Copper–Phosphorus Filler Metals
Silver Brazing Alloys
Aluminium Brazing Alloys
Brazing Flux, etc
Lock Sleeve Material
Copper Nickel & Brazing Paste

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KS D 8050 / ISO 9001:2000 Certification

SHIN SUNG Material

SS Brazing
SHIN SUNG
Material LTD.

Copper-Phosphorus Filler Metals I Silver Brazing Alloys I Aluminium Brazing Alloys
Cream Flux / Gas Flux I Lock Sleeve Material I Copper Nickel & Brazing Paste
Solder I Gas Saver











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Copper-Phosphorus Filler Metals | Silver Brazing Alloys | Aluminium Brazing Alloys | Cream Flux Gas Flux

Lock Sleeve | Copper,Nickel Paste | Solder | GAS SAVER | Electrical Contact

Brazing Filler Metal
SHIN SUNG Material Co.,Ltd.

A leading company that prepare for the future with customers, Shinsung Material Co.,Ltd.

We appreciate you, customers, who have truly supported and guided us until we reach this position.
We have achieved the current success with thorough craftmanship and endless research and development since the foundation. We believe firmly that all of these are the results under your support.
To meet your expectation, we will make efforts to perform continuous research and introduce technology.
We will try to achieve excellent results in overseas markets beyond Korea based on our accumulated technical capabilities and sales know-hows. We promise that we will a shape hopeful future with you as a future-oriented company. Please wait until we become a global enterprise and always support and encourage us.

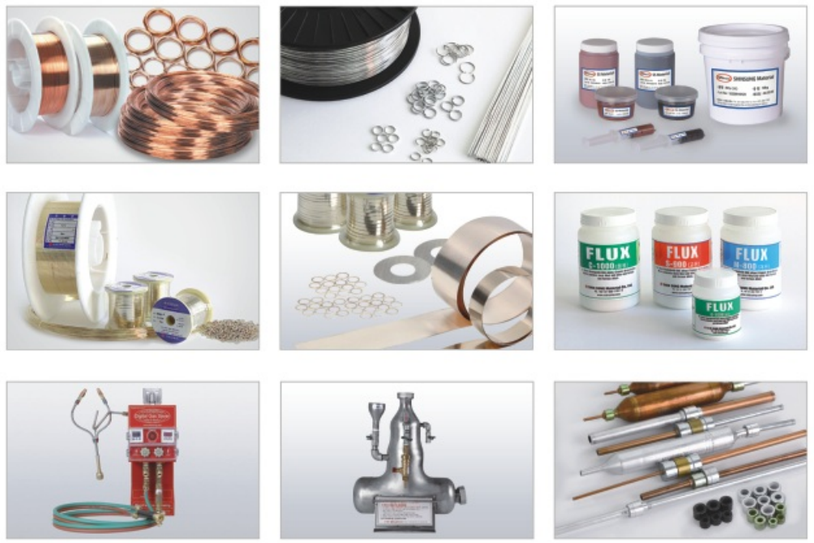
All the employees of Shinsung Material Co., Ltd.

SHIN SUNG Material. Co., Ltd

World Best Quality
SHIN SUNG Material

MAIN PRODUCT

Copper-Phosphorus Filler Metals | Silver Brazing Alloys
Aluminium Brazing Alloys | Brazing Flux, etc
Lock Sleeve Material | Copper Nickel & Brazing Paste
Gas Saver | Solder



Bcup Brazing Alloy

Silver added to binary alloy of Cu-P to enhance machinability, ductility, and spreadability is the ternary alloy of Ag-Cu-P, and alloy with Sn added to enhance the decline of melting point and fluidity is also developed and produced.
Copper-Phosphorus welding material has high mechanical strength and good corrosion resistance, and is widely used for copper alloy brazing such as ship building, heat exchanger, electronic and electric types.

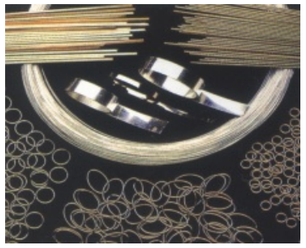
Copper-Phosphorus Brazing Filler Metals (BCuP Series)

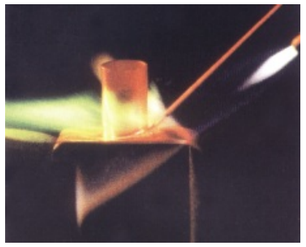
Spec.	Cu	P	Ag	Solidus Temp.	Liquidus Temp.	Working Temp.
BCuP-2	Rem.	6.8~7.5	-	710	795	735~845
BCuP-1S	Rem.	6.8~7.2	0.8~1.2	650	780	730~810
BCuP-6A	Rem.	6.8~7.2	1.3~1.7	640	760	710~820
BCuP-6	Rem.	6.8~7.2	1.8~2.2	645	790	730~815
BCuP-30E	Rem.	6.8~7.2	2.3~2.7	635	785	700~815
BCuP-3S	Rem.	6.3~6.8	2.8~3.2	630	760	700~820
BCuP-3	Rem.	5.8~6.7	4.8~5.2	645	815	720~815
BCuP-4	Rem.	6.8~7.7	5.8~6.2	645	720	690~790
BCuP-5	Rem.	4.8~5.3	14.5~15.5	645	800	705~815

※ Production by order is possible for products outside the above specifications.

Spec.	Cu	P	Ag	Sn	Solidus Temp.	Liquidus Temp.	Working Temp.
BCuP-0S	Rem.	6.8~7.2	-	6.5~7.5	665	685	660~750
BCuP-6S	Rem.	6.8~7.2	1.8~2.2	6.8~7.2	630	675	660~740

※ Production by order is possible for products outside the above specifications.





Aluminium Brazing Alloy

It is the product containing noncorrosive flux, which is aluminum welding material for brazing.
Many problems from the previous brazing process were enhanced to reduce defect ratio,
and products of many forms such as Ring, Rod, Wire, etc. are produced and supplied.

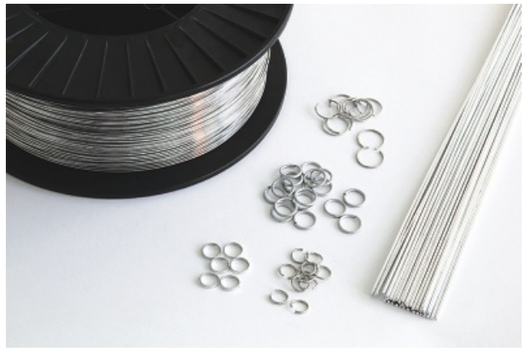
For Flame and Induction Brazing

Product Name	Composition		Application	Brazing Temperature(℃)
	Alloy	Flux		
AL-4045 (In Flux) AL-4045 (No Flux)	Al-10Si	Noncorrosive (KAlF4 / CsAlF4 / CsKAlF4)	A1000 – A7000	540-600
AL-4047 (In Flux) AL-4047 (No Flux)	Al-12Si		A1000 – A7000	540-610
ALCU-500	Al, Si, Zn, Cu, Sn, Mg		A1000 – A7000 Al-Cu, Al-Brass, Al-Steel	425-490

※ Production by order is possible for products outside the above specifications.

Characteristics and Usages of aluminum alloy wire for MIG/TIG

Product Name	Charcteristics and Usages	Main Components
1100	It is suitable for the welding of industrial pure aluminum of 99.0% or more and Al-Mn series alloy(A3003, A3203, etc.), and used for welding of heat exchanger and chemical devices, etc. It has good welding property and corrosion resistance, and also has excellent ductility and toughness.	Al 99%
4043	It has excellent resistance against high temperature crack of welding metal, and used for 6000 series heat treatment alloy and aluminum casting welding that are easy to have high temperature crack.	Al, Si(5%)
5356	It is suitable for the welding of non heat treatment alloy material of Al-Mg series (A5052, etc.), heat treatment alloy material of Al-Mg-Si series (A6061, etc.), and heat treatment alloy material of Al-Zn-Mg series (A7N01, etc.). It has good welding property, has high shock value and strength, and has high corrosion resistance, so it is the basic welding material used most in ship building, etc. Its unique feature is refined grain and enhanced mechanical property by adding Ti.	Al, Mg(5%)



Silver Brazing Alloy

Lead is the material used for metal welding. The welded metal is called the basic material, and solder welding is the method to flow metal with lower melting point between the welding parts, and the metal material used is called the lead.
Lead is divided to two types by melting temperature, and one with 450℃ or higher is called hard lead and the less is called soft lead. Usually, brazing means hard lead welding, and Soldering means soft lead welding. Recently, various silver soldering technologies are developed to be able to work at low temperature(about 600℃), so silver solder welding is also simply called Silver Soldering.

General Brazing Filler Metal

Spec	Composition (%)						Melting Point (℃)		
	Ag	Cu	Zn	Cd	Additives	Others	Solidus	Liquidus	Working Temp.
BAg-1	45	15	16	24		Max 0.15	605	620	620~760
BAg-1A	50	15.5	16.5	18		Max 0.15	625	635	635~760
BAg-2	35	26	21	18		Max 0.15	605	700	700~845
BAg-2B	35	25	21.7	18		Max 0.15	600	680	680~780
BAg-3	50	15.5	15.5	16	Ni3	Max 0.15	630	690	690~815
BAg-3S	48	15.5	16.5	14	Ni2Mn4	Max 0.15	610	660	660~790
SS-15	15	45	31.5	8.5		Max 0.15	660	800	800~920
SS-23	23	34	29	14		Max 0.15	620	720	720 ~810
SS-25A	25	32	22	21		Max 0.15	615	75	715~840
SS-30	30	27	23	20		Max 0.15	607	710	710~940
SS-30H	30	25	20	25		Max 0.15	610	700	700~800
SS-40	40	19	21	20		Max 0.15	595	630	630~770
SS-40B	40	20	18	18		Max 0.15	600	640	640~700
SS-60A	60	15	15	8		Max 0.15	630	720	720~800

※ Production by order is possible for products outside the above specifications.

Cd Free Silver Brazing Alloy

Spec	Composition (%)					Melting Point (℃)		
	Ag	Cu	Zn	Additives	Others	Solidus	Liquidus	Working Temp.
BAg-4	40	30	28	Ni2	Max 0.15	670	780	780-900
BAg-5	45	30	25		Max 0.15	665	745	745-845
BAg-5S	45	28	25.5	Sn1 In0.5	Max 0.15	670	750	750-850
BAg-6	50	34	16		Max 0.15	690	775	775-870
BAg-7	56	22	17	Sn5	Max 0.15	620	650	650-760
BAg-7A	45	27	25	Sn3	Max 0.15	640	680	680-770
BAg-7B	34	36	27	Sn3	Max 0.15	630	730	730-830
BAg-18	60	30		Sn10	Max 0.15	600	720	720-840
BAg-24	50	20	28	Ni2	Max 0.15	660	705	705-800
BAg-25	25	40	33		Max 0.15	747	747	750-850
BAg-30	30	37.7	32.12		Max 0.15	675	765	760-860
BAg-35	35	32	33		Max 0.15	600	755	755-855
BAg-40	40	30	30		Max 0.15	670	730	730-830
BAg-20D	20	44	35	Sn0.5 In0.5	Max 0.15	770	815	820-910
BAg-22S	22	45	31	Sn2	Max 0.15	750	800	750-810
BAg-22D	22	32	34	In1	Max 0.15	750	800	750-810
BAg-25S	25	40	33	Sn2	Max 0.15	700	800	800-900
BAg-27A	27	38.8	33	In1.2	Max 0.15	680	780	780-850
BAg-30D	30	36.5	32	In1.2	Max 0.15	680	775	775-890
BAg-35S	35	31.35	33.65		Max 0.15	660	740	740-840
BAg-38S	38	31	29	Sn2	Max 0.15	630	715	720-820
BAg-48S	48	28	19	Sn5	Max 0.15	625	680	680-800
BAg-60	60	26	14		Max 0.15	673	693	693-820
BAg-75	75	20	5		Max 0.15	732	774	774-890
BAg-402	40	30	28	Sn2	Max 0.15	670	730	730-830
BAg-30	30	36.5	31.8	Sn In	Max 0.15	675	760	760-860
BAg-40	40	31	28.2	Sn In	Max 0.15	670	730	730-830
BAg-49	49	16	23	Ni4.5Mn7.5	Max 0.15	685	705	705-800
BAg-302	30	36.8	32	Sn1	Max 0.15	690	760	760-890
BAg-351	35	35	30		Max 0.15	675	750	750-870
BAg-452	45	26	21	Ni In	Max 0.15	607	710	755-820

※ Production by order is possible for products outside the above specifications.

Vacuum Brazing Alloy

Spec	Composition (%)				Melting Point (℃)		
	Ag	Cu	Ni	Others	Solidus	Liquidus	Working Temp.
SS-68	68	31.8	0.2	0.150이하 Max	800	800	800-900
BAg-8	72	28		0.150이하 Max	780	780	780-900

※ Production by order is possible for products outside the above specifications.

Role of Flux

Metals such as copper and iron, etc. have chemical reactions with oxygen, pollutant, moisture in the air at room temperature. Welding material also has the chemical reaction in the same form. While it reaches brazing temperature, welding material and basic material metal also have rapid oxidation on the surface. The oxide film created as such hinders brazing, so the role of flux is to remove this, prevent forming of oxide film, and prevent metal surface from having contact with air.

Summary of Flux

It is a gel type chemical used during brazing to remove foreign object or oxide on the surface of the basic material, to enhance flow of silver solder, and to prevent oxidation.

Types and Usages of Flux

No.	Product Name	Color	Use
1	**M-800** (Low temperature)	White	used at low temperature for welding of pipes, etc. which have narrow parts for welding (ex. brazing of air conditioning and heating equipments in a short period of time)
2	**S-900** (High temperature)	White	used when oxide cannot be removed by general flux (ex. SUS, Tialloy, Ultra hard(Hi-Ni series))
3	**C-1000** (For Copper)	White	used for copper and copper alloy ex. Cu

Flux

Flux
Spray flux on the surface of the basic material to remove oxide, and melted and covered by heating.
Not only the surface of the basic material, but it is necessary to spray flux on the surface of the welding material.
Considerable time and cost are required to remove remaining flux set in after welding. (facility, commodities)
Post treatments such as rust proofing processing and acid washing, etc.

Gas Flux

Gas Flux
Simple heating makes the flux work, so the process is simple and flux usage amount is reduced.
There is no need to use different flux according to the types of the basic material.
The remaining flux component is very small, so the cost for removal is saved.
In-advance rust proof processing is preserved.

Type of Gas Saver

Electronic Gas Saver is an apparatus used for gas and oxygen saving when using a manual torch. Torch flame goes out when putting the torch on a torch hanger. When lifting up the torch from the torch hanger, flame is ignited automatically in the pilot burner tip and you can do brazing/soldering works with the manual torch. Flame in the Pilot burner tip goes out naturally after a certain period of time.

Auto Gas Saver (Single)

Auto Gas Saver (Double)

Digital Gas Saver

Components of Gas Saver


LPG / O_2 gauge pressure


Single Torch Ass'y


Double Torch Ass'y

Tip

Flux Mixer

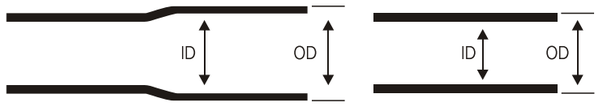
4ℓ


6ℓ

Lock sleeve

The Lock Sleeve Technology is a custom designed product for each application, depending on the material, thickness and diameter of the tube, and is a certified system for joining metal tubes.

Lock sleeve Survey Form



Ⓐ Outer Pipe Ⓑ Inner Pipe

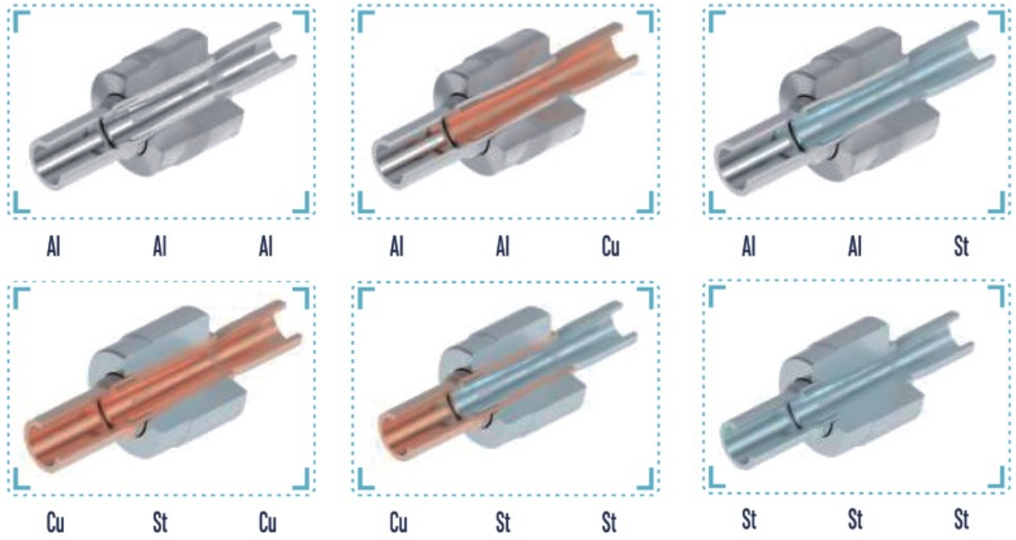
Standard specification of rivet contact

No	Location	Ⓐ Outer Pipe(mm)				Ⓑ Inner Pipe(mm)				Remark
		ID	OD	t	Material	ID	OD	t	Material	
1										
2										
3										
4										
5										

Lock sleeve Material Combinations

Lock Sleeve can be possible to be permanent sealing of any metal to connection. For correct connection, Material analysis of the tube should be prioritized.

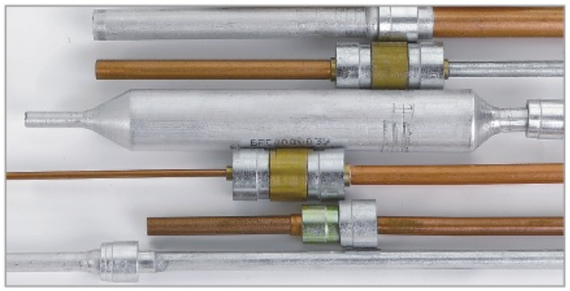
Material Mark (Out Pipe / Lock Sleeve / In Pipe)

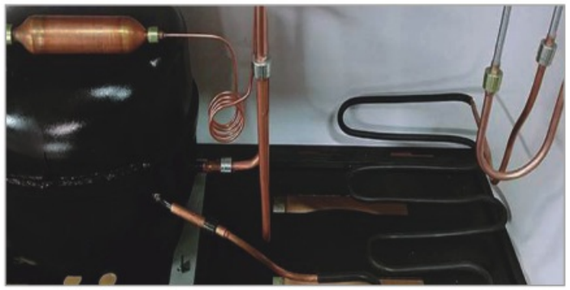


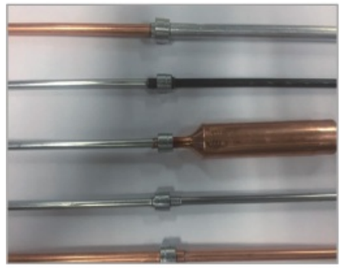
PIPE SPEC : 3.2ø / 4.76ø / 6.35ø / 7.94ø / 9.52ø / 12.7ø / 15.8ø etc.

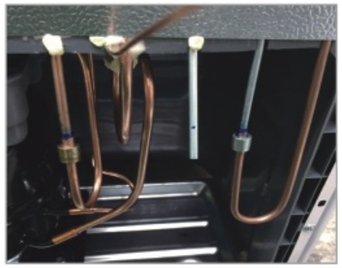
★ For Connection of other special materials, we will show you a suitable solution for inquiry

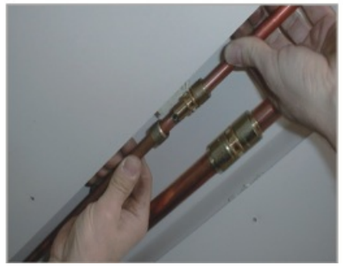
Pipe Connect System for Lock sleeve











Copper Brazing Paste

Nickel Brazing Paste

Brazing Paste (Copper . Nickel)

Copper Paste

SPEC	Copper(%)	Binder	Composition(%)		Melting Temp ℃	Usability
			Cu	Other		
Bcu-140	70~90	solvent/water	99.5	0.09~0.13P	1050	Heat exchanger
Bcu-325	70~90	solvent/water	99.8	–	1080	Automobile

Nickel base Paste

SPEC	AWS A5.8	Composition(%)					Melting Temp ℃	Usability
		Ni	Cr	Si	B	other		
SS NI-1	BNI-1	75	14	4.5	3.1	4.5Fe 0.75C	980~1060	Sus.Ni.Co
SS NI-1A	BNI-1A	76	14	4.5	3.1	4.5Fe	980~1070	
SS NI-2	BNI-2	82.4	7	4.5	3.1	3Fe	970~1000	
SS NI-3	BNI-3	92.4	–	4.5	3.1	–	980~1040	Sus.Ni
SS NI-4	BNI-4	93.7	–	3.5	2	0.75Fe	980~1070	
SS NI-5	BNI-5	70.9	19	10.1	–	–	1080~1135	Automobile
SS NI-6	BNI-6	89	–	–	–	11P	875	
SS NI-7	BNI-7	75.9	14	–	–	10.1P	890	
SS NI-8	BNI-8	65.7	–	7	–	4.5Cu 23Mn	980~1010	Automobile
SS NI-9	BNI-9	80.4	15	–	3.6	1Fe	1055	Heat exchanger
SS NI-10		63	29	4		4P	900~960	
SS NI-12		65	25			10P	890~940	

Pb-Free Solder

Type	Alloy Composition
SPF-01	Sn-0. 5Cu-Ni(α +β)-3Φ
SPF-02	Sn-3.0Ag-0.5Cu
SPF-03	Sn-3.5Ag-0.7Cu
SPF-04	Sn-0.7Cu
SPF-05	Sn-2.95Ag-0.5Cu
SPF-06	Sn-4Ag-0.1Ni
SPF-07	Sn-8.0Zn-3.0Bi
SPF-08	Sn-2.5Ag-0.5Cu-1.0Bi
SPF-09	Sn-4.0Cu0.05Ni
SPF-10	Sn-3.0Cu-0.5Ni
SPF-11	Sn-0.3Ag-0.7Cu(α +β)

Type	Alloy Composition
SPF-12	Sn-3.5Ag-0.5Bi-3.0In
SPF-13	Sn-3.5Ag-0.5Bi-8.0In
SPF-14	Sn-0.3Ag-2.0Cu
SPF-15	Sn100
SPF-16	Sn-0.5Cu-Ni(α +β)
SPF-17	Sn-8.5Cu
SPF-18	Sn-6.5Cu
SPF-19	Sn-2.0Cu
SPF-20	Sn-3.0Ag-0.2Cu
SPF-21	Sn-3.0Ag
SPF-22	Sn-0.2Cu-0.05Ni

Composition	Solid Temperature ~ Liquid Temperature	Purpose & Characteristic
Sn-3.0Ag-0.5Cu	217~220℃	Widely used in Japan
Sn-3.5Ag-0.7Cu	217~218℃	Europe, American substitute, CRACK Prevention
Sn-0.7cu	227~227℃	FLOW retouching
Sn-3.5Ag	221~221℃	Parts of an automobile
Sn-5.0Sb	235~240℃	Parts of an automobile high temperature
Sn-0.3Ag-2Cu	217~270℃	Cu for the substitute Cu for the session
Sn-3.5Ag-0.5Bi-3In	190~214℃	Low temperature REFLOW substitute

Pb Solder

Type	Solid Temperature (℃)	Liquid Temperature (℃)	Specific Gravity	Form		Usage
				Bar	Wire	
95Sn / 5Pb	about 183	about 224	about 7.4			Wiring of electric/electronic apparatus for special use(electric/electronic industrial dishware), high temperature or print circuit
65Sn/ 35Pb	about 183	about 186	about 8.3			
63Sn / 37Pb	about 183	about 184	about 8.4			General Use : Wiring and assembly of electric/electronic apparatus and general bonding of machines and devices (TV, radio, radiator)
60Sn / 40Pb	about 183	about 190	about 8.5			
55Sn / 45Pb	about 183	about 203	about 8.7			
50Sn / 50Pb	about 183	about 215	about 8.9			
45Sn / 55Pb	about 183	about 227	about 9.1			
40Sn / 60Pb	about 183	about 238	about 9.3			Radiator, soldering, etc.
38Sn / 62Pb	about 183	about 242	about 9.4			
35Sn / 65Pb	about 183	about 248	about 9.5			
30Sn / 70Pb	about 183	about 258	about 9.7			
20Sn / 80Pb	about 183	about 279	about 10.2			For bulbs, for semiconductors such as for car battery charge and for high temperature
10Sn / 90Pb	about 268	about 301	about 10.7			
5Sn / 95Pb	about 300	about 314	about 11.0			
2Sn / 98Pb	about 316	about 322	about 11.2			

Halogen Free

Halogen that is added to improve soldering work has received attention as an ozone layer-depleting and dioxin-generating substance during combustion. Halogen-free substances plays an important role in environmental issues by inhibiting the generation of dioxin as much as possible.

SS Brazing

SHIN SUNG Material Co., Ltd.