

A photograph of two welders in a workshop. They are working on a large, curved metal piece, possibly a car body part, which is resting on a workbench. The welder on the right is wearing a welding mask and is actively welding. The welder on the left is assisting. The workshop is filled with various tools and equipment, including a workbench with drawers, a welding power source, and other industrial machinery.

# HYUNDAI

## COPPER WELDING WIRE PRODUCT GUIDE

Taking Your Welding Experience  
to a Higher Level



# HYUNDAI Advantage: Copper Welding

## WHY HYUNDAI WELDING

**HYUNDAI WELDING**, as a 'Total Welding Solutions' company, provide a complete solution for our customers' welding applications. Our structure and people are fully committed to offer the global market the highest level of service and satisfaction without losing sight of each customer's specific requirements. We work to ensure our product best fits the needs of our clients.



## WHY HYUNDAI COPPER WELDING WIRE

As the usage of copper wire in welding field is increasing; **HYUNDAI WELDING** is geared to offer a rapid response to clients' specific requirements. With constant research and development, our range of Copper wire will continue to evolve to offer the global market new grades and products that covers a multitude of applications.

We strive to be the **No.1 Global Welding** consumable and equipment manufacturer.

**HYUNDAI WELDING** will work endlessly to ensure that our **copper welding wire**, remains at the forefront of today's technology.





# Index by Products

## Copper Alloys Electrodes

Classification	Product	AWS A5.6	EN 14640	GB/T9460
Phosphor Bronze (Copper-tin)	S-CuSn C	ECuSn-C		ECuSn-B
Copper	S-Cu	ECu		ECu
Aluminum Bronze	S-CuAl A2	ECuAl-A2		ECuAl-C
Silicon Bronze (Copper-silicon)	S-CuSi	ECuSi		ECuSi-A
Copper Nickel	S-CuNi	ECuNi		ECuNi-B

## Copper Alloys Welding Wire

Classification	Product	AWS A5.7	EN 14640	GB/T9460
Deoxidized Copper	SM(T)-Cu	ERCu	CuSn1	SCu1898
Silicon Bronze	SM(T)-CuSi A	ERCuSi-A	CuSi3Mn1	SCu6560
Phosphor Bronze-A	SM(T)-CuSn A	ERCuSn-A	CuSn6P	SCu5180
Phosphor Bronze-C	SM(T)-CuSn C	ERCuSn-C	CuSn9P	SCu5210
Aluminum Bronze-A1	SM(T)-CuAl A1	ERCuAl-A1	CuAl8	SCu6100
Aluminum Bronze-A2	SM(T)-CuAl A2	ERCuAl-A2	CuAl10	SCu6180
Aluminum Bronze-A3	SM(T)-CuAl A3	ERCuAl-A3	CuAl11Fe3	SCu6240
Nickel-Aluminum Bronze	SM(T)-CuAl8Ni2		CuAl8Ni2	SCu6327
Nickel-Aluminum Bronze	SM(T)-CuNiAl	ERCuNiAl	CuAl9Ni5	SCu6328
Manganese-Nickel-Aluminum Bronze	SM(T)-CuMnNiAl	ERCuMnNiAl	CuMn13Al7	SCu6338
Copper Nickel	SM(T)-CuNi30	ERCuNi	CuNi30	SCu7158
Copper Nickel	SM(T)-CuNi10		CuNi10	SCu7061

## Brazing Welding Wire

Classification	Product	AWS A5.8	EN 14640	GB/T9460
Naval Bronze	SM(T)-CuZn-A	RBCuZn-A	CuZn40	SCu4700
Low Fuming Bronze	SM(T)-CuZn-C	RBCuZn-C	CuZn40SnSiMn	SCu6810
Nickel Bronze	SM(T)-CuZn-B	RBCuZn-B	CuZn40Ni	SCu6800
Nickel Silver	SM(T)-CuZn-D	RBCuZn-D	CuZn40Ni10	SCu7730

# S-CuSn C

Conformances

AWS A5.6	ECuSn-C
EN ISO 14640	
GB/T9460	ECuSn-B

Key Features

<ul style="list-style-type: none"><li>Multipurpose flux-coated electrode</li><li>Low spatter at any position</li><li>Weld deposits are ductile, strong, and machinable</li><li>Good corrosion resistance to salt water and chemicals</li><li>Good color match on bronze</li></ul>
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Typical Application

<ul style="list-style-type: none"><li>Ornamental iron</li><li>Galvanized iron</li><li>Substitute for torch alloys on larger section</li></ul>
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Chemical Composition (%)

Cu	Al	Fe	Mn	Ni	P	Pb	Si	Sn	Zn	Others
bal.	0.01	0.25	f	f	0.05-0.35	0.02	f	7.0-9.0	f	0.5

Mechanical Properties

Tensile Strength (Rm)	Elongation
448 N/mm²	45 ~ 50 %

# S-Cu

Conformances

AWS A5.6	ECu
EN ISO 14640	
GB/T9460	ECu

Key Features

<ul style="list-style-type: none"><li>High corrosion resistance</li><li>High purity copper weld deposits</li><li>Electrical conductivity is excellent</li><li>Perfect color match to copper</li></ul>
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Typical Application

<ul style="list-style-type: none"><li>Copper-cored flux-coated electrode used to surface, build-up, and fabricate electrolytic tough pitch and oxygen-free copper</li><li>To overlay steel to join heavier section of copper to steel</li></ul>
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Chemical Composition (%)

Cu	Al	Fe	Mn	Ni	P	Pb	Si	Sn	Zn	Others
bal.	0.1	0.2	0.1	f	f	0.01	0.1	f	f	0.5

Mechanical Properties

Tensile Strength (Rm)	Elongation
241 N/mm²	35%

Conformances

AWS A5.6

ECuAl-A2

EN ISO 14640

GB/T9460

ECuAl-C

Key Features

- Designed for overlays exposed to frictional wear and corrosives such as salt water, alkalies and some acid
- Strong, dense, ductile and crack free weld deposits in so many ferrous and non-ferrous combinations of dissimilar metals
- Weld deposits extremely tough and will work harden under compressive loads

Typical Application

- Brake drums
- Hydraulic pistons
- Tractor gear housings
- Ship propellers
- Mixer arms
- Yokes
- Press rams

Chemical Composition (%)

Cu	Al	Fe	Mn	Ni	P	Pb	Si	Sn	Zn	Others
bal.	6.5-9.5	0.50-5.0	f	f	-	0.2	1.5	f	f	0.5

Mechanical Properties

Tensile Strength (Rm)	Elongation
689 N/mm²	24 ~ 27 %

Conformances

AWS A5.6

ECuSi

EN ISO 14640

GB/T9460

ECuSi-A

Key Features

- Performs well in any position utilizing AC as well as DC machines
- Weld deposits are strong, ductile, and crack resistant – even when welding on dirty, oily, burned cast or malleable parts
- High silicon contents

Typical Application

- Bronze impellers
- Bronze wear plates
- Hydraulic piston overlays
- Track wheels
- Gears
- Sprockets
- Farm implements

Chemical Composition (%)

Cu	Al	Fe	Mn	Ni	P	Pb	Si	Sn	Zn	Others
bal.	0.01	0.5	1.5	f	f	0.02	2.4-4.0	1.5	f	0.05

Mechanical Properties

Tensile Strength (Rm)	Elongation
413 N/mm²	52 ~ 55 %

S-CuNi

Conformances

AWS A5.6      **ECuNi**  
EN ISO 14640  
GB/T9460      **ECuNi-B**

Key Features

- 70% copper 30% nickel flux-coated electrode designed for welding wrought or cast forms of 70/30, 80/20 and 90/10 copper nickel alloys
- Resistance to corrosive effects of salt water

Typical Application

- Marine applications
- Copper-nickel clad steel

Chemical Composition (%)

Cu	S	Fe	Mn	Ni	P	Pb	Si	Sn	Ti	Others
bal.	0.015	0.40-0.75	1.0-2.5	29.0-33.0	0.02	0.02	0.5	f	0.5	0.5

Mechanical Properties

Tensile Strength (Rm)	Elongation
344 N/mm²	30 %

SM-Cu (TIG : ST-Cu)

Conformances

AWS A5.7      **ERCu**  
EN ISO 14640      **CuSn1**  
GB/T9460      **SCu1898**

Shielding Gas

Argon 100%

Key Features

- Good mechanical properties
- Good crack resistance
- Gas welding and argon arc welding of red copper

Typical Application

- Zinc-Coated-Steel in auto bodies
- Brass
- Low-alloy copper
- Non-ferrous and low metal steel
- Cast Iron

Chemical Composition (%)

Cu	Al	Fe	Mn	Ni	P	Pb	Si	Sn	As	Others
min 98.0	0.01	-	0.50	-	0.15	0.02	0.50	1.0	-	0.50

Mechanical Properties

Tensile Strength (Rm)	Elongation
210 ~ 220 N/mm²	30 ~ 40 %

# SM-CuSi A (TIG : ST-CuSi A)

## Conformances

AWS A5.7      ERCuSi-A  
EN ISO 14640    CuSi3Mn1  
GB/T9460      SCu6560

## Key Features

- Good mechanical properties
- Argon Arc welding of copper alloys and MIG brazing of steel
- Pre-heat suggested when MIG hard facing for large size products and use pulsed argon arc welding while hard facing on steel

## Chemical Composition (%)

Cu	Al	Fe	Mn	Ni	P	Pb	Si	Sn	Zn	Others
bal.	0.01	0.50	1.5	-	-	0.02	2.8-4.0	1.0	1.0	0.50

## Mechanical Properties

Tensile Strength (Rm)	Elongation
330 ~ 370 N/mm²	40 %

## Shielding Gas

Argon 100%

## Approvals

CE

## Typical Application

- Best for butt & hard facing of brass, especially for MIG welding of Zinc coated steel sheet

# SM-CuSn A (TIG : ST-CuSn A)

## Conformances

AWS A5.7      ERCuSn-A  
EN ISO 14640    CuSn6P  
GB/T9460      SCu5180

## Key Features

- Wear resistance
- Argon arc welding of copper alloys and surfacing of steel
- Pre-heat suggested for large size products
- Pulse argon arc welding recommended for multi-layer hard facing on steel

## Chemical Composition (%)

Cu	Al	Fe	Mn	Ni	P	Pb	Si	Sn	Zn	Others
bal.	0.01	-	-	-	0.10-0.35	0.02	-	4.0-6.0	-	0.50

## Mechanical Properties

Tensile Strength (Rm)	Elongation
320 ~ 360 N/mm²	20 ~ 25 %

## Shielding Gas

Argon 100%

## Typical Application

- Welding of copper with Cu-Sn alloy
- Good for butt joining welding of brass with steel

# SM-CuSn-C (TIG : ST-CuSn C)

Type  
Phosphor Bronze-C

## Conformances

AWS A5.7      ERCuSn-C  
EN ISO 14640    CuSn9P  
GB/T9460      SCu5210

## Shielding Gas

Argon 100%

## Key Features

- Recommended for the welding of copper with Cu-Sn Alloy
- Best for the butt joining welding of brass with steel
- Pre-heat suggested for the large size Products and pulsed argon arc welding is recommended for multilayer hard facing on steel

## Typical Application

- Wear resistance
- Argon arc welding of copper alloys and surfacing of steel

## Chemical Composition (%)

Cu	Al	Fe	Mn	Ni	P	Pb	Si	Sn	Zn	Others
bal.	0.01	0.10	-	-	0.10-0.35	0.02	-	7.0-9.0	0.20	0.50

## Mechanical Properties

Tensile Strength (Rm)	Elongation
260 N/mm <sup>2</sup>	20 %

Copper Alloy Welding Wires

Type  
Aluminum Bronze-A1

# SM-CuAl A1 (TIG : ST-CuAl A1)

## Conformances

AWS A5.7      ERCuAl-A1  
EN ISO 14640    CuAl8  
GB/T9460      SCu6100

## Shielding Gas

Argon 100%

## Key Features

- Recommended for the welding of copper with Cu-Sn Alloy
- Best for the butt joining welding of brass with steel
- Pre-heat suggested for the large size Products and pulsed argon arc welding is recommended for multilayer hard facing on steel

## Typical Application

- Butt joining welding of copper with steel
- Machinery
- Shipbuilding

## Chemical Composition (%)

Cu	Al	Fe	Mn	Ni	P	Pb	Si	Sn	Zn	Others
bal.	6.0-8.5	-	0.50	-	-	0.02	0.10	-	0.2	0.50

## Mechanical Properties

Tensile Strength (Rm)	Elongation
380 ~ 450 N/mm <sup>2</sup>	40 ~ 45 %



# SM-CuAl A2 (TIG : ST-CuAl A2)

Copper Alloy Welding Wires

Type  
Aluminum Bronze-A2

## Conformances

AWS A5.7      ERCuAl-A2  
EN ISO 14640    CuAl10  
GB/T9460      SCu6180

## Shielding Gas

Argon 100%

## Key Features

- Resistant to wear and abrasion
- Superior corrosion resistance to seawater
- Multi-layer hard facing on steel
- Pulsed argon arc welding is recommended

## Typical Application

- Widely used for ship construction, apparatus and plumbing

## Chemical Composition (%)

Cu	Al	Fe	Mn	Ni	P	Pb	Si	Sn	Zn	Others
bal.	8.5-11.0	0.5-1.5	-	-	-	0.02	0.10	-	0.2	0.5

## Mechanical Properties

Tensile Strength (Rm)	Elongation
390 ~ 500 N/mm <sup>2</sup>	35 %

# SM-CuAl A3 (TIG : ST-CuAl A3)

Copper Alloy Welding Wires

Type  
Aluminum Bronze-A3

## Conformances

AWS A5.7      ERCuAl A3  
EN ISO 14640    CuAl11Fe3  
GB/T9460      SCu6240

## Shielding Gas

Argon 100%

## Key Features

- High hard facing requirement for hardness, resistant to wear, abrasion, and erosion
- Suitable for butt joining and overlay welding of copper-aluminum alloys, aluminum coated steel and cast iron

## Typical Application

- Shipbuilding
- Machinery
- Chemical industry

## Chemical Composition (%)

Cu	Al	Fe	Mn	Ni	P	Pb	Si	Sn	Zn	Others
bal.	10.0-11.5	2.0-4.5	-	-	-	0.02	0.10	-	0.1	0.50

## Mechanical Properties

Tensile Strength (Rm)	Elongation
621 N/mm <sup>2</sup>	20 %

SM-CuAl8Ni2 (TIG : ST-CuAl8Ni2)

Conformances

AWS A5.7  
EN ISO 14640 CuAl8Ni2  
GB/T9460 SCu6327

Shielding Gas

Argon 100%

Key Features

- Melting point of 1038~1054℃
- Wear and corrosion resistant
- Recommended for welding and hard facing of copper-aluminum alloys, aluminum coated steel
- Excellent for welding brass tube and copper-aluminum that requires resistance to erosion

Typical Application

- Shipbuilding
- Machinery
- Chemical industry

Chemical Composition (%)

Cu	Al	Fe	Mn	Ni	P	Pb	Si	Sn	Zn	Others
bal.	7.0-9.5	0.5-2.5	0.5-2.5	0.5-3.0	-	0.02	0.2	-	0.2	0.4

Mechanical Properties

Tensile Strength (Rm)	Elongation
430 ~ 540 N/mm²	30 %

SM-CuNiAl (TIG : ST-CuNiAl)

Conformances

AWS A5.7 ERCuNiAl  
EN ISO 14640 CuAl9Ni5  
GB/T9460 SCu6328

Shielding Gas

Argon 100%

Key Features

- Good for welding casting and forging products of nickel aluminum bronze
- Very good corrosion resistance to seawater
- Melting point of 1038~1054℃

Typical Application

- Propeller
- Valves, pumps, and pipe systems

Chemical Composition (%)

Cu	Al	Fe	Mn	Ni	P	Pb	Si	Sn	Zn	Others
bal.	8.50-9.50	3.0-5.0	0.60-3.5	4.0-5.5	-	0.02	0.10	-	0.1	0.50

Mechanical Properties

Tensile Strength (Rm)	Elongation
450 ~ 560 N/mm²	10 %

Conformances

AWS A5.7

EN ISO 14640

GB/T9460

ERCuMnNiAl

CuMn13Al7

SCu6338

Shielding Gas

Argon 100%

Key Features

- Best for overlay welding of iron-casting and low-alloy
- Corrosion resistant

Typical Application

- Propeller
- Joining or surfacing copper alloys of unalloyed and low alloy steel as well as grey cast iron

Chemical Composition (%)										
Cu	Al	Fe	Mn	Ni	P	Pb	Si	Sn	Zn	Others
bal.	7.0-8.5	2.0-4.0	11.0-14.0	1.5-3.0	-	0.02	0.10	-	0.15	0.50

Mechanical Properties	
Tensile Strength (Rm)	Elongation
800 ~ 900 N/mm <sup>2</sup>	10 %

Conformances

AWS A5.7

EN ISO 14640

GB/T9460

ERCuNi

CuNi30

SCu7158

Shielding Gas

Argon 100%

Key Features

- Good for seawater corrosion resistance
- Suitable for welding of nonferrous alloys, dissimilar steel materials

Typical Application

- Machinery
- Shipbuilding
- Oil refinery
- Food processing industry

Chemical Composition (%)										
Cu	Fe	Mn	Ni	P	Pb	Si	C	Ti	S	Others
bal.	0.40-0.75	1.0	29.0-32.0	0.02	0.02	0.25	-	0.20-0.50	-	0.50

Mechanical Properties	
Tensile Strength (Rm)	Elongation
420 N/mm <sup>2</sup>	36 %

# SM-CuNi10 (TIG : ST-CuNi10)

## Conformances

AWS A5.7  
EN ISO 14640 **CuNi10**  
GB/T9460 **SCu7061**

## Shielding Gas

Argon 100%

## Key Features

- Especially good for seawater corrosion resistance
- Particularly suitable for the welding and hard facing Copper nickel alloys and welding of non-ferrous alloys, Dissimilar steel materials

## Typical Application

- Machinery
- Desalting of seawater
- Ship-Building
- Oil refinery
- Food processing industries

## Chemical Composition (%)

Cu	Fe	Mn	Ni	P	Pb	Si	C	Ti	S	Others
bal.	0.5-2.0	0.5-1.5	9.0-11.0	0.02	0.02	0.2	0.05	0.01-0.5	0.02	0.4

## Mechanical Properties

Tensile Strength (Rm)	Elongation
300 N/mm²	34 %

# SM-CuZn A (TIG : ST-CuZn A)

## Conformances

AWS A5.8 **RBCuZn-A**  
EN ISO 14640 **CuZn40**  
GB/T9460 **SCu4700**

## Shielding Gas

Argon 100%

## Key Features

- Most popular for padding material of gas-welding and carbon arc welding in brass
- Melting point of 890°C

## Typical Application

- Brazing of copper, steel, copper-nickel, cast-iron, and carbide cutting alloy tools incrustation

## Chemical Composition (%)

Cu	Al	Fe	Mn	Ni	P	Pb	Si	Sn	Zn	Others
57.0-61.0	0.01	-	-	-	-	0.05	-	0.25-1.00	bal.	0.50

## Mechanical Properties

Tensile Strength (Rm)	Elongation
375 N/mm²	35 %

# SM-CuZn C (TIG : ST-CuZn C)

## Conformances

AWS A5.8      RBCuZn-C  
EN ISO 14640    CuZn40SnSiMn  
GB/T9460      SCu6810

## Key Features

- Most popular for padding material of gas-welding and arc welding in brass

## Typical Application

- Brazing of copper, steel, copper-nickel, cast-iron and carbide cutting tools incrustation

## Chemical Composition (%)

Cu	Al	Fe	Mn	Ni	P	Pb	Si	Sn	Zn	Others
56.0-60.0	0.01	0.25-1.20	0.01-0.50	-	-	0.05	0.04-0.15	0.80-1.10	bal.	0.50

## Mechanical Properties

Solids-Temperature	Density	Liquid-Temperature
866 °C	8.38 kg/dm <sup>3</sup>	888 °C

# SM-CuZn B (TIG : ST-CuZn B)

## Conformances

AWS A5.8      RBCuZn-B  
EN ISO 14640    CuZn40Ni  
GB/T9460      SCu6800

## Key Features

- This braze welding rod is similar to RBCuZn-A rods but contain additions of iron and manganese which serve to increase the hardness and strength
- Small amount of silicon serves to control the vaporization of the zinc, yielding the “low-fuming” property. The nickel addition assures uniform distribution of the iron in the deposit

## Typical Application

- Brazing of Copper, steel, copper-nickel, cast-iron and carbide cutting alloy tools incrustation

## Chemical Composition (%)

Cu	Al	Fe	Mn	Ni	P	Pb	Si	Sn	Zn	Others
56.0-60.0	0.01	0.25-1.20	0.01-0.50	0.20-0.80	-	0.05	0.04-0.20	0.80-1.10	bal.	0.50

## Mechanical Properties

Solids-Temperature	Density	Liquid-Temperature
866 °C	8.39 kg/dm <sup>3</sup>	882 °C



# SM-CuZn D (TIG : ST-CuZn D)

## Conformances

AWS A5.8RBCuZn-D

EN ISO 14640CuZn40Ni10

GB/T9460SCu7730

## Key Features

- Suitable for surface corrosion resistance hard-facing for cast steel, cast iron, copper-alloy and nickel-alloy
- Butt welding of cast iron

## Typical Application

- Machinery joints and gears
- Automatic technological industries
- Steel-furniture industry

## Chemical Composition (%)

Cu	Al	Fe	Mn	Ni	P	Pb	Si	Sn	Zn	Others
46.0-50.0	0.01	-	-	9.0-11.0	0.25	0.05	0.04-0.25	-	bal.	0.50

## Mechanical Properties

Tensile Strength (Rm)	Elongation
385 N/mm²	25 %

# Applicable Joining Processes

Applicable Joining Processes										
Alloy	UNS No.	Oxyfuel Gas Welding	SMAW	GMAW	GTAW	Resistance Welding	Solid-state Welding	Brazing	Soldering	Electron Beam Welding
ETP Copper	C11000-C11900	NR	NR	F	F	NR	G	E	G	NR
Oxygen-Free Copper	C102000	F	NR	G	G	NR	E	E	E	G
Deoxidized Copper	C12000-C123000	G	NR	E	E	NR	E	E	E	G
Beryllium-Copper	C17000-17500	NR	F	G	G	F	F	G	G	F
Cadmium/Chromium Copper	C16200-C18200	NR	NR	G	G	NR	F	G	G	F
Red Brass – 85%	C23000	F	NR	G	G	F	G	E	E	–
Low Brass – 80%	C24000	F	NR	G	G	G	G	E	E	–
Cartridge Brass – 70%	C26000	F	NR	F	F	G	G	E	E	–
Leaded Brasses	C31400-C38590	NR	NR	NR	NR	NR	NR	E	G	–
Phosphor Bronzes	C50100-C52400	F	F	G	G	G	G	E	E	–
Copper Nickel 30%	C71500	F	F	G	G	G	G	E	E	F
Copper Nickel 10%	C70600	F	G	E	E	G	G	E	E	G
Nickel Silvers	C75200	G	NR	G	G	G	G	E	E	–
Aluminum Bronze	C61300 C61400	NR	G	E	E	G	G	F	NR	G
Silicon Bronzes	C65100 C65500	G	F	E	E	G	G	E	G	G

E=Excellent   G=Good   F=Fair   NR=Not Recommended

|   Courtesy of American Welding Society Welding Handbook 8<sup>th</sup> Ed. Vol. 3 Part 1

# Recommended Welding Amperage

SMAW (DCRP)		GMAW (DCRP) Gas: 100% Ar or 75/25 Ar/He			GTAW (DCSP, ACHF) Gas : 100% Ar or He		
Diameter	Amperes*	Diameter	Voltage	Amperes*	Diameter	Amperes* (DCEN)	Amperes* (ACHF)
3/32"	50-110	.035"	20-26	100-200	1/16"	70-120	70-150
1/8"	90-160	.045"	22-28	100-250	3/32"	120-160	140-230
5/32"	130-180	5/32"	29-32	250-400	1/8"	170-230	225-320
3/16"	150-225	3/16"	32-34	350-500	5/32"	220-280	175-300
					3/16"	280-330	200-320

\*Use low range for iron- or nickel-based alloys; middle range for bronze alloys; high range for copper

# Suggested Filler Metal Selection

Suggested Filler Metal Selections for Copper-based Alloy									
	Copper	Phosphor Bronze	Silicon Bronze	Yellow (Naval) Brass	Manganese Bronze	Navy G	Red Brass	Copper Nickel	Nickel Al Bronze
Copper	Deox (538)								
Phosphor Bronze	PHB, Deox (538)	PHB, Deox (204)							
Silicon Bronze	PHB, Deox (538)	PHB, SB (66)	SB (66)						
Yellow (Navel) Brass	SB, PHB, Deox (538)	PHB (316)	AIB-A2, SB (66)	AIB-A2 (316)					
Manganese Bronze	PHB, Deox (538)	AIB-A2, PHB (204)	AIB-A2, SB (66)	AIB-A2, PHB (316)	AIB-A2, PHB, Ni Bronze (149)				
Navy G	PHB, Deox (538)	PHB (204)	AIB-A2, SB (66)	PHB (316)	AIB-A2, PHB (316)	AIB-A2, PHB (316)			
Red Brass	PHB, Deox (538)	PHB (260)	AIB-A2, SB (66)	PHB (316)	AIB-A2, PHB (316)	AIB-A2, PHB (316)	AIB-A2, PHB (204)		
Copper Nickel	AIB-A2, Deox (538)	PHB, AIB-A2 (204)	AIB-A2 (66)	AIB-A2 (66)	AIB-A2 (149)	AIB-A2 (66)	AIB-A2 (66)	CuNi67 ERCuNi	
Nickel Aluminum Bronze	AIB-A2, Deox CuNiAl (538)	PHB (204)	AIB-A2 (66)	AIB-A2, CuNiAl (260)	AIB-A2 (149)	AIB-A2 (260)	AIB-A2 (316)	AIB-A2 (316)	CuNiAl (149)
Low Alloy Steel	AIB-A2 (538)	PHB, AIB-A2 (204)	AIB-A2 (204)	AIB-A2 (316)	AIB-A2 (204)	AIB-A2, PHB (260)	AIB-A2 (316)	AIB-A2 (204)	AIB-A2 (204)
Low Carbon Steel	AIB-A2 (538)	PHB, AIB-A2 (204)	AIB-A2 (66)	AIB-A2 (260)	AIB-A2 (66)	AIB-A2, PHB (316)	PHB (316)	AIB-A2 (66)	AIB-A2 (149)
Medium Carbon Steel	AIB-A2 (538)	PHB, AIB-A2 (204)	AIB-A2 (66)	AIB-A2 (260)	AIB-A2 (204)	AIB-A2, PHB (316)	AIB-A2 (316)	AIB-A2 (204)	AIB-A2 (204)
High Carbon Steel	AIB-A2 (538)	PHB, AIB-A2 (260)	AIB-A2 (204)	AIB-A2 (260)	AIB-A2 (260)	AIB-A2, PHB (316)	AIB-A2 (316)	AIB-A2 (260)	AIB-A2 (260)
Cast Iron	AIB-A2 (538)	PHB, AIB-A2 (204)	AIB-A2, SB (149)	AIB-A2 (316)	AIB-A2 (204)	AIB-A2, PHB (316)	AIB-A2, PHB (316)	AIB-A2 (204)	AIB-A2 (204)

Temperature in parentheses is the recommended preheat and interpass (Celsius) temperature.

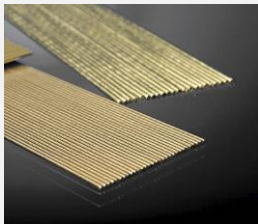
Recommended Tungsten Electrodes for GTAW are 2% Thoriated, 2% Ceriated, 2% Lanthanum or E3 (EWG).

Notes: **PHB** = Phosphor Bronze  
**Deox** = Deoxidized Copper  
**SB** = Silicon Bronze

**AIB-A2** = Aluminium Bronze A-2  
**CuNiAl** = Copper Nickel Aluminum Bronze  
**CuNi67** = Copper Nickel 67

# Standard Packaging

## Packaging

Packaging Type	Image	Diameter	Weight	Remark
Rods		1.2 ~ 9.5 mm		Length: 350 ~ 1000 mm  Rod identification possible by stamping. Color for flux coated TIG rods: white, blue, yellow
Spool		0.6 ~ 1.6 mm	1 ~ 15 kg	Type: D100, D200, D300, K300, BS300
Wood		0.8 ~ 2.4 mm	Max. 250 kg	
Drums		0.8 ~ 1.6 mm	100 ~ 250 kg	
Coils		1.6 ~ 6.0 mm	15 ~ 100 kg	Outer $\theta$ : 450 ~ 650 mm  Inner $\theta$ : 250 ~ 450 mm



Sales Offices



Manufacturing Facilities



# Global Networks

## Sales Offices

### South Korea

#### HYUNDAI WELDING CO., LTD.

HQ & Seoul / 82-2-6230-6051~68,76~81  
 Busan / 82-51-802-1124  
 Ulsan (Hyundai Heavy Ind.) / 82-52-236-3801~3  
 Ulsan / 82-52-288-0718~9  
 Daejeon / 82-42-635-2240~1  
 Daegu / 82-53-751-7071,3  
 Gwangju / 82-62-959-7012~3  
 Geoje / 82-55-644-7901~2  
 Samho / 82-61-462-4055  
 Pohang / 82-54-289-6390~3

### Japan

#### HYUNDAI WELDING JAPAN CO., LTD.

Osaka / 81-6-6305-8700  
 Tokyo / 81-3-3861-2502  
 Kyushu / 81-92-415-6450  
 Hiroshima / 81-82-224-1580  
 Nagoya / 81-52-689-5775

### China

#### HYUNDAI WELDING CHINA CO., LTD.

Shanghai / 86-21-6486-6699 (\*803)  
 Qingdao / 86-532-8786-2838  
 Guangzhou / 86-20-8732-5007  
 Nantong / 86-513-8118-9952  
 Tianjin / 86-138-2196-9952  
 Weihai / 86-138-4949-3452  
 Wuhan / 86-27-8789-0800  
 Xian / 86-29-8219-2399  
 Beijing / 86-10-6493-9796

### Vietnam

#### HYUNDAI WELDING VINA CO., LTD.

Ho Chi Minh / +84-8-3930-8909  
 Hanoi / +84-4-3944-6774

### USA

#### HYUNDAI WELDING PRODUCTS, INC.

Atlanta / +1-770-614-7577

### Asia

Thailand (Bangkok) / +66-2286-3441  
 Singapore (Singapore) / +65-6863-3218  
 India (Mumbai) / +91-98-204-77953

### Europe

Netherlands (Rotterdam) / +31-10-799-5300  
 Germany (Siegen) / +49-271-770 1759-0  
 Poland (Sosnowiec) / +48-734-474-199  
 Russia (Moscow) / +7-495-747-5173

### Latin America

Mexico (Chihuahua) / +52-1-833-1409175

### Middle East

UAE (Dubai) / +971-4-880-8354  
 Turkey (Istanbul) / +90-216-494-4740

## Manufacturing Facilities

**Pohang Main Plant** (Pohang, South Korea)  
 +82-54-289-6300, 6354

**Pohang 2nd Plant** (Pohang, South Korea)  
 +82-54-251-9783

**Gochang Plant** (Gochang, South Korea)  
 +82-63-560-6000

**Shanghai Plant** (Kunshan, China)  
 +86-512-5747-2970

**Ho Chi Minh Plant** (Dong Nai, Vietnam)  
 +84-61-356-9154~8



