MATERIALS

ECO BRAZ

Copper-based Eco-Friendly Material

- HUA GUANG 0
- HGW SILV 0P7
- HGW SILV 2
- HGW SILV 2P7
- HGW SILV 5
- HGW SILV 6
- HGW SILV 6P6
- HGW SILV 15
- HGW FLUID 0

ABLE SILV

Silver-based Economic & Reliable

- HGW SILV 30
- HGW SILV 30Sn
- HGW SILV 34Sn
- HGW SILC 35
- HGW SILV 38Sn
- HGW SILV 40Sn
- HGW SILV 45
- HGW SILV 49Mn
- HGW SILV 50Ni
- HGW SILV 56
- HGW SILV 68
- HGW SILV 72
- HGW SILV 72Ni

AL BOND

For brazing aluminum and aluminum alloys

- HGW AL 4047
- HGW AL 4043
- HGW AL 4045
- HGW AL 5356
- HGW AL 22
- HGW AL 4047 FCR
- HGW AL 4043 FC
- Aluminum Brazing Flux

TIN MATE

Tin-based Clean & Excellent Flow

- HGW TIN 99.7
- HGW TIN 99.3
- HGW TIN 97
- HGW TIN 63
- HGW TIN 50
- HGW TIN 25
- Tin Mate X100A SAC305

FLUX

Wide Range of Options for Applications

- Flux Coated Brazing Alloy
- Flux Cored Brazing Alloy
- HGW FB101
- HGW FB102
- HGW FB103
- HGW FB105G
- HGW QJ501Y
- HGW QJ403

SINCE 1995

ECO BRAZ

Based on copper–phosphorus binary alloys, copper–phosphorus brazing filler metals have good flow properties and are suitable for resistance brazing, flame brazing, high–frequency brazing and certain types of furnace brazing.

Copper–phosphorus brazing alloys can be used without flux when brazing copper, and the braze joints have high strength and electrical conductivity. It is widely applied in many industries, especially in HVAC(R) and motor manufacturing.

The simple joy of brazing

Top of the Series

HUA GUANG 0

A brazing alloy with good flow and suitable for filling small braze joints (0.05mm). It has a low brazing temperature.

HGW SILV 2

2% silver content provides high plasticity and mechanical strength. It can be used to braze joints with uneven gaps.

HGW SILV 5

Provides even higher plasticity and mechanical strength compared to HGW SILV 2. It can be used to braze joints with uneven gaps.

HGW FLUID 0

A low cost alternative for brazing brass. The low brazing temperature of this alloy allows it to be used for brazing applications with strict operating temperature requirements.

HGW SILV 15

An overall champion among copper–phosphorus brazing alloys considering factors such as joint strength, plasticity, electrical conductivity and the ability to fill uneven gaps. It has low requirements for brazing equipment and joint set up.

All Products
ECO BRAZ

Available Forms — ROD, RING, WIRE, STRIP, FOIL, PASTE, POWDER, CUSTOMIZABLE

Name		Composition (wt.%)		Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HUA GUANG 0	P	Cu	710°C	820°C	730–850°C	0.025–0.13mm
ISO17672	CuP 180	6.6–7.4	rem				
AWS A5.8	–						

Name		Composition (wt.%)		Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW 0P7	P	Cu	710°C	793°C	730–845°C	0.05–0.17mm
ISO17672	CuP181	7.0–7.5	rem				
AWS A5.8	BCuP–2						

Name		Composition (wt.%)			Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 5	Ag	Cu	P	645°C	815°C	725–820°C	0.03–0.1mm
ISO17672	CuP281	4.8–5.2	rem	5.8–6.2				
AWS A5.8	BCuP–3							

Name		Composition (wt.%)			Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 15	Ag	Cu	P	645°C	800°C	705–815°C	0.03–0.15mm
ISO17672	CuP284	14.5–15.5	rem	4.8–5.2				
AWS A5.8	BCuP–5							

Name		Composition (wt.%)				Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	BCu100–B	Ag	Cu	P	Impurity	1085°C	1085°C	1095–1180°C	0–0.07mm
ISO17672	Cu 110	–	≥99.9	–	≤0.04				
AWS A5.8	BCu–1b								

Name		Composition (wt.%)			Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 6P6	Ag	Cu	P	645°C	805°C	695–850°C	0.025–0.13mm
ISO17672	–	5.8–6.2	rem	6.1–6.4				
AWS A5.8	–							

Available Forms — ROD, RING, WIRE, STRIP, PASTE, POWDER, CUSTOMIZABLE

Name		Composition (wt.%)			Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 2	Ag	Cu	P	643°C	788°C	730–818°C	0.03–0.15mm
ISO17672	CuP280	1.8–2.2	rem	6.8–7.2				
AWS A5.8	BCuP–6							

Name		Composition (wt.%)			Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 2P7	Ag	Cu	P	643°C	788°C	730–818°C	0.03–0.15mm
ISO17672	/	1.8–2.2	rem	7.1–7.3				
AWS A5.8	/							

Name		Composition (wt.%)			Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 6	Ag	Cu	P	645°C	720°C	690–840°C	0.03–0.1mm
ISO17672	CuP283	5.8–6.2	rem	7.0–7.5				
AWS A5.8	BCuP–4							

Available Forms — ROD, RING

Name		Composition (wt.%)			Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 2 FC	Cu	P	Ag	643°C	788°C	730–815°C	0.05–0.13mm
ISO17672	BCuP–6	rem	6.8–7.2	1.8–2.2				
AWS A5.8	CuP 280							

Available Forms — ROD

Name		Composition (wt.%)				Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW FLUID 0	Cu	P	Sn	Si	635°C	675°C	645–695°C	0.05–0.13mm
ISO17672	CuP385	rem	6.0–7.0	6.0–7.0	0.01–0.04				
AWS A5.8	BCuP–9								

Name		Composition (wt.%)				Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW FLUID 0 FC	Cu	P	Sn	Si	635°C	675°C	645–695°C	0.05–0.13mm
ISO17672	–	rem	6.0–7.0	6.0–7.0	0.01–0.04				
AWS A5.8	BCuP–9								

All Products
ECO BRAZ

Available Forms

ROD · RING · WIRE · STRIP · FOIL · CUSTOMIZABLE

Name		Composition (wt.%)				Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	BCu100-A	Ag	Cu	P	Impurity	1085°C	1085°C	1095-1150°C	0-0.07
ISO17672	BCu-3	-	≥99.95	-	≤0.03				
AWS A5.8	Cu 102								

Name		Composition (wt.%)				Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	BCu100(P)	Ag	Cu	P	Impurity	1085°C	1085°C	1095-1150°C	0-0.07
ISO17672	-	-	≥99.9	0.015-0.04	≤0.15				
AWS A5.8	BCu-1								

Name		Composition (wt.%)					Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	RCuZn-A	Cu	Zn	Si	Sn	Fe	870°C	900°C	900-955°C	0.05-0.25
ISO17672	-	56-64	rem	<0.5	<1.0	<0.25				
AWS A5.8	-									

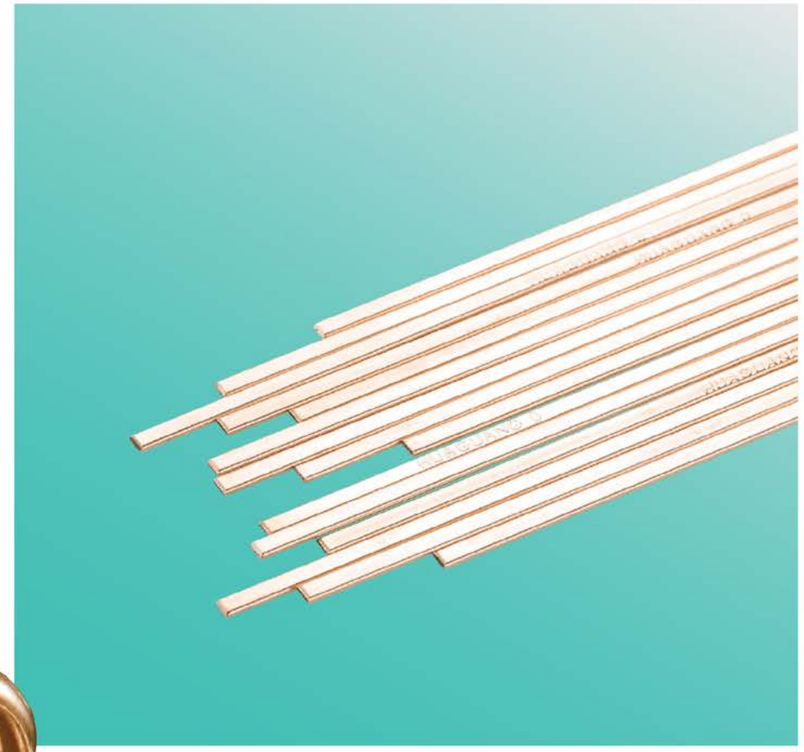
Name		Composition (wt.%)					Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	RCuZn-C	Cu	Zn	Si	Sn	Fe	870°C	900°C	900-955°C	0.05-0.25
ISO17672	Cu681	56-64	rem	0.01-0.5	0.75-1.105	0.25-1.25				
AWS A5.8	C68100									

Name		Composition (wt.%)							Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	RCuZn-D	Cu	Zn	Si	Mn	Sn	Fe	Ni	920°C	940°C	940-980°C	0.05-0.25
ISO17672	-	46-50	rem	0.04-0.15	<0.5	<0.5	<0.5	9-11				
AWS A5.8	C77300											

Copper-based Eco-Friendly Material

Economical

GOOD FLOW



Flux-Free

ABLE SILV

ABLE SILV brazing alloys contain silver or silver-based solid solution, which have excellent properties. These high silver brazing alloys have low melting temperature and high fluidity. They have high wetting and gap filling properties. The resulting joints are of high strength, plasticity, electrical conductivity and corrosion resistance. It can be used to braze all ferrous and non-ferrous metals except aluminum, magnesium and other metals of low melting point. ABLE SILV products are designed to be used with a suitable brazing flux.

Making a long-lasting bond

Top of the Series

HGW SILV 30

This product is able to fill uneven gaps. The resulting joints are of high mechanical strength. A relatively economical choice with reliable brazing performance.

HGW SILV 40Sn

The tin content of this brazing alloy gives it a relatively low brazing temperature and high fluidity. It is able to flow speedily at braze joints.

HGW SILV 45

A common high silver brazing alloy which enables the formation of strong joints with high anti-seismic fatigue performance and overall mechanical properties.

HGW SILV 56

A brazing alloy of low brazing temperature. The surface of the braze joints is quite smooth, making it a good choice for applications with high appearance requirements.

HGW SILV 72Ni

Nickel element is added to standard HGW SILV 72, which improves its wetting properties on steel and stainless steel. It is suitable for vacuum brazing and reducing atmosphere protection brazing.

HGW SILV 72

This product is made of a silver-copper binary eutectic. It is suitable for vacuum brazing, as it does not contain volatile elements. It displays high wetting properties on copper and nickel, and it has good electrical conductivity.

All Products
ABLE SILV

Available Forms ROD · RING · WIRE · STRIP · FOIL · PASTE · POWDER · CUSTOMIZABLE

Name		Composition (wt.%)			Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 30	Ag	Cu	Zn	680°C	765°C	765–870°C	0.05–0.25mm
ISO17672	Ag 230	29–31	37–39	30–34				
AWS A5.8	BAg-20							

Name		Composition (wt.%)				Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 30Sn	Ag	Cu	Zn	Sn	665°C	755°C	755–860°C	0.05–0.13mm
ISO17672	/	29–31	35–37	30–34	1.5–2.5				
AWS A5.8	/								

Available Forms ROD · RING · WIRE · FOIL

Name		Composition (wt.%)					Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 49Mn	Ag	Cu	Zn	Ni	Mn	680°C	705°C	700–830°C	0.05–0.13mm
ISO17672	Ag449	48–50	15–17	21–25	4.0–5.0	7.0–8.0				
AWS A5.8	BAg-22									

Available Forms ROD · RING

Name		Composition (wt.%)				Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 56 FC	Ag	Cu	Zn	Sn	620°C	655°C	650–760°C	0.05–0.25mm
ISO17672	Ag156	55–57	21–23	15–19	4.5–5.5				
AWS A5.8	BAg-7								

Name		Composition (wt.%)				Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 40Sn FC	Ag	Cu	Zn	Sn	650°C	710°C	710–840°C	0.07–0.20mm
ISO17672	/	39–41	29–31	26–30	1.5–2.5				
AWS A5.8	/								

Available Forms ROD · RING · WIRE · PASTE · POWDER · CUSTOMIZABLE

Name		Composition (wt.%)				Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 34Sn	Ag	Cu	Zn	Sn	630°C	730°C	760–780°C	0.05–0.25mm
ISO17672	Ag134	33–35	35–37	25.5–29.5	2.0–3.0				
AWS A5.8	/								

Name		Composition (wt.%)			Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 35	Ag	Cu	Zn	685°C	755°C	755–840°C	0.05–0.13mm
ISO17672	Ag235	34–36	31–33	31–35				
AWS A5.8	BAg-35							

Name		Composition (wt.%)					Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 38Sn	Ag	Cu	Zn	Ni	Sn	650°C	720°C	720–845°C	0.05–0.20mm
ISO17672	Ag138	37–39	31–33	26–30	0.1–0.3	1.5–2.5				
AWS A5.8	BAg-34									

Name		Composition (wt.%)				Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 40Sn	Ag	Cu	Zn	Sn	650°C	710°C	710–840°C	0.05–0.20mm
ISO17672	Ag140	39–41	29–31	26–30	1.5–2.5				
AWS A5.8	BAg-28								

Name		Composition (wt.%)			Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 45	Ag	Cu	Zn	665°C	745°C	740–845°C	0.05–0.20mm
ISO17672	Ag245	44–46	29–31	23–27				
AWS A5.8	BAg-5							

Available Forms WIRE · STRIP · FOIL · CUSTOMIZABLE

Name		Composition (wt.%)					Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 50Ni	Ag	Cu	Zn	Ni		660°C	705°C	705–845°C	0.05–0.13mm
ISO17672	Ag450	49–51	19–21	26–30	1.5–2.5					
AWS A5.8	BAg-24									

Available Forms: WIRE, STRIP, FOIL, PASTE, POWDER, CUSTOMIZABLE

Name		Composition (wt.%)			Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 72Ni	Ag	Cu	Ni	770°C	830°C	830–900°C	0.03–0.2mm
ISO17672	/	70–72	Rem	0.5–1				
AWS A5.8	/							

Available Forms: ROD, RING, WIRE, CUSTOMIZABLE

Name		Composition (wt.%)					Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 26	Ag	Cu	Zn	Ni	Sn	715°C	795°C	800–900°C	0.05–0.25mm
ISO17672	/	25.5–27	Rem	32–36	2.2–2.8	0.9–1.5				
AWS A5.8	/									

Available Forms: ROD, RING, WIRE, STRIP, FOIL, PASTE, POWDER

Name		Composition (wt.%)		Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 68	Ag	Cu	774°C	785°C	785–850°C	0.02–0.2mm
ISO17672	-	67–69	Rem				
AWS A5.8	-						

Name		Composition (wt.%)		Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 72	Ag	Cu	779°C	779°C	780–900°C	0.02–0.2mm
ISO17672	/	71–73	27–29				
AWS A5.8	BAg-8						

Name		Composition (wt.%)			Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 70	Ag	Cu	Zn	780°C	820°C	820–920°C	0.03–0.25mm
ISO17672	/	Rem	27–29	1.5–2.5				
AWS A5.8	/							

Available Forms: ROD, RING, WIRE

Name		Composition (wt.%)			Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 30 FCR	Ag	Cu	Zn	680°C	765°C	765–870°C	0.05–0.25mm
ISO17672	Ag 230	29–31	37–39	30–34				
AWS A5.8	Bag-20							

Name		Composition (wt.%)				Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 22Sn FCR	Ag	Cu	Zn	Sn	710°C	800°C	800–900°C	0.05–0.25mm
ISO17672	/	21–23	41.5–44	33–37	0.3–0.8				
AWS A5.8	/								

Name		Composition (wt.%)				Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 34 FCR	Ag	Cu	Zn	Sn	630°C	730°C	760–780°C	0.05–0.20mm
ISO17672	Ag134	33–35	35–37	25.5–29.5	2.0–3.0				
AWS A5.8	/								

Name		Composition (wt.%)			Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 45 FCR	Ag	Cu	Zn	665°C	745°C	740–845°C	0.05–0.25mm
ISO17672	Ag245	44–46	29–31	23–27				
AWS A5.8	BAg-5							

Name		Composition (wt.%)				Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 56 FCR	Ag	Cu	Zn	Sn	620°C	655°C	650–760°C	0.05–0.25mm
ISO17672	Ag156	55–57	21–23	15–19	4.5–5.5				
AWS A5.8	BAg-7								

Available Forms: ROD, RING, WIRE, FOIL, PASTE, POWDER, CUSTOMIZABLE

Name		Composition (wt.%)				Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW SILV 56	Ag	Cu	Zn	Ni	620°C	655°C	650–760°C	0.05–0.25mm
ISO17672	Ag156	55–57	21–23	15–19	4.5–5.5				
AWS A5.8	BAg-7								

AL BOND

AL BOND products are mainly used for brazing aluminum and aluminum alloys. These products are suitable for flame brazing, furnace brazing, induction brazing and salt bath immersion brazing. Aluminum-based solders mainly consist of aluminum-silicon eutectic. Other elements are sometimes added for the reduction of melting point. The braze joints of aluminum-based brazing alloys are of high corrosion resistance in atmosphere or water. However, in acid or alkali, their corrosion resistance is inferior to that of fusion welding joints.

A trustworthy alternative

Top of the Series

HGW AL 4043 FC

An aluminum-silicon solder used for the soldering of different aluminum alloys. It is widely used in the automotive and heat conduction industries. This solder is used for flame soldering. The consistent coating thickness of the solder ensures soldering consistency and improves production efficiency.

HGW AL 4047

It is an aluminum-silicon eutectic alloy containing 12% silicon. It has low melting point, good fluidity and corrosion resistance. It is suitable for gas welding and argon arc welding, and it is widely used for the brazing of aluminum, aluminum-manganese, and aluminum-silicon-magnesium alloys.

HGW AL 4047 FCR

4047 aluminum-silicon alloys with the addition of different fluxes. Choices for flux include cesium-containing flux and cesium-free flux. This brazing alloy is suitable for flame brazing and induction brazing.

All Products
AL BOND

Available Forms

ROD RING WIRE STRIP CUSTOMIZABLE

Name		Composition (wt.%)		Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW AL 4047 FCR	Al	Si	575°C	585°C	580–605°C	0.05–0.2mm
GB/T 13815	BAl88Si	rem	11–13				
ISO17672	AL 112						
AWS A5.8	BAlSi–4						

Available Forms

ROD RING WIRE

Name		Composition (wt.%)		Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW AL 4043	Al	Si	575°C	630°C	660–680°C	0.05–0.2mm
GB/T 13815	BAl95Si	rem	4.5–6.0				
ISO17672	AL 105						
AWS A5.8	/						

Name		Composition (wt.%)		Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW AL 4045	Al	Si	575°C	590°C	580–605°C	0.05–0.2mm
GB/T 13815	BAl90Si	rem	9–11				
ISO17672	AL 110						
AWS A5.8	BAlSi–5						

Name		Composition (wt.%)							Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW AL 5356	Al	Si	Fe	Cu	Mg	Zn	Mn/Ti/Cr	575°C	638°C	640–685°C	/
GB/T 13815	BAl 5356	rem	0.25	0.4	0.1	4.5–5.5	0.1	0.05–0.2				
ISO17672	/											
AWS A5.8	/											

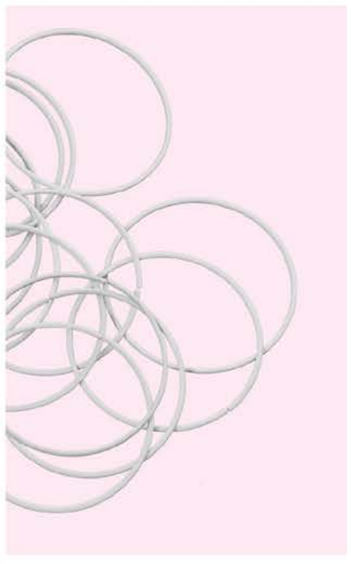
Name		Composition (wt.%)		Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW AL 22 FCR	Al	Zn	441°C	471°C	471–600°C	0.05–0.15mm
GB/T 13815	/	20–24	76–80				
ISO17672	/						
AWS A5.8	/						

Available Forms

ROD RING WIRE STRIP FOIL CUSTOMIZABLE

Name		Composition (wt.%)		Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW AL 4047	Al	Si	575°C	585°C	580–605°C	0.05–0.2mm
GB/T 13815	BAl88Si	rem	11–13				
ISO17672	AL 112						
AWS A5.8	BAlSi–4						

Name		Composition (wt.%)		Solidus	Liquidus	Brazing Temperature	Suggested Brazing Gap
HUA GUANG	HGW AL 22	Al	Zn	441°C	471°C	471–600°C	0.05–0.15mm
GB/T 13815	/	20–24	76–80				
ISO17672	/						
AWS A5.8	/						

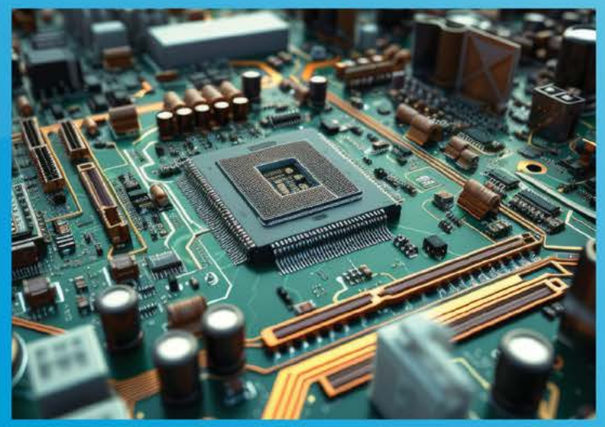


High Corrosion

RESISTANC

TIN MATE

HUA GUANG's expertise in the low temperature solder field enables us to provide customers with tin solders for a variety of application scenarios. Applications of TIN MATE solders include electronics, electricals, food and toys industries. Some of our tin solders are used in high end industries such as medicals and military. Typical products of the TIN MATE series include lead-free tin paste, lead-free tin rod, tin solder wire and active tin solder wire.



A smooth soldering experience

Top of the Series

Tin Mate X100A SAC305

A lead-free, no clean tin solder paste with wide applications. It has low void defects, and can be used for fine-pitch printing. This product has excellent on-line testing performance for the prevention of void and head pillow defects.

HGW TIN 97

High purity tin alloy with excellent flow. Melted tin is non-stick and smooth. This alloy has strong anti-oxidant properties and wetting properties.

All Products
TIN MATE

Available Forms


BAR


RING


WIRE


PREFORMED

Name		Composition (wt.%)			Solidus	Liquidus	Brazing Temperature	Tin Powder Particle Size	Flux Halogen
		Ag	Cu	Sn					
HUA GUANG	HGW TIN 99.3	0	0.5–0.9	rem	227°C	227°C	>270°C	/	Halogenated and non-halogenated are available
JIS Z 3282	Sn99.3Cu0.7								
ISO 9453	Sn99.3Cu0.7								

Name		Composition (wt.%)			Solidus	Liquidus	Brazing Temperature	Tin Powder Particle Size	Flux Halogen
		Ag	Cu	Sn					
HUA GUANG	HGW TIN 97	0	2.5–3.5	rem	227°C	310°C	>360°C	/	Halogenated and non-halogenated are available
JIS Z 3282	Sn97Cu3								
ISO 9453	Sn97Cu3								

Name		Composition (wt.%)			Solidus	Liquidus	Brazing Temperature	Tin Powder Particle Size	Flux Halogen
		Ag	Cu	Sn					
HUA GUANG	HGW TIN96.5	2.8–3.2	0.3–0.7	rem	217°C	220°C	>260°C	/	Halogenated and non-halogenated are available
JIS Z 3282	Sn96.5Ag3Cu0.5								
ISO 9453	Sn96.5Ag3Cu0.5								

Name		Composition (wt.%)			Solidus	Liquidus	Brazing Temperature	Tin Powder Particle Size	Flux Halogen
		Ag	Cu	Sn					
HUA GUANG	HGW TIN98.5	0.8–1.2	0.3–0.7	rem	217°C	227°C	>260°C	/	Halogenated and non-halogenated are available
JIS Z 3282	Sn98.5Ag1Cu0.5								
ISO 9453	Sn98.5Ag1Cu0.5								

Name		Composition (wt.%)				Solidus	Liquidus	Brazing Temperature	Tin Powder Particle Size	Flux Halogen
		Ag	Cu	Sn	Sb					
HUA GUANG	HGW TIN 63	0	62–64	rem	/	183°C	183°C	>240°C	/	Halogenated and non-halogenated are available
JIS Z 3282	Sn63Pb37									
ISO 9453	Sn63Pb37									

Name		Composition (wt.%)				Solidus	Liquidus	Brazing Temperature	Tin Powder Particle Size	Flux Halogen
		Ag	Cu	Sn	Sb					
HUA GUANG	HGW TIN 50	0	49–51	rem	/	183°C	215°C	>265°C	/	Halogenated and non-halogenated are available
JIS Z 3282	Sn50Pb50									
ISO 9453	Sn50Pb50									

Name		Composition (wt.%)				Solidus	Liquidus	Brazing Temperature	Tin Powder Particle Size	Flux Halogen
		Ag	Cu	Sn	Sb					
HUA GUANG	HGW TIN 50	0	49–51	rem	/	183°C	215°C	>265°C	/	Halogenated and non-halogenated are available
JIS Z 3282	Sn50Pb50									
ISO 9453	Sn50Pb50									

Available Forms


PASTE

Name		Composition (wt.%)			Solidus	Liquidus	Brazing Temperature	Tin Powder Particle Size	Flux Halogen
		Ag	Cu	Sn					
HUA GUANG	Tin Mate X100A SAC 305	2.8–3.2	0.3–0.7	rem	217°C	220°C	>270°C	T3/T4/T5/T6	Level L
JIS Z 3282	Sn96.5Ag3Cu0.5								
ISO 9453	Sn96.5Ag3Cu0.5								

Name		Composition (wt.%)			Solidus	Liquidus	Brazing Temperature	Tin Powder Particle Size	Flux Halogen
		Ag	Cu	Sn					
HUA GUANG	Tin Mate-WF35 Sn96.5Ag3Cu0.5	2.8–3.2	0.3–0.7	rem	217°C	220°C	>270°C	T3/T4/T5/T6	Level L
JIS Z 3282	Sn96.5Ag3Cu0.5								
ISO 9453	Sn96.5Ag3Cu0.5								

Name		Composition (wt.%)			Solidus	Liquidus	Brazing Temperature	Tin Powder Particle Size	Flux Halogen
		Ag	Cu	Sn					
HUA GUANG	Tin Mate-C17 Sn42Bi58	0	41–43	rem	139°C	139°C	>190°C	T3/T4/T5/T6	Level L
JIS Z 3282	Sn42Bi58								
ISO 9453	Bi58Sn42								

Available Forms


FLUX-CORED WIRE

Name		Composition (wt.%)			Solidus	Liquidus	Brazing Temperature	Tin Powder Particle Size	Flux Halogen
		Ag	Cu	Sn					
HUA GUANG	HGW TIN 99.3 FCR	0	0.5–0.9	rem	227°C	227°C	>270°C	T3/T4/T5/T6	Halogenated and non-halogenated are available
JIS Z 3282	Sn99.3Cu0.7								
ISO 9453	Sn99.3Cu0.7								

FLUX

Brazing flux has a lower melting point than the brazing alloys and exhibits excellent interfacial activity. During brazing, it effectively disrupts or dissolves the oxide film on the surfaces of both the workpiece and the brazing alloy, promoting the wettability and spreadability of the molten brazing alloys across the metal surface. This process ensures high-quality brazed joints. In most brazing applications, flux is essential. The following series of fluxes are widely applicable for copper brazing alloys and silver brazing alloys.

Versatile for various applications

Product Code		Composition		Operating Temperature
HUA GUANG	HUAGUANG FB101	H_3BO_3	KBF_4	
JB/T 6045	–			
ISO 17672	–	29–31	67–71	550–850°C
AWS A5.8	–			

Product Code		Composition			Operating Temperature
HUA GUANG	HUAGUANG FB102	KF	KBF_4	B_2O_3	
JB/T 6045	–				
ISO 17672	–	41–43	22–24	34–36	600–850°C
AWS A5.8	–				

Product Code		Composition		Operating Temperature
HUA GUANG	HUAGUANG FB103	KBF_4	K_2CO_3	
JB/T 6045	–			
ISO 17672	–	94–96	4–6	550–750°C
AWS A5.8	–			

Product Code		Composition			Operating Temperature
HUA GUANG	HUAGUANG FB105G	H_3BO_3	KF	KBF_4	
JB/T 6045	–				
ISO 17672	–	<50	>20	>25	550–750°C
AWS A5.8	–				

Product Code		Composition	Operating Temperature
HUA GUANG	HUAGUANG QJ501Y		
JB/T 6045	–		
ISO 17672	–	Boric acid, methyl borate, methanol, activators, etc.	650–850°C
AWS A5.8	–		

Product Code		Composition	Operating Temperature
HUA GUANG	HUAGUANG QJ403		
JB/T 6045	–		
ISO 17672	–	Methyl borate, methanol, activators, etc.	>450°C
AWS A5.8	–		

ADVANCED EQUIPMENTS FOR ALL NEEDS

Handheld Laser Welding Equipment

EQUIPMENT ADVANTAGES

Easy to operate, fast welding speed, beautiful weld seam without deformation or blackening, deep fusion depth with focused beam, and small heat affected zone.

WELDABLE BASE METALS

Metal alloys such as carbon steel, stainless steel, aluminum, etc

Handheld Induction Welding Machine

Abandoning the traditional all-in-one machine or matching box structure, flexible cable output is adopted, which is particularly suitable for situations where the workpiece cannot be moved or the work site is small and complex. The lightweight electromagnetic output can easily approach the heated workpiece and flexibly change the position and angle of the induction heating coil, making induction heating as lightweight and easy to use as a gas welding gun.

Oxygen-Free Welding Torch Series

STRONG FLAME CONVENIENT SAFETY USE ECONOMIZE

MAPP GAS

- Reduced Pressure
- Constant Pressure
- Flame Supervision

Oxygen-Free Welding Torch (Hose Type) [MH-102FB]

- burn Fully & Safety
- (6-32)mm Copper Pipe Available

Oxygen-Free Welding Torch (Plug Type) [MH-101NZ]

- Burn Fully & Safety
- (6-32)mm Copper Pipe Available

Vaccum High-Temperature Brazing Furnace

CORE TECHNOLOGY

- The equipment adopts an internal circulation cooling method, with heating and cooling separated.
- The insulation adopts a full metal screen to ensure the high vacuum degree required for brazing the workpiece.
- The equipment heats in a multi-zone temperature control mode, which can ensure good temperature uniformity in the temperature zone.

WELDABLE BASE METALS

Mainly suitable for vacuum brazing of stainless steel, titanium alloys, high-temperature alloys, cemented carbide, non-ferrous metals, etc.

Gold Welding Solution

Laser, as a precision welding technology, is particularly suitable for fine welding of precious metals such as gold jewelry.

ADVANTAGE & APPLICATION

- Splashing (gold explosion) is reduced by about 90%, with almost no splashing and low gold loss
- Welding points do not turn black, simplifying post weld processing procedures
- No need for toothpicks or blackening before welding, fewer welding processes, simple operation,and significantly improved efficiency
- The welding spot is uniform and stable, and the molten pool is round and smooth
- Low energy consumption,consuming only 0.2 kWh per hour

WELDING SETS

- Input power supply: 220Vac ± 10%, 50Hz, 10A
- Laser power: maximum power 1600W
- Welding materials: Full gold g999, 5G gold, Karat gold, etc.
- High definition CCD+microscope
- 24-hour continuous work