

# SELECTARC ESSENTIALS

**FOR BRAZING PROFESSIONALS**



Selectarc®

Copper-Phosphorus, Copper-Phosphorus-Silver alloys, Ternary and Quaternary Silver solders, Brass, Nickel-Silver, Aluminium and Pickling fluxes under different shapes, Diameters and Packaging...

and much more on  
[www.fsh-welding.com](http://www.fsh-welding.com)

# WHAT IS BRAZING?

**Brazing is a permanent metal-joining process which sets a metal continuity between close-fitting parts by capillary action. Brazing is done by atomic migration of both sides of the pieces to be joined obtained by heating.**



**It is important to note that, unlike welding, there is no melting of base metals. Only the filler metal melt and flow over the base metal (wetting).**



**Brazing is widely used as an assembly technique in all industries and in building trade.**





## SELECTION OF BRAZING ALLOY FOR SIMILAR & DISSIMILAR JOINTS

BASIC METAL	STEEL	ALUMINIUM	COPPER	CAST IRON <small>(SLOW PREHEATING AND COOLING)</small>	STAINLESS STEEL	BRASS	GALVANIZED STEEL	NICKEL
NICKEL	BRAZARGENT 5040*		BRAZARGENT 5040*	BRAZARGENT 5040*	BRAZARGENT 5040*	BRAZARGENT 5040*	BRAZARGENT 5040*	BRAZARGENT 5040*
	BRAZARGENT 5056*		BRAZARGENT 5056*	BRAZARGENT 5056*	BRAZARGENT 5056*	BRAZARGENT 5056*	BRAZARGENT 5056*	BRAZARGENT 5056*
GALVANIZED STEEL	CUPROX FC	ZINAL 4 TBW	CUPROX FC	CUPROX FC	BRAZARGENT 5040*	BRAZARGENT 5034*	CUPROX FC	
	BRAZARGENT 1520Si*	HARASIL NC 12 TBW	BRAZARGENT 5034*	BRAZARGENT 5034*	BRAZARGENT 5056*	BRAZARGENT 5040*	BRAZARGENT 5034*	
BRASS	BRAZARGENT 5034*	ZINAL 4 TBW	BRAZARGENT 5034*	BRAZARGENT 5040*	BRAZARGENT 5040*	BRAZARGENT 5034*		
	BRAZARGENT 5040*	HARASIL NC 12 TBW	PHOSBRAZ AG100 FC	BRAZARGENT 5056*	BRAZARGENT 5056*	PHOSBRAZ AG100 FC		
STAINLESS STEEL	BRAZARGENT 5040*	ZINAL 4 TBW	BRAZARGENT 5040*	BRAZARGENT 5040*	BRAZARGENT 5040*			
	BRAZARGENT 5056*	HARASIL NC 12 TBW	BRAZARGENT 5056*	BRAZARGENT 5056*	BRAZARGENT 5056*			
CAST IRON <small>(SLOW PREHEATING AND COOLING)</small>	CUPROX FC		CUPROX FC	CUPROX FC				
	BRAZARGENT 5040*		BRAZARGENT 5040*	BRAZARGENT 5040*				
COPPER	CUPROX FC	ZINAL 4 TBW	PHOSBRAZ M70 <small>(standard joining)</small>					
	BRAZARGENT 1520Si*	HARASIL NC 12 TBW	PHOSBRAZ M60 <small>(special for pitting)</small>					
ALUMINIUM	ZINAL 4 TBW	ZINAL 4 TBW						
	HARASIL NC 12 TBW	HARASIL NC 12 TBW						
STEEL	CUPROX FC							
	BRAZARGENT 1520Si*							



**REF\*** : To be used with AG-FLUX, as flux coated rods, or as TBW

**REF** : flux cored or self-fluxing alloy

**BRAZARGENT®, CUPROX®, PHOSBRAZ® ARE REGISTERED TRADEMARKS.**

# COPPER-PHOSPHORUS ALLOYS

Special range **sparkling free** for great ease in manual applications. This range was invented by André REBOUD, creator of Rebound-Roche plant.



■ **Oven range:**

*Consult our technical department.*

### PHOSBRAZ M60

- ★ Low fluidity
- ★ Wide gaps up to 2 mm

### PHOSBRAZ M70

- ★ Standard fluidity
- ★ Standard gap

### PHOSBRAZ E80+

- ★ High fluidity
- ★ Very small gap

## ■ PHOSBRAZ M60

Alloy recommended for large gap joining, **low fluidity**, self-fluxing on red coppers (without addition of flux).

- **Standard colour:** copper.
- **Brazable grades:** Coppers.

#### MAIN APPLICATIONS

- ★ Brazing of Copper-Copper connections, mainly in plumbing industry.

Presentation	∅ (mm)	Length (mm)	Kg/case	Ref.
BARE	2.0	500	1	<b>M6B20500R T180</b>
			5	<b>M6B20500R T200</b>
BARE	3.0	500	1	<b>M6B30500R T180</b>
			5	<b>M6B30500R T200</b>

SPECIAL FITTING/  
COPPER

## + PRODUCT ADVANTAGES:

- Low fluidity
- Good control in joint filling
- «Flexible» alloy
- Ideal for wide gaps up to 2 mm

**ISO 17672**  
CuP 179

**DIN 8513**  
L-Cu P6

#### RECOMMENDED HEATING METHOD:



## ■ PHOSBRAZ M70

Alloy recommended for standard joining (sleeves-fittings). **Good fluidity.** Self-fluxing on red coppers (without using flux).

- **Standard colour:** copper.
- **Brazable grades:** Coppers.

### MAIN APPLICATIONS

★ Brazing of Copper-Copper connections, principally in the plumbing field.

Presentation	Ø (mm)	Length (mm)	Kg/case	Ref.
BARE	2.0	500	1	<b>M70B20500R T180</b>
			5	<b>M70B20500R T200</b>
BARE	3.0	500	1	<b>M70B30500R T180</b>
			5	<b>M70B30500R T200</b>

**UNDER CONTROL  
FLUIDITY /  
COPPER**

**SELECTARC**  
BRAZING

### + PRODUCT ADVANTAGES:

- Good fluidity
- High speed working
- Universal alloy in plumbing

**ISO 17672**  
CuP 180

**DIN 8513**  
L-Cu P7

**AWS A5.8**  
B Cu-P 2

### RECOMMENDED HEATING METHOD:



## ■ PHOSBRAZ E80+

Alloy recommended for small gaps with deep & close overlap between tubes. **Product with high fluidity.** Self-fluxing on red coppers (without addition of flux).

- **Standard colour:** copper.
- **Brazable grades:** Coppers.

### MAIN APPLICATIONS

★ Brazing of copper to copper and copper to brass connections, mainly in plumbing.

Presentation	Ø (mm)	Length (mm)	Kg/case	Ref.
BARE	2.0	500	1	<b>E8+B20500R T180</b>
			5	<b>E8+B20500R T200</b>
BARE	3.0	500	1	<b>E8+B30500R T180</b>
			5	<b>E8+B30500R T200</b>

**EXCELLENT  
FLUIDITY /  
COPPER**

**SELECTARC**  
BRAZING

### + PRODUCT ADVANTAGES:

- High capillarity on small gaps
- Low brazing temperatures
- Big overlaps
- Can be used with an aero-propane flame\*

**ISO 17672**  
CuP 182

**DIN 8513**  
L-Cu P8

### RECOMMENDED HEATING METHOD:



\*Subject to testing, under customer responsibility.

# COPPER - PHOSPHORUS - SILVER ALLOYS

## PHOSBRAZ AG20+

- ★ Universal
- ★ Economical

## PHOSBRAZ AG50+

- ★ Easy to use
- ★ Good resistance to mechanical vibrations

## PHOSBRAZ AG60

- ★ Copper pipes

## PHOSBRAZ AG100 FLUX COATED

- ★ Copper-Brass assembly
- ★ Excellent technical and economical compromise

## PHOSBRAZ AG150

- ★ Electrical connections

## ■ PHOSBRAZ AG20+

This alloy recommended for standard joining with a **standard fluidity** and is self-fluxing on red coppers. This shade has **2% Ag in addition to Phosphorus for a better capillarity.**

■ **Brazable grades:** Coppers.

### MAIN APPLICATIONS

- ★ Copper-Copper joining in sleeve coupling and fittings, heat exchangers (hot/cold) and ventilation systems.

Presentation	∅ (mm)	Length (mm)	Kg/case	Ref.
BARE	2.0	500	1	<b>AG20+B20500R T180</b>
			5	<b>AG20+B20500R T200</b>
BARE	3.0	500	1	<b>AG20+B30500R T180</b>
			5	<b>AG20+B30500R T200</b>

UNIVERSAL /  
COPPER  
2% Ag

## + PRODUCT ADVANTAGES:

- Versatile alloy
- Good fluidity
- The most economical of the Copper-Phosphorus-Silver range
- Easy to use

**ISO 17672**  
CuP 280

**AWS A5.8**  
BCuP-6

RECOMMENDED HEATING METHOD:



## ■ PHOSBRAZ AG50+

Alloy with **5% Ag** in addition Phosphorus for a better capillarity is recommended for all assemblies and particularly for air conditioning. Its main features are: **good ductility and very good fluidity**. This product is self-fluxing on red coppers.

■ **Brazable grades:** Coppers.

### MAIN APPLICATIONS

★ Copper-Copper joining in sleeve coupling and fittings, heat exchangers (hot/cold) and ventilation systems and compressors.

Presentation	∅ (mm)	Length (mm)	Kg/case	Ref.
BARE	2.0	500	1	AG50+B20500R T180
			5	AG50+B20500R T200
BARE	3.0	500	1	AG50+B30500R T180
			5	AG50+B30500R T200

SPECIAL GOLD /  
VIBRATIONS /  
COPPER  
5% Ag

### + PRODUCT ADVANTAGES:

- Resistance to mechanical vibrations and water hammer, better than a CuP
- Very good fluidity
- Brazing temperature is lower than AG20

**ISO 17672**  
CuP 282

**AWS A5.8**  
BCuP-7

RECOMMENDED HEATING METHOD:



## ■ PHOSBRAZ AG60

Copper-Phosphorus alloy with **6% Ag** for hard brazing of red coppers. It is recommended for gas systems (except local regulation) and piping systems. It can be used with propane gas\*.

■ **Standard colour:** copper.

■ **Brazable grades:** Coppers.

### MAIN APPLICATIONS

★ Piping and combustible gas installations.

Presentation	∅ (mm)	Length (mm)	Kg/case	Ref.
BARE	2.0	500	1	AG60B20500R T180A
			5	AG60B20500R T200A
BARE	3.0	500	1	AG60B30500R T180A
			5	AG60B30500R T200A

PIPING /  
COPPER  
6% Ag

### + PRODUCT ADVANTAGES:

- High fluidity
- Low melting temperature
- Excellent wetting properties and capillarity

**ISO 17672**  
CuP 283a

RECOMMENDED HEATING METHOD:



\*Subject to testing, under customer responsibility.

## ■ PHOSBRAZ AG100

FLUX COATED

**NEW PRODUCT**

Alloy with **10% Ag** recommended for Copper-Copper joining, Copper alloys (Brass...). Very good fluidity. This alloy of exceptional performance represents the **"Global economic solution"** for **Copper/Brass assemblies**.

■ **Brazable grades:** Copper and Copper alloys (ex: Brass).

### MAIN APPLICATIONS

★ Brazing of brass connections on copper piping.

Presentation	∅ (mm)	Length (mm)	Kg/case	Ref.
WHITE COATING	2.0	500	1	<b>AG100E20500B/S25AG T190</b> (Printed Rods)
			5	<b>AG100E20500B/S25AG T200</b> (Printed Rods)

COPPER / BRASS ASSEMBLIES  
10% Ag

### + PRODUCT ADVANTAGES:

- Alloy ready for use
- Excellent compromise between fluidity & ductibility
- Excellent wetting properties
- Can be used with propane gas\*

**FLUX EN 1045**  
FH10

RECOMMENDED HEATING METHOD:



\*Subject to testing, under customer responsibility.

## ■ PHOSBRAZ AG150

Alloy recommended for assembly with intermediary gap. **Standard fluidity**, Self-fluxing on red coppers. **Silver content: 15%**.

■ **Brazable grades:** Coppers.

### MAIN APPLICATIONS

★ Copper-Copper assemblies, Electric motor production, Electrical connections, air conditioning.

Presentation	∅ (mm)	Length (mm)	Kg/case	Ref.
BARE	2.0	500	1	<b>AG150B20500R T180</b>
			5	<b>AG150B20500R T200</b>
BARE	3.0	500	1	<b>AG150B30500R T180</b>
			5	<b>AG150B30500R T200</b>

ELECTRICAL CONNECTIONS / COPPER  
15% Ag

### + PRODUCT ADVANTAGES:

- Excellent electrical conductivity
- Ductile alloy
- Very good mechanical resistance
- Allows the filling of important gaps

**ISO 17672**  
CuP 284

**DIN 8513**  
L-Ag 15 P

**AWS A5.8**  
BCuP-5

RECOMMENDED HEATING METHOD:

