | | |
| EN 1044 | AG 106 | | | | | | | | | | | |
| EN ISO 3677 | B-Cu36AgZnSn 630-730 | | | | | | | | | | | |
| DIN 8513 | L-Ag 34Sn | | | | | | | | | | | |
| **BRF 1320** | | 45 | 27 | Remain | - | 3 | - | - | 670 | 640-680 | BF 13 | Flux coated brazing wire. It has extensive usage in joining of the copper and steel. |
| ISO 17672:2016 | Ag 145 | | | | | | | | | | | |
| EN 1044 | AG 104 | | | | | | | | | | | |
| EN ISO 3677 | B-Ag45CuZnSn 640-680 | | | | | | | | | | | |
| AWS 5.8 | BAg-36 | | | | | | | | | | | |
| DIN 8513 | L-Ag 45Sn | | | | | | | | | | | |

# BRAZING WIRES

## Aluminum Brazing Alloys

Our wires are used for brazing of aluminum and aluminum alloys and aluminum-copper alloys have high tensile strength and high corrosion resistance. The use of flux is extremely important since it does not show the annealing color in the flame brazing of aluminum and aluminum alloys.

| Product Name and Standards | | Al % | Si % | Zn % | Cu % | Fe % | Mn % | Other % | Operating Temperature (ºC) | Melting Range (°C) | Recommended Flux | Typical Features |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TAL 4047** | | 88 | 12 | - | 0.20 | 0.60 | 0.15 | - | 585 | 575-585 | BF 14 | It is a brazing wire intended for welding aluminum-aluminum and aluminum alloys. It is extensively used in automotive sub-industry and white goods sector. |
| EN ISO 18273 | Al 112 | | | | | | | | | | | |
| EN 1044 | AL 104 | | | | | | | | | | | |
| ISO 3677 | B-Al88Si 575-585 | | | | | | | | | | | |
| AWS 5.10 | ER 4047 | | | | | | | | | | | |
| DIN 8513 | Al-Si 12 | | | | | | | | | | | |
| **ALF 4004** | | 2 | - | 98 | - | - | - | - | 420 | 385-420 | - | It is a brazing wire intended for welding aluminum-aluminum and aluminum-copper alloys. It is extensively used in automotive sub-industry and white goods sector. Contains non-corrosive flux. |
| **ALF 4047** | | 88 | 12 | - | 0.20 | 0.60 | 0.15 | - | 585 | 575-585 | BF 14 | It is a brazing wire extensively used for welding aluminum and aluminum alloys. It is especially used in automotive sub-industry and white goods sector in mass production facilities. Essence of the wire contains non-corrosive flux. |
| EN ISO 18273 | Al 112 | | | | | | | | | | | |
| EN 1044 | AL 104 | | | | | | | | | | | |
| ISO 3677 | B-Al88Si 575-585 | | | | | | | | | | | |
| AWS 5.10 | ER 4047 | | | | | | | | | | | |
| DIN 8513 | Al-Si 12 | | | | | | | | | | | |

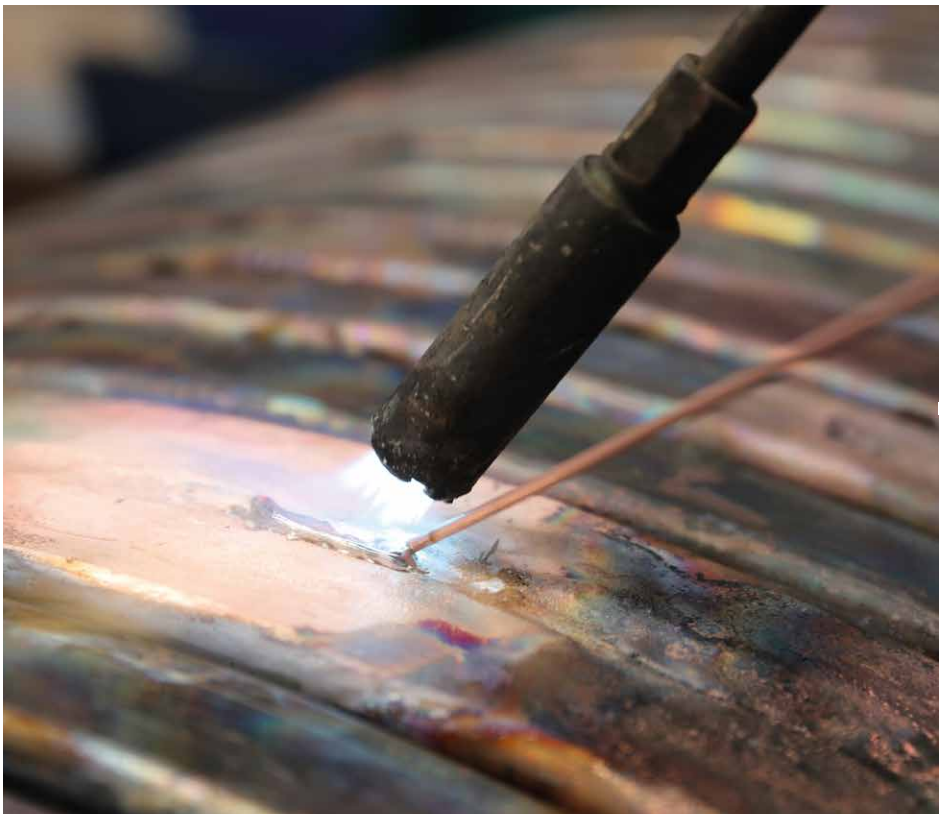


# BRAZING SOLDER FLUXES

Special chemical fluxes applied to the surface and on the brazing material before the brazing process take a liquid form at 50°C-100°C below the melting point of the brazing alloy and perform the following tasks: To dissolve the oxides on the surface chemically, to prevent oxidation that may occur during pre-annealing, to provide easy spreading of the brazing alloy on and to wet the work piece by reducing the surface tension of the brazing alloy in liquid form, to ensure slow cooling of the welded area in some cases, to report that the approximate brazing process has started melting before the brazing alloy. This is particularly an important issue in aluminum and its alloys that do not show annealing color.

| Product Name and Standards | Operating Temperature (°C) | Product Code | Box Weight (kg) | Fields of Application and Properties |
|---|---|---|---|---|
| **BF 11**<br>DIN 8511 F-HS 2 | 750-950 | 8060002W05 | 0.50 | It is a flux used in combination with brazing wires of copper-zinc and copper-zinc-nickel alloy and in the brazing of steel and cast iron. It cleans the surface before the brazing process and prevents oxidation during brazing, allowing the additional wire winding the material. After the brazing process, the surface residual fluxes can be removed by mechanical methods, by means of applying a mechanical treatment in hot water, by immersing the parts in water while they are hot or by using special cleaning solutions. |
| **BF 12**<br>DIN 8511 F-HS 2 | 800-950 | 8060102W05 | 0.50 | It is a flux used in the brazed welding of copper-zinc and copper-zinc-copper alloy brazing wires and steels, galvanized steel and brass and copper alloys. It cleans the surface before the brazing process and prevents oxidation during brazing, allowing the additional wire winding the material. After the brazing process, the surface residual fluxes can be removed by mechanical methods, by means of applying a mechanical treatment in hot water, by immersing the parts in water while they are hot or by using special cleaning solutions. |
| **BF 13**<br>DIN 8511 F-HS 1 | 550-850 | 8060302W05<br>8060304W05 | 0.50<br>1.00 | It is a flux used in combination with brazing wires containing silver. It is a flux used in the brazed welding of steels, stainless steels, cast iron, nickel and nickel alloys, copper and copper alloys with silver containing alloys. It cleans the surface before the brazing process and prevents oxidation during brazing, allowing the additional wire winding the material. After the brazing process, the surface residual fluxes can be removed by mechanical methods, by means of applying a mechanical treatment in hot water, by immersing the parts in water while they are hot or by using special cleaning solutions. |
| **BF 14**<br>AWS/ASME SFA-3.0 FB 1-C<br>DIN 8511 F-LH 1 | 500-600 | 8060502K05<br>8060504M15 | 0.50<br>1.00 | It is used in the brazing of aluminum and its alloys. It cleans the surface before the brazing process and shows the start time of brazing. It prevents oxidation during brazing, allowing additional metal to wrap the material. Flux residues are corrosive. For this reason, it must be cleaned with warm alkaline solution after brazing. |

# PROPERTIES OF SOME METALS



| Alloy | Specific Weight (gr/cm3) | Melting Range (°C) | Tensile Strength (N/mm²) |
|---|---|---|---|
| Steel | 7.7 - 7.85 | 1450-1520 | 340-1800 |
| Grey Cast Iron | 7.1 - 7.3 | 1150-1250 | 150-400 |
| Austenitic Stainless Steel | 7.8 - 7.9 | 1440-1460 | 600-800 |
| Mg Alloys | 1.8 - 1.83 | 590-650 | 180-300 |
| Al Alloys | 2.6 - 2.85 | 570-655 | 100-400 |
| Zn Alloys | 5.7 - 7.2 | 380-420 | 140-300 |
| Brass | 8.25 | 900-950 | 250-600 |
| Bronze | 8.56-8.9 | 880-1040 | 200-300 |

# BRAZING PACKAGING INFORMATION

## Cardboard Boxes


| Height (mm) | Width (mm) | Length (mm) | Average Weight (kg) |
|---|---|---|---|
| 63 | 204 | 208 | 2 |
| 102 | 301 | 305 | 10 |

## Plastic Boxes


| Height (mm) | Width (mm) | Length (mm) | Average Weight (kg) |
|---|---|---|---|
| 61 | 22 | 330 | 1 |

## Envelope Packaging


| Width (mm) | Length (mm) | Average Weight (kg) |
|---|---|---|
| 70 | 530 | 1 |

## TIG and Oxy-Gas Welding Wires

| Diameter (mm) | Length (mm) | Average Weight (kg) |
|---|---|---|
| 50 | 525 | 2.5 |
| 50 | 1000 | 5 |

# NOTES

## We Manufacture Welding Consumables & Equipment Since 1957

Magmaweld is a manufacturer of Stick Electrodes, MIG/MAG & TIG Wires, Flux Cored Wires, Submerged-Arc Wires and Fluxes, Welding Machines, Welding Ancillary Products and Automation Systems in Turkey. Oerlikon Kaynak Elektrodları ve Sanayi A.Ş. was founded in 1957 in order to manufacture stick electrodes as a licensee of Oerlikon-Buehrle AG.

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