



# **SALDFLUX®**

**BRAZING ALLOY • FLUX**

*braz e with us!*

Harlote Brazing alloys Alliages de brasage *Leghe per brasatura forti* Aleaciones de soldadura fuerte *Pájky pro tvrdé pájení* Weichlote Solders Alliages de soudure *Leghe per brasature tenere* Aleaciones de soldadura *Pájky pro měkké pájení* Flussmittel Flux Décapants *Disossidanti* Decapantes *Tavidlo* Paste Paste Pâte *Pasta* Pájecí pasty Harlote Brazing alloys Alliages de brasage *Leghe per brasatura forti* Aleaciones de soldadura fuerte *Pájky pro tvrdé pájení* Weichlote Solders Alliages de soudure *Leghe per brasature tenere* Aleaciones de soldadura *Pájky pro měkké pájení* Flussmittel Flux Décapants *Disossidanti* Decapantes *Tavidlo* Paste Paste Pâte *Pasta* Pájecí pasty Harlote Brazing alloys Alliages de brasage *Leghe per brasatura forti* Aleaciones de soldadura fuerte *Pájky pro tvrdé pájení* Weichlote Solders Alliages de soudure *Leghe per brasature tenere* Aleaciones de soldadura *Pájky pro měkké pájení* Flussmittel Flux Décapants *Disossidanti* Decapantes *Tavidlo* Paste Paste Pâte *Pasta* Pájecí pasty



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# SaldFlux Srl, the Italian history of Brazing!



Founded in 1985 by Eng. Vittorio Tura, SaldFlux is specialized in the production of silver brazing alloys and fluxes.

A vibrant, stimulating company, totally oriented towards the market and its clientele, that owes its success to the endless search for quality on its products.

Since the beginning SaldFlux has been pursuing innovation in respect for environment, investing in technology, quality and Work Health Safety rather than getting immediate economic advantages.

Thanks to an attentive and responsible policy on pricing, quality and service, SaldFlux has become a leading company in the field of brazing materials, in Italy as well as in more than 50 countries worldwide.

Our company manufactures Cadmium free (RoHS compliant) silver brazing alloys, Copper-Phosphorus brazing alloys, brasses and bronzes alloys, all meeting the major international Standard Specifications or according to customer's specific requirements.

Such products are available in rods, wires, rings and preforms, strips/foils forms.

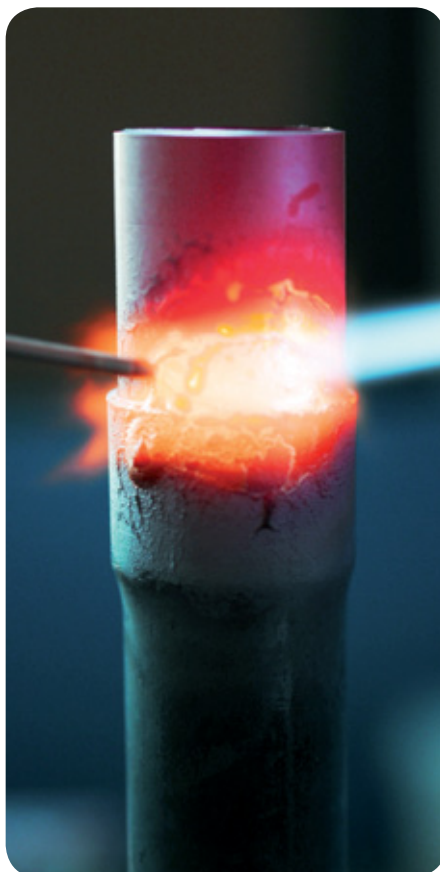
Besides, our company is specialized in the production of fluxes for general and/or specific applications, made by innovative technology and in accordance with the current regulations (CE Nr. 1907/2006 - Boric Acid Free).

We are an undisputed leader in flux coating silver brazing alloys. Our FLUXALLOY®, FLUIDALLOY® and SALDFLOW® rods represent a winning choice for our customers, practical and functional, environmentally friendly.





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Brazing filler metal is a metal to be added when making braze. Brazing filler metals are alloys that have liquidus temperature above 450° C but below the solidus temperature of the metals being joined. The silver filler metals are used for joining most ferrous and non ferrous metals, except aluminium and magnesium. SaldFlux manufactures a range of silver based filler metal compositions which may have various additions.

TERNALLOY T and TERNALLOY S are manufactured meeting the latest European Norms. They are suitable for all brazing operations on mild and stainless steels, carbon and low alloy steels, copper and copper alloys, zinc and zinc alloys. Filler metals should be chosen on their suitability for each particular application, accompanied by the ideal flux (either as a powder or a paste), to promote flow and wetting of the brazing alloy - guarantee of smooth and neat fil-

lets. The demand of TERNALLOY T in the early 2000's was driven by the increasing requirements from industry for low-temperature materials, that could avoid the Health and Safety problems that attend the use of cadmium bearing alloys. In the last 5 years its consumption has grown up very quickly because of the ban of Cadmium brazing alloys settled by Directive EU 494/2011.



TERNALLOY T																
CODE	Composition %				Melting Range	Work. Temp.	Density	Tensile Strength	International Specification			Available Forms				
	Ag	Cu	Zn	Sn	°C	°C	g/cm3	MPa	ISO 17672	AWS A5.8	SF					
TERNALLOY 56	56	22	17	5	620-655	650	9,5	350	Ag 156	BAg-7	-	✓	✓	✓	✓	✓
TERNALLOY 55	55	21	22	2	630-660	660	9,4	350	Ag 155	-	-	✓	✓	✓	✓	✓
TERNALLOY 45	45	27	25,5	2,5	640-680	670	9,2	350	Ag 145	BAg-36	-	✓	✓	✓	✓	✓
TERNALLOY 40	40	30	28	2	650-710	690	9,1	350	Ag 140	BAg-28	-	✓	✓	✓	✓	✓
TERNALLOY 38	38	31	29	2	650-720	720	9,1	350	Ag 138	BAg-34	-	✓	✓	✓	✓	-
TERNALLOY 34	34	36	27,5	2,5	630-730	710	9	360	Ag 134	-	-	✓	✓	✓	✓	-
TERNALLOY 30	30	36	32	2	665-755	740	8,8	360	Ag 130	-	-	✓	✓	✓	✓	-
TERNALLOY 25	25	40	33	2	680-760	750	8,7	360	Ag 125	BAg-37	-	✓	✓	✓	✓	-





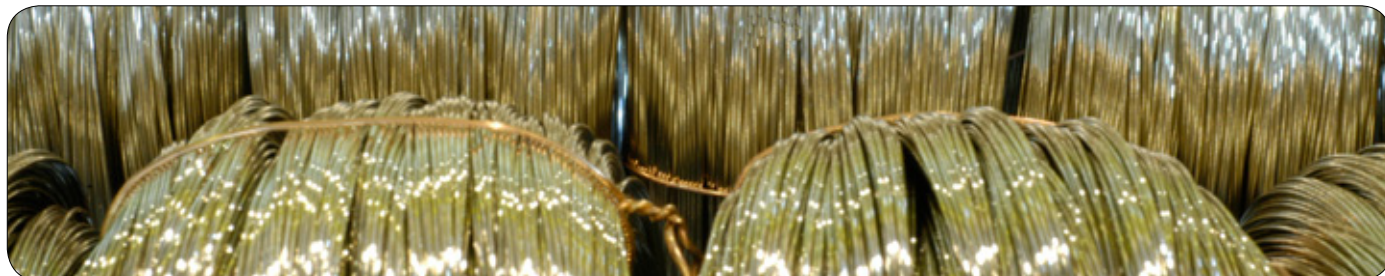
## CADMIUM FREE BRAZING ALLOYS








TERNALLOY S were introduced in the United Kingdom in the field of silver-smiths. These alloys then found generally great application because of their more workability than the filler metals containing tin (TERNALLOY T).

TERNALLOY S is suggested when the application requests a long time heating (Flame or induction) or according to the properties of the parent metals. TERNALLOY 444 is greatly appreciated in the manufacturing and maintenance

of saw blades and cutting tools. TERNALLOY 420 is a filler metal for general purposes; it has great diffusion also in food industry when the application does not request low working temperature.



### TERNALLOY S

CODE	Composition %				Melting Range	Work. Temp.	Density	Tensile Strength	International Specification			Available Forms				
	Ag	Cu	Zn	Sn	°C	°C	g/cm3	MPa	ISO 17672	AWS A5.8	SF					
TERNALLOY 445	45	30	25	-	665-745	730	9,1	-	Ag 245	B-Ag5	-	✓	✓	✓	-	-
TERNALLOY 444	44	30	26	-	675-735	730	9,1	400	Ag 244	BAg-15	-	✓	✓	✓	✓	✓
TERNALLOY 435	35	32	33	-	685-755	755	8,9	-	Ag 235	BAg-35	-	✓	✓	✓	-	-
TERNALLOY 430	30	38	32	-	680-765	760	8,8	380	Ag 230	BAg-20	-	✓	✓	✓	-	-
TERNALLOY 425	25	40	35	-	700-790	780	8,8	145	Ag 225	-	-	✓	✓	✓	✓	-
TERNALLOY 420	20	44	36	0,15	690-810	810	8,7	145	Ag 220	-	-	✓	✓	✓	✓	-
TERNALLOY 412	12	48	40	0,15	800-830	820	8,4	155	Ag 212	-	-	✓	✓	✓	✓	-
TERNALLOY 405	5	55	40	0,15	820-870	870	8,4	135	Ag 205	-	-	✓	✓	✓	✓	-

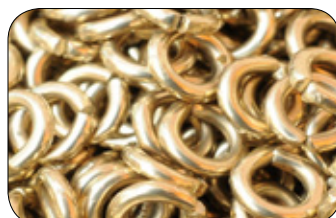
Thanks to their special composition TERNALLOY SPECIAL can be used for other applications where the usual TERNALLOY T and TERNALLOY S alloys are not recommended.

The below mentioned brazing materials are appropriated for furnace brazing (TERNALLOY 7228), including vacuum, and for unusual and special applications:

TERNALLOY 8515 or TERNALLOY 7200 is suggested when ammonia-resistant joints are requested; TERNALLOY 6030 when the use of zinc is not allowed.

### TERNALLOY SPECIAL

CODE	Composition %							Melting Range °C	Work. temp. °C	Density g/cm3	International Specification			Available Forms			
	Ag	Cu	Zn	Sn	Mn	Ni	In				ISO 17672	AWS A5.8	SF				
TERNALLOY 7228	72	28	-	-	-	-	-	780	781	10	Ag 272 <sup>a</sup>	BAg-8	-	✓	✓	✓	✓
TERNALLOY 7200	72	-	28	-	-	-	-	710-730	710	8,4	-	-	W7200	-	✓	✓	✓
TERNALLOY 6030	60	30	-	10	-	-	-	600-730	720	9,8	Ag 160	BAg-18	-	✓	✓	✓	✓
TERNALLOY 8515	85	-	-	-	15	-	-	960-970	960	9,4	Ag 485	BAg-23	-	-	✓	✓	✓
TERNALLOY 5614	56	27	-	-	-	2,5	14,5	600-710	700	9,2	Ag 456 <sup>a</sup>	-	-	✓	✓	✓	✓
TERNALLOY 460	60	26	14	-	-	-	-	695-730	720	9,5	-	-	W4600	✓	✓	✓	✓
TERNALLOY 467	67	19,5	13,5	-	-	-	-	670-720	710	9,7	-	-	W4670	✓	✓	✓	✓



## FLUXCOATED RODS



The wide range of cadmium free silver solders can be supplied as fluxcoated rods as well. The content of their bare brazing rod meets the composition indicated in the cadmium free brazing alloys table. Fluxcoated rods can have several external coating

layers (more or less flux quantity) to meet specific customers' needs. SaldFlux mainly manufactures two different kinds of coating paste: the flexible coating (FLUXALLOY®) - for maintenance - and the non-flexible or rigid coating (FLUIDALLOY®) - for

production, particularly recommended in refrigeration and air-conditioning industry. SaldFlux has also developed a new coating (SALDFLOW®) fully odorless and without binder. See below the most requested ones:



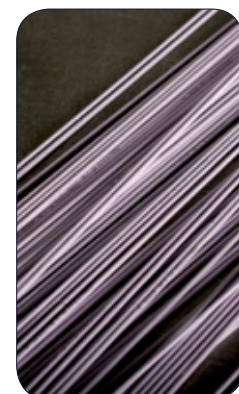
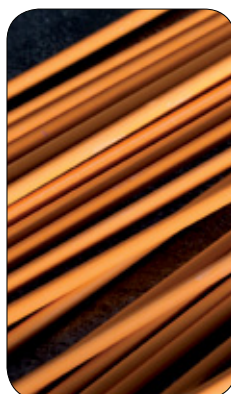
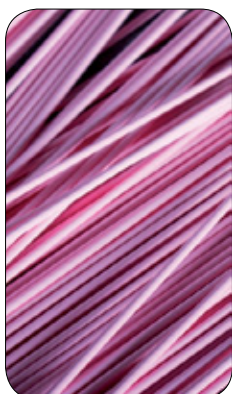
### FLUXALLOY® & FLUIDALLOY® & SALDFLOW®

Bare Rods	Fluxcoated Rods (Flexible Coating)	Fluxcoated Rods (Non-flexible Coating)	Fluxcoated Rods (Eco Coating)	Melting Range	Working Temp.	EN 17672	EN 1045
TERNALLOY 56	FLUXALLOY 56	FLUIDALLOY 56	SALDFLOW® 56	620-655	650	Ag 156	Fh 10
TERNALLOY 55	FLUXALLOY 55	FLUIDALLOY 55	SALDFLOW® 55	630-660	660	Ag 155	Fh 10
TERNALLOY 45	FLUXALLOY 45	FLUIDALLOY 45	SALDFLOW® 45	640-680	670	Ag 145	Fh 10
TERNALLOY 40	FLUXALLOY 40	FLUIDALLOY 40	SALDFLOW® 40	650-710	690	Ag 140	Fh 10
TERNALLOY 38	FLUXALLOY 38	FLUIDALLOY 38	-	650-720	720	Ag 138	Fh 10
TERNALLOY 34	FLUXALLOY 34	FLUIDALLOY 34	SALDFLOW® 34	630-730	710	Ag 134	Fh 10
TERNALLOY 30	FLUXALLOY 30	FLUIDALLOY 30	SALDFLOW® 30	665-755	740	Ag 130	Fh 10
TERNALLOY 25	FLUXALLOY 25	FLUIDALLOY 25	-	680-760	760	Ag 125	Fh 10
TERNALLOY 444	FLUXALLOY 444	FLUIDALLOY 444	SALDFLOW® 444	675-735	730	Ag 244	Fh 10
TERNALLOY 430	FLUXALLOY 430	FLUIDALLOY 435	-	680-765	760	Ag 230	Fh 10
TERNALLOY 420	FLUXALLOY 420	FLUIDALLOY 420	SALDFLOW® 420	690-810	810	Ag 220	Fh 10

The flux is equivalent to the type FH 10 in accordance with DIN EN 1045 and all the type of coating are acid boric free. The silver contain by the

weight of the coated brazing rod is lower than the silver content of bare brazing rod because of the flux coating. The composition of bare rods, of

course, meets the composition found in TERNALLOY T, TERNALLOY S and other cadmium free alloys.





## CADMIUM FREE BRAZING ALLOYS



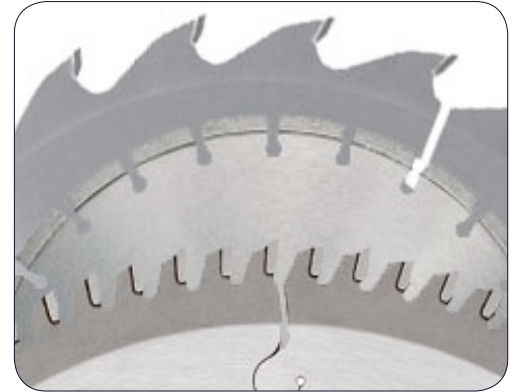
The below listed filler metals are widely used for the brazing of tungsten carbide used as a tipping material for such different applications as dental, masonry and rock-drilling tools and as hard and wear-resistant tip for the cutting faces of routers, milling cutters and high-speed circular saw blades.

Because of the particular and various composition of these sintered products the choice of the filler metals must be very accurate. Normally low-brazing temperature alloys are appreciated, but when high temperature joint strength

and ability of wetting the carbide is requested, the choice comes down very strongly in favor of using brazing alloys containing modest quantity of nickel (TERNALLOY 50 N); it is even better if it contains manganese (TERNALLOY 49 MN or TERNALLOY 491 MN). The presence of nickel, although raising the brazing temperature, facilitates wetting and that of manganese provides an improvement in the resistance of brazed joints.

Due to its very high activity level flux F9 (brown flux) is widely used for the brazing of tungsten carbide, even if it remains opaque when

fully molten. This potential disadvantage would be solved with the use of white flux F4; the operator will be able to observe when the alloy melts and flows.



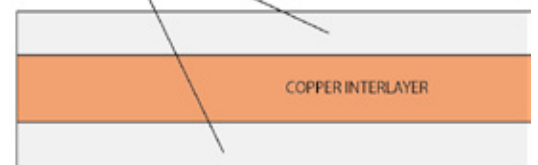
### TERNALLOY N

CODE	Composition %					Melting Range	Work. temp.	Density	Shear Strength	International Specification			Available Forms				
	Ag	Cu	Zn	Mn	Ni					ISO 17672	AWS A5.8	SF					
TERNALLOY 49 MN	49	16	23	7,5	4,5	680-705	690	8,9	250-300	Ag 449	BAg-22	-	✓	✓	✓	✓	✓
TERNALLOY 491 MN	49	27	21	2,5	0,5	670-690	690	8,9	250-300	-	-	W4491	-	-	-	✓	-
TERNALLOY 50 N	50	20	28	-	2	660-705	700	9,4	-	Ag 450	BAg-24	-	✓	✓	✓	✓	✓
TERNALLOY 40 N	40	30	28	-	2	670-780	770	9,2	150-300	Ag 440	BAg-4	-	✓	✓	✓	✓	✓

When there are large inequalities between the sizes of the components composing the joint, sometimes a joint failure resulting from thermally induced stress occurs. Perhaps the best known example of this problem is when large pieces of

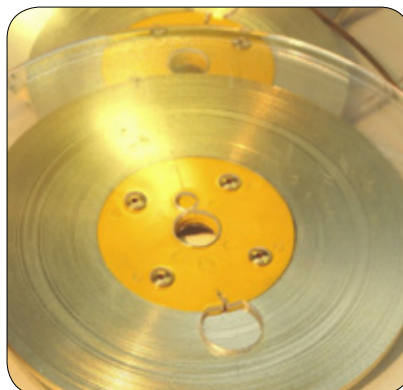
tungsten carbide are brazed to steel backing pieces. Braze filler composites that have a core of copper with a coating of filler metal on both surfaces (1:2:1) are frequently used to reduce the risk of cracking (sandwiched or trifoil material).

BRAZING ALLOYS LAYERS



### TERNALLOY TR

CODE	Composition %						Melting Range	Work. temp.	Density	Shear Strength	International Specification		Available Forms
	Ag	Cu	Zn	Mn	Ni	Si					ISO 17672	AWS A5.8	
TERNALLOY 49 TR	49	27,5	20,5	2,5	0,5	-	670-690	690	9,0	150-300	-	-	✓

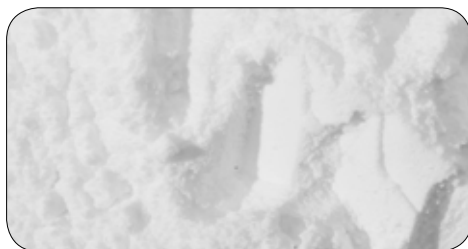
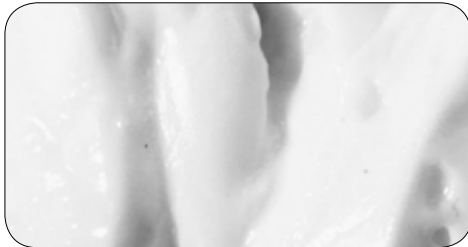




The purpose of brazing fluxes is to promote the formation of brazed joint by protecting the base metal and filler metal from oxidation. The brazing flux may also serve to remove surface oxides

and therefore reduce surface tension to promote free flow of filler metal. Sound made brazed joints can be achieved only when parent metals are free from oxidation, coatings, oil, grease,

or other foreign materials from the parts. The choice of flux is made in accordance with the base materials to be joined and the working temperature of the filler metals.



## LOW TEMPERATURE

CODE	Available Forms	Filler Metal (EN ISO 17676:2010)	Melting Range °C	EN 1045	Application
F35	Powder Paste	Class Ag - CuP	400-750	-	Suitable for free flowing alloys which give smooth fillets and fine joint appearance. Residues are soluble in water and easy to remove.
F62	Powder Paste	Class Ag - CuP	550-750	Fh 10	Universal purpose flux for low melting filler metals. Residues are soluble in water and easy to remove.

## MEDIUM TEMPERATURE

BRASFLUX®	Powder Paste	Class Ag - CuP	550-800	Fh 10	A very good solvent with a wide working temperature, it covers the work well. It is suggested with 20%-45% silver alloys.
F16	Powder Paste	Class Ag - CuP	550-800	Fh 10	Universal purpose flux for ferrous and non ferrous alloys, except for aluminium. High oxide solvent properties.
FCu	Powder Paste	Class CuP	550-800	Fh 10	Suggested on brass to copper joint. Used also on Cu-Cu or Cu alloys joints when capillary penetration is required. Suitable for FOS 677

## HIGH TEMPERATURE

F25	Powder Paste	Class Ag - CuP	550-850	Fh 10	Suitable for low silver alloys or TERNALLOY S when prolonged heating is required. Good capillary properties. Residues can be removed by warm water or by brush.
F20	Powder Paste	Class Ag - CuP	700-1000	Fh 20	Recommended for rapid heating methods or with prolonged heating at high temperatures for brazing large assemblies. Applicable on all metals except for aluminium - also suitable for refractory steels.
F9	Paste	Class Ag - CuP	550-850	Fh 12	Brown (due to the addition of boron) paste flux for tungsten carbides and widiam tools, particularly appropriate for rapid or prolonged heating; it is effective on refractory oxides. Residues can be removed by mechanical brushing or sand-blasting or grinding.
F4	Powder Paste	Class Ag - CuP	550-850	Fh 12	An alternative to F9 as white flux paste (no boron added); when heated it gets transparent and allows to observe the regular flow of the brazing alloy.

## COPPER-PHOSPHORUS BRAZING ALLOYS



Copper-phosphorus and silver-copper-phosphorus brazing alloys are widely used in joining copper to copper in air without the use of a flux (thanks to its phosphorus content). The addition of silver to copper-phosphorus improves ductility and

electrical conductivity in the alloy and it reduces its melting range. These filler metals can be used for brazing brass or bronze with the adding of flux: the self-fluxing action fails to work because of the presence of the zinc oxide on the

brass. These alloys should not be used on ferrous or nickel based alloys, on copper-nickels with more than 10% nickel, to avoid formation of brittle, intermetallic phosphide compounds.



### FOS - SILVERFOS

CODE	Composition %				Melting Range	Work. temp.	Density	Tensile Strength	International Specification			Available Forms					
	Ag	Cu	P	Other	°C	°C	g/cm3	N/mm2	ISO 17672	AWS A5.8	SF						
FOS 60	-	94	6	-	710-890	760	8,1	250	CuP 179	-	-	✓	-	-	-	-	-
FOS 70	-	93	7	-	710-820	730	8,1	250	CuP 180	BCuP-2	-	✓	✓	-	✓	-	-
FOS 75	-	92,5	7,5	-	710-793	725	8,1	250	CuP 181	BCuP-2	-	✓	-	-	-	-	-
FOS 80	-	92	8	-	710-720	720	8,0	250	CuP 182	-	-	✓	✓	-	-	-	-
FOS 677	-	86	7	7 Sn	650-700	660	8,0	250	CuP 386	-	-	✓	-	-	-	-	-
DULLFOS® 70	-	93	7	-	710-825	730	8,1	250	CuP 180	BCuP-2	-	✓	-	-	-	-	-
SILVERFOS 204	0,4	93,6	6	-	700-850	760	8,1	250	-	-	W2004	✓	-	-	-	-	-
SILVERFOS 1	1	92,5	6,5	-	650-825	800	8,1	250	-	-	W2010	✓	✓	-	-	-	-
SILVERFOS 2	2	91,7	6,3	-	643-788	740	8,2	250	CuP 279	-	-	✓	✓	-	✓	-	-
DULLFOS® 2	2	91,7	6,3	-	643-788	740	8,2	250	CuP 279	-	-	✓	-	-	-	-	-
SILVERFOS 5	5	89	6	-	645-815	710	8,2	250	CuP 281	BCuP-3	-	✓	✓	-	✓	-	-
DULLFOS® 5	5	89	6	-	645-815	710	8,2	250	CuP 281	BCuP-3	-	✓	-	-	-	-	-
SILVERFOS 6	6	87	7	-	643-813	720	8,3	250	CuP 283	BCuP-4	-	✓	✓	-	✓	-	-
SILVERFOS 6 N	6	87	7	0,15 Ni	643-813	720	8,3	250	CuP 283a	-	-	✓	✓	-	-	-	-
SILVERFOS 15	15	80	5	-	645-800	700	8,4	250	CuP 284	BCuP-5	-	✓	✓	✓	✓	✓	✓
SILVERFOS 18	18	76	6	-	643-660	650	8,4	250	CuP 285	-	-	✓	✓	✓	✓	✓	✓



FOS 677 is a particular copper-phosphorus filler metal; it has a relatively low working

temperature, but it is not self-fluxing when using in air. Blackflow is the fluxcoated

version of FOS 677 and is suggested when the flux cannot be applied manually.

### BLACKFLOW®

Bare Rods	Fluxcoated Rods	Melting Range	Work. temperature	International Specification	
		°C	°C	EN 17672	EN 1045
FOS 677	BLACKFLOW®	650-700	700	CuP 386	Fh 10

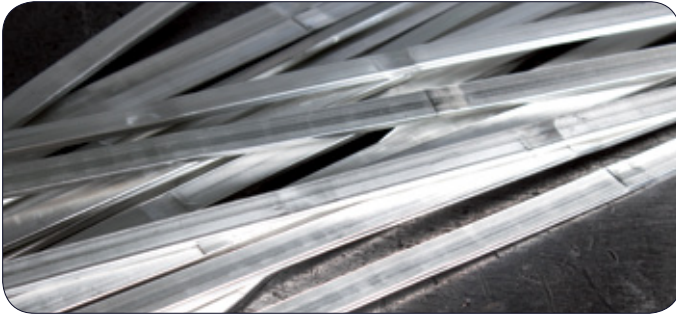
The primary criterion used to select the soft solder alloys is its melting properties. TINSALD 6337, 4060 and 5050 are the most widely used in electronics (assembly of circuits boards) and structural applications such as the assembly of conduits for non potable water, industrial fluids, compressed gas products and vacuum assemblies. TINSALD 2080 has a wider pasty range

that provides greater workability. TIN 100 is suggested where lead-tin alloy are not allowed.

The adding of the silver or silver-copper improves the strength and spreading and lowers the melting temperature, when compared to TIN 100. TINALLOY 35 and TINALLOY 50 are used extensively in plumbing applications for potable water and food handling equipments.

In TINSALD 9505 the adding of anti-mony improves monotonic and creep strength of the solder.

All these soft solders must be used with FLUX T, that removes the thin tarnish layers during the initial stages of the soldering process, thereby permitting the molten solder to react to substrate and to spread.



### TINSALD - TINALLOY

CODE	Composition %						Melting Range	International Specification		Available Forms			
	Sn	Pb	Ag	Cu	Zn	Sb		ISO 9453	ISO 3677				
TIN 100	99,9	-	-	-	-	-	232	-	S-Sn100	✓	-	-	-
TINSALD 97	97	-	-	3	-	-	227-310	402	S-Sn97Cu3	-	✓	✓	-
TINSALD 93	93	-	-	7	-	-	240-330	-	S-Sn93Cu3	-	✓	✓	✓
TINALLOY 35	96,5	-	3,5	-	-	-	221	703	S-Sn96Ag4 / (Sn96,5Ag3,5)	-	✓	✓	✓
TINALLOY 50	95	-	5	-	-	-	221-240	704	S-Sn95Ag5	-	✓	✓	✓
TINALLOY 20A	5	93	2	-	-	-	296-301	191	S-Pb93Sn5Ag2	-	✓	✓	✓
TINALLOY 20B	62	36	2	-	-	-	179	171	S-Sn62Pb36Ag2	-	✓	✓	✓
TINSALD 9505	95	-	-	-	-	5	235-240	201	S-Sn95Sb5	-	✓	✓	✓
TINSALD 9109	91	-	-	-	9	-	199	801	S-Sn91Zn9	-	✓	✓	✓
TINSALD 6337	63	37	-	-	-	-	183	101	S-Sn63Pb37	-	✓	✓	✓
TINSALD 5050	50	50	-	-	-	-	183-215	111	S-Pb50Sn50	-	✓	✓	✓
TINSALD 4060	40	60	-	-	-	-	183-238	114	S-Pb60Sn40	-	✓	✓	✓
TINSALD 3565	35	65	-	-	-	-	183-245	115	S-Pb65Sn35	-	✓	✓	✓
TINSALD 3070	30	70	-	-	-	-	183-255	116	S-Pb70Sn30	-	✓	✓	✓
TINSALD 2080	20	80	-	-	-	-	183-280	117	S-Pb80Sn20	-	✓	✓	✓

### FLUXES

CODE	Available Forms	Filler Metal (ISO 9453:2007)	Melting Range °C	EN 9454-1	Application
Flux T	Liquid	All Groups	150-400	Type 3.1.1.1	Extremely corrosive flux suitable for alloys having liquidus up to 260°C (soft solders like Sn/Pb, Sn/Ag and Sn/Cu). Residues are generally removed by warm water.
Flux TS	Paste		150-400	Type 3.1.1.1	
Flux TSX	Liquid		150-400	Type 3.1.1.1	



## BRASSES



These filler metals are employed with good effect in the brazing of mild steel assemblies such as bicycle frames and wheelchairs. They can be used on steels, copper and copper alloys, nickel, nickel-based alloys and stainless steel where corrosion resistance is not a major requirement.

The difference in composition between one filler material and another have poor effects on their performance and brazing characteristics. The addition of silicon enhances the smoothness of the resultant fillet. The addition of silver and tin helps flowing characteristics despite melting range is not much lowered.

These filler metals with the addition of manganese and nickel are substantially stronger than the conventional copper-zinc alloys. WELD 110 is often used for brazing tungsten carbides. A high temperature flux is required or the use of fluxcoated rods is suggested.



### WELD

CODE	Composition %							Melting Range °C	Density g/cm3	International Specification			Available Forms		
	Ag	Cu	Zn	Sn	Mn	Ni	Si			ISO 17672	AWS A5.8	SF	Wire	Bar	Coil
WELD 1	-	60	Bal	-	-	-	0,3	875-895	8,2	Cu 470a	-	-	✓	✓	✓
WELD 2	-	60	Bal	0,2	0,2	-	0,3	870-900	8,2	Cu 670	-	-	✓	✓	✓
WELD 3	-	60	Bal	0,4	0,2	-	0,1	870-890	8,3	Cu 471	-	-	✓	✓	✓
SILVERWELD 1	1,2	59	Bal	-	-	-	0,3	860-890	8,2	-	-	W3011	✓	✓	✓
WELD 23	-	57	Bal	-	-	2	0,1	860-890	8,2	-	-	W3102	✓	✓	✓
WELD 104	-	57	Bal	-	-	4	-	860-910	8,3	-	-	W3104	✓	✓	✓
WELD 110	-	48	Bal	-	-	10	0,2	900-930	8,4	Cu 773	RBCuZn-D	-	✓	✓	✓

Fluxcoated rods are also available. They are a good alternative to the use of liquid flux for its performances and for the

final quality of the joint. The coating flux guarantee a better protection against the oxidation arise from the heating pro-

cess of the filler metal during the brazing operation.

### FLUXWELD®

Bare Rods	Fluxcoated Rods	Melting Range	Work. temperature	International Specification	
		°C	°C	EN 17672	EN 1045
WELD 1	FLUXWELD 1	875-895	Cu 470 <sup>a</sup>	-	Fh 21
WELD 2	FLUXWELD 2	870-900	Cu 670	-	Fh 21
SILVERWELD 1	SILVERWELD 1 FRC	860-890	-	-	FH 21
WELD 110	FLUXWELD 110	900-930	Cu 773	-	Fh 21

### FLUXES

CODE	Available Forms	Filler Metal (EN ISO 17676:2010)	Melting Range °C	EN 1045	Application
Flux BW	Powder Paste	Class Cu	750-1100	Fh 21	For brass/bronze welding (silicon bronze, manganese bronze or nickel silver). Residues are hard to remove or can be removed only by sandblasting.
Flux BW/1	Powder Paste	Class Cu	750-1100	Fh 21	Similar properties to Flux BS but more effective at higher working temperatures, with less residues.

## ALUMINIUM BRAZING ALLOYS



The ALUSALD filler metals are used to join brazable aluminium base metals. Silicon and copper lower the melting point of aluminium and these elements are added to pure aluminium to produce suitable brazing filler metals. These alloys can be used because they melt be-

low the solidus of brazable base metals. ALUSALD 12 is a general purpose filler metal, it is used with all brazing processes, with some casting alloys and where limited flow is required. It is supplied in wire or rod for manual application. ALUSALD2 and ALUSALD 22 are de-

veloped for aluminium soldering too (copper-aluminium and brass-aluminium joints). These alloys have wide use in tube joining for heat exchangers applications and automotive. ALUSALD 2 and ALUSALD 22 are supplied also fluxcored.



### ALUSALD

CODE	Composition %					Melting Range °C	International Specification			Available Forms			
	Al	Si	Mg	Mn	Zn		ISO 17672	AWS A5.8	ISO 3677				
ALUSALD	Bal	0,3	0,03	0,03	-	647-658	-	1050 (AWS A5.10)	-	✓	-	-	-
ALUSALD 5	Bal	5	-	-	-	575-630	Al 105	4043 (AWS A5.10)	-	✓	-	-	-
ALUSALD 12	Bal	12	-	-	-	575-585	Al 112	BAISi-4	-	✓	✓	✓	-
ALUSALD 2	2	-	-	-	98	376-385	-	-	S-Zn98Al2	✓	-	-	✓
ALUSALD 22	22	-	-	-	78	426-482	-	-	S-Zn78Al22	✓	-	-	✓














### FLUX

CODE	Available Forms	Filler Metal (EN ISO 17676:2010)	Melting Range °C	EN 1045	Application
Flux A	Powder	Class Al	450-620	Fh 11	For use with AlSi12 alloy - non corrosive flux.



## AVAILABLE FORMS

	Bare Rods	Ø: from 0,5 mm to 4 mm	Length: 500 mm and 1000 mm. Other length upon request.
	Fluxcoated Rods	Ø: 1,5 - 2 - 2,4 - 3 mm	Standard, reduced, very reduced or Super reduced Coating. 22 colors available. Printing upon request.
	Fluxcored Rods & Wire	Ø: from 2 to 5 mm	Bare Rods: Length: 500 mm Wire on spools
	Wire	Ø: from 1,5 to 3 mm Ø > 3 mm upon request	Coils or SD 300 K Spools.
	Thin Wire	Ø: from 0,3 to 1,4 mm Ø: < 0,4 upon request	Coils or DIN 125 or DIN 80 reels.
	Strips	Thickness from 0,1 to 1 mm	Width from 2 to 50 mm. Other dimensions upon request.
	Sandwiched Alloys Trifoil	Thickness from 0,4 to 0,8 mm	Width from 2 to 80 mm. Other dimensions upon request.
	Rings & preforms	-	According to the Customers' Specifications
	Fluxes	Powder	250 gr - 500 gr 1 Kg - 4 kg - 10 kg - 25 kg
	Fluxes	Paste	250 gr - 500 gr 1 Kg - 5 kg - 10 kg
	Fluxes	Liquid	0,5 lt - 1 lt - 2,5 lt

Details we provide on our products and appliances as well as on our plants and process methods are based on comprehensive research work and operational experience. We provide such data, with which we do not assume liability over and above the respective individual contract, in word and writing to the best knowledge, but reserve the right to make technical modifications in the course of

product development. In addition, our Technical Applications Service is available to provide more detailed advice and to assist in resolving production and application problems.

This does not, however, relieve the user of his responsibility to check our data and recommendations for his own application before using them. This shall also apply - particularly for shipments abroad

- with regards to the maintenance of protection rights to third parties and to applications and process methods not expressly declared by ourselves in writing. In the event of loss our liability is limited to replace goods and services on the same scale as is stipulated for quality defects in our General Conditions of Sales and Delivery.



