SOPORMETAL®
brazing technology

Brazing Technology

WIRE | ROD | PREFORMS | STRIP | PASTE | POWDER | FLUXES

en

ABOUT SOPORMETAL

Established in 1985, SOPORMETAL – Portuguese Society of Metals, Ltd is a manufacturer of brazing consumables.

Throughout these almost 30 years, SOPORMETAL specialized on the production of braze filler metals and has today one of the most developed processes in the world. The production is totally controlled, since the purchasing of the raw material until the analysis of the final product, to assure the high standards of quality that have been distinguishing the company among the major manufacturers. This company has a Quality Management System, certified according to the norm ISO 9001, by TÜV Rheinland.

The worldwide presence is only possible due to the strong and flexible commercial team, that uses its experience of many years to attend both distributors and OEM's. Every partner is a new challenge, where we can apply our know-how, improving at the same time our expertise. Presently we can attend in many languages such as: English, Spanish, Italian, Portuguese, French, Chinese, German and Russian.

SILVER BRAZING ALLOYS

This group of alloys is in accordance with the new environmental rules and they substitute the group of alloys with cadmium. Are particularly suitable for low temperature brazing of all kind of materials, such as copper/stainless steel/steel, nickel and other materials. This type of brazing joints allows high mechanical strength, ductility and plasticity.

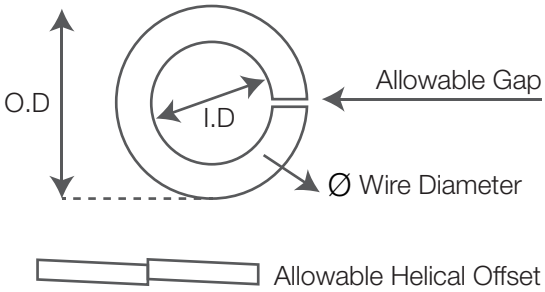
REFERENCE	NORMS				MELTING RANGE °C	WORKING TEMPERATURE °C	CHEMICAL COMPOSITION				
	ISO 17672	EN 1044	DIN 8513	AWS A5.8M/A5,8			Ag%	Cu%	Zn%	Sn%	Others%
SoporGreen 20 T Si	-	Ag 206	L-Ag20	-	690-810	810	20	44	36	-	Si
SoporGreen 25 T	Ag 225	Ag 205	L-Ag25	-	700-790	780	25	40	35	-	-
SoporGreen 25 Sn	Ag 125	Ag 108	L-Ag25Sn	BAg-37	680-760	750	25	40	33	2	-
SoporGreen 30 T	Ag 230	Ag 204	L-Ag30	BAg-20	680-765	750	30	38	32	-	-
SoporGreen 30 Sn	Ag 130	Ag 107	L-Ag30Sn	-	665-755	740	30	36	32	2	-
SoporGreen 34 Sn	Ag 134	Ag 106	L-Ag34Sn	-	630-730	710	34	36	27,5	2,5	-
SoporGreen 35 T	Ag 235	-	-	BAg-35	685-755	755	35	32	33	-	-
SoporGreen 38 Sn	Ag 138	-	-	BAg-34	650-720	720	38	32	28	2	-
SoporGreen 40 Sn	Ag 140	Ag 105	L-Ag40Sn	BAg-28	650-710	690	40	30	28	2	-
SoporGreen 44 T	Ag 244	Ag 203	L-Ag44	-	675-735	730	44	30	26	-	-
SoporGreen 45 T	Ag 245	-	-	BAg-5	663-745	740	45	30	25	-	-
SoporGreen 45 Sn	Ag 145	Ag 104	L-Ag45Sn	BAg-36	640-680	670	45	27	25,5	2,5	-
SoporGreen 50 T	Ag 250	-	-	BAg-6	688-774	775	50	34	16	-	-
SoporGreen 55 Sn	Ag 155	Ag 103	L-Ag55Sn	-	630-660	650	55	21	22	2	-
SoporGreen 56 Sn	Ag 156	Ag 102	L-Ag56Sn	BAg-7	620-655	650	56	22	17	5	-
SoporGreen 60 T	-	Ag 202	L-Ag60	-	695-730	710	60	26	14	-	-
SoporGreen 65 T	Ag 265	-	-	BAg-9	670-710	710	65	20	15	-	-
SoporGreen 70 T	Ag 270	-	-	BAg-10	690-740	740	70	20	10	-	-
SoporGreen 72 Eutetic	Ag 272	Ag 401	L-Ag72	BAg-8	780-780	780	72	28	-	-	-
SoporGreen 99,95	-	-	-	BVAg-0	961-961	960	≥ 99,95	-	-	-	-

FLUX COATED RODS AND RINGS

The flux coated rods have the advantage of having already the flux in the rod, a product easier to use. It is important to consider the type of finish required if you are in production or maintenance and the amount of it which is determined by the size of the outer coating.

The rings can be made in a wide range of sizes and in different wire diameters. To choose the ring size you must consider the type of joint, its tolerance and if it is loaded manually or automatically.

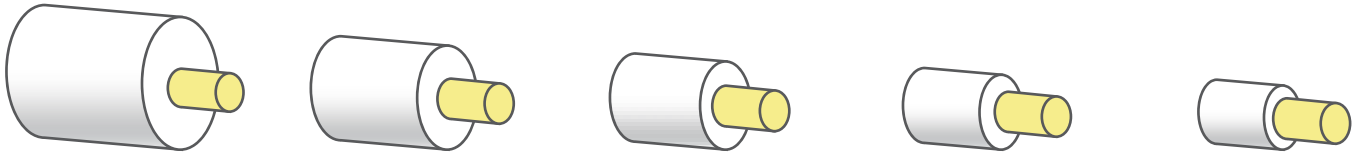
RINGS AND PREFORMS



COLOR AVAILABILITY

- navy blue
- gauloise blue
- light blue
- yellow
- red / blue
- light green
- mauve
- mustard
- yellow USA
- blue / white
- salmon
- scarlet
- turquoise
- violet
- customer's colours
- brick
- brown
- dark green
- grey
- pink
- orange
- orange USA
- red / white

EXTERIOR DIAMETER CHARACTERISTICS



standard | reduced | very reduced | super reduced | extra reduced

COPPER PHOSPHORUS ALLOYS

This group of alloys are self-fluxing on copper due its phosphorus content. Because of this property, it is possible to eliminate the use of flux during the brazing process, saving time and money.

These filler metals are widely used in the air conditioning and plumbing industries. It is not recommended for ferrous or nickel based materials because the joint will become brittle. The copper phosphorus alloys can have silver content from 2% up to 18%. The percentage of silver and phosphorus changes the melt and flow characteristics of the filler metal. All these alloys are available in wire, rod, powder, paste and preformed rings. Some alloys are also available in strip.

REFERENCE	NORMS				MELTING RANGE °C	WORKING TEMPERATURE °C	CHEMICAL COMPOSITION				
	ISO 17672	EN 1044	DIN 8513	AWS A5.8M/A5,8			Ag%	Cu%	P%	Others%	
FOSOP - COPPER PHOSPHORUS ALLOYS WITHOUT SILVER											
FOSOP 6 S	-	-	-	-	710-890	790	-	94.4	5.6	-	
FOSOP 6	CuP 179	CP 203	L-CuP6	-	710-890	760	-	93.8	6.2	-	*
FOSOP 7	CuP 180	CP 202	L-CuP7	-	710-820	730	-	93.0	7.0	-	*
FOSOP 0	**CuP 181**	**-**	**-**	**BCuP-2**	**710-793**	**730**	**-**	**92.7**	**7.3**	**-**	*
FOSOP 8	CuP 182	CP 201	L-CuP8	-	710-770	720	-	92.2	7.8	-	*
FOSOP 7 Sn	CuP 386	CP 302	-	-	650-700	700	-	86.2	6.8	Sn 7,0	
FOSOP 6,5 SnSi	CuP 385	-	-	BCuP-9	635-675	670	-	86.8	6.5	Sn 6,5 Si 0,21	
FOSILVER - COPPER PHOSPHORUS ALLOYS WITH SILVER											
FoSilver 0,4	-	-	-	-	710-740	710	0.4	93.6	6.0	-	
FoSilver 1	-	-	-	-	645-810	710	1.0	92.5	6.5	-	
FoSilver 2+	**CuP 279**	**CP 105**	**L-Ag2P**	**-**	**645-825**	**740**	**2.0**	**91.7**	**6.3**	**-**	*
FoSilver 2 FF	CuP 280	-	-	BCuP-6	643-788	715	2.0	91.0	7.0	-	*
FoSilver 5	**CuP 281**	**CP 104**	**L-Ag5P**	**BCuP-3**	**645-815**	**710**	**5.0**	**89.0**	**6.0**	**-**	*
FoSilver 5 FF	-	-	-	-	645-790	710	5.0	88.5	6.5	-	*
FoSilver 5 FFF	CuP 282	-	-	BCuP-7	643-771	710	5.0	88.2	6.8	-	*
FoSilver 6	CuP 283	-	-	BCuP-4	645-725	690	6.0	86.7	7.3	-	
FoSilver 6 Ni	CuP 283a	CP 103	-	-	645-725	690	6.0	86.6	7.3	Ni 0.1	
FoSilver 15	CuP 284	CP 102	L-Ag15P	BCuP-5	645-800	700	15.0	80.0	5.0	-	*
FoSilver 18	CuP 286	CP 101	-	-	645-645	650	18.0	74.95	7.05	-	*

* This alloys can also be produced with a different manufacturing technology creating a new group - The **Advanced** alloys.
They are very soft alloys with uniform behavior ensuring stabilized melting baths and without segregation. This technology allows a more stable behavior along the solidification process thereof being a more uniform surface. They support higher thermal melting cycles. These alloys meet all the actual standards in accordance with the specification.

SOFT SOLDERS - LEAD FREE

Innocuous alloys to use in all types of applications at low temperature +/- 220º C, like copper tubing in domestic and industrial applications. During the brazing processes there isn't any release of fumes and are compliant with RoHs and REACH directives.

REFERENCE	NORMS		CHEMICAL COMPOSITION			WORKING TEMPERATURE ºC
	EN 9453	ISO 29453	Ag%	Cu%	Sn%	
SOPOR - 99.3Sn	S-Sn99Cu1	S-Sn99Cu1	-	0.7	99.3	227

FLUXES

Innocuous flux compliant with the new REACH directive concerning the non-use of toxic products. Wide range of applications on low temperature silver alloys. Working temperature 550-750ºC.

REFERENCE	STATUS	MELTING RANGE ºC	ACTIVITY	FLUIDITY	CAPILLARITY	LIFE	NORMS	
							EN 1045	DIN 8511
SOPOR-GREEN	Powder/Paste	450-800	good	good	very good	good	-	-
SOPOR-FLUX Cu	Paste	180-240	good	good	good	excellent	-	-

NOTES

SOPORMETAL®
brazing technology

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Available on the App Store

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