


copper - phosphorus - silver alloys

Reference	Melting range	Composition			Characteristics			Standards		
		Cu %	P %	Ag %	Rm MPa	A %	d g/cm ³	NF EN 044	AWS A5-8	EN ISO 3677
MANUAL BRAZING										
PHOSBRAZ M60	710-860 °C	balance	6,0		550	6	8,1	CP 203		B Cu 94 P 710-860
PHOSBRAZ V6	710-845 °C	balance	6,3		550	5	8,1	CP 203		B Cu 94 P 710-845
PHOSBRAZ P66	710-825 °C	balance	6,6		500	4	8,1	CP 202		B Cu 93 P 710-825
PHOSBRAZ P68	710-815 °C	balance	6,8		450	4	8	CP 202		B Cu 93 P 710-815
PHOSBRAZ M70	710-805 °C	balance	7,0		450	4	8	CP 202	B Cu P2	B Cu 93 P 710-805
PHOSBRAZ M73	710-785 °C	balance	7,3		450	4	8	CP 202	B Cu P2	B Cu 93 P 710-785
PHOSBRAZ E80	710-750 °C	balance	7,8		450	3	8	CP 201		B Cu 92 P 710-750
PHOSBRAZ E80+	710-738°C	balance	8,0		400	2	8	CP 201		B Cu 92 P 710-738
OVEN BRAZING <i>Phosbraz 840, 815, 790, 770, 750 et 738 : The alloy designation corresponds to its melting temperature (liquidus).</i>										
PHOSBRAZ 840	710-840 °C	balance	6,4		520	5	8,1	CP 203		B Cu 94 P 710-840
PHOSBRAZ 815	710-815 °C	balance	6,8		450	4	8	CP 202		B Cu 93 P 710-815
PHOSBRAZ 790	710-790 °C	balance	7,2		450	4	8	CP 202	B Cu P2	B Cu 93 P 710-790
PHOSBRAZ 770	710-770 °C	balance	7,5		450	4	8	--	B Cu P2	B Cu 93 P 710-770
PHOSBRAZ 750	710-750 °C	balance	7,8		450	3	8	CP 201		B Cu 92 P 710-750
PHOSBRAZ 738	710-738 °C	balance	8		400	2	8	CP 201		B Cu 92 P 710-738
PHOSBRAZ 675Sn	650-700 °C	balance	6,75	7%Sn	350	2	8	CP 302		B Cu 86 Sn P 650-700
Cu-P-Ag										
PHOSBRAZ M68	710-815 °C	balance	6,8	0,2	500	5	8,1	--		B Cu93PAg 710-815
PHOSBRAZ AG4	650-825 °C	balance	6,5	0,4	550	6	8,1	--		B Cu93PAg 650-825
PHOSBRAZ AG10	650-820 °C	balance	6,7	1,0	550	6	8,1	--		B Cu93PAg 650-820
PHOSBRAZ AG20	650-820 °C	balance	6,7	2,0	550	6	8,1	CP 105		B Cu91PAg 650-820
PHOSBRAZ AG20+	650-800 °C	balance	7,0	2,0	550	6	8,1	--	BCuP6	B Cu91PAg 650-800
PHOSBRAZ AG50	650-810 °C	balance	6,0	5,0	650	8	8,2	CP 104	BCuP3	B Cu89PAg 650-810
PHOSBRAZ AG50+	650-770°C	balance	6,6	5,0	600	7	8,2	--	BCuP7	B Cu88PAg 650-770
PHOSBRAZ AG100	650-750 °C	balance	6,2	10	650	8	8,3	--		B Cu84AgP 650-750
PHOSBRAZ AG150	650-800 °C	balance	5,0	15	530	10	8,4	CP 102	BCuP5	B Cu80AgP 650-800
PHOSBRAZ AG180	645 °C	balance	7	18	480	10	8,4	CP 101		B Cu75AgP 645-650
 PAG60	650-720 °C	balance	7,3	6	450	4	8,2	CP 103	*BCuP4	B Cu87PAg 650-720

PAG 60 : Certified in combination with Gel 60, for high strength capillary brazing of copper tubes used in combustible gas installations.

Nota : the asterisk* in front of the standard means close to the norm.

PHOSBRAZ® is a registered trademark under which REBOUD-ROCHE manufactures the most comprehensive range of Copper/Phosphorus brazing alloys.

This range is used exclusively for joining of copper and copper alloys.

These alloys are divided in 3 branches, mainly according to their use :

- Copper-Phosphorus alloys (two elements) mainly in **plumbing** and **sanitary industry**
- Copper-Phosphorus-Silver alloys (three elements) used in the **refrigerating industry** (e.g. AG50) (refrigerators, freezers, compressors); **electric motor** production (e.g. AG150) and **gas water-heaters**;
- Copper-Phosphorus alloys (two elements) specifically manufactured for furnace brazing.

Fluidity

High fluidity alloys

Phosbraz AG180; PAG60; Phosbraz E 80; Phosbraz E80+; Phosbraz 675Sn; Cu-P-Sn The Cu-P Sn alloys have a low melting temperature range.

Medium/high fluidity alloys

Phosbraz M 73, Phosbraz M 70; Phosbraz P68; Phosbraz M68; Phosbraz Ag20+.
These are frequently used for capillary brazing.

Medium fluidity alloys

Phosbraz P 66, Phosbraz Ag4, Phosbraz Ag10, Phosbraz Ag20, Phosbraz Ag50. Phosbraz Ag150


Low fluidity alloys

Phosbraz V6 and Phosbraz M60, are recommended for pitting tube brazing

Analysis

Each casting is controlled by thermal analysis.

- PAG 60 : Alloy with 6 % silver and 7.3 % Phosphorus.
- The alloy is certified by the French Ministry of Industry, for high strength copper brazing of tubes used in combustible gas installations.

PAG60 is to be used with the flux Gel 60. They are certified under the registration number 750 
Detailed production procedures guarantee the Phosbraz Quality.