



FLUXES AND ALLOYS FOR SOLDERING AND BRAZING



Jürgen Armack Sp. z o.o.

Rzemieślnicza 14

64-920 Piła

Tel: +48 67 212 68 83

info@armack.pl

www.armack.pl

FLUXES FOR BRAZING

armack HS Flux for brazing

Flux in paste form for silver and copper phosphorus based alloys type FH10 according to DIN EN 1045 for brazing of copper, brass, steel and stainless steel. The effective temperature range lies between 550 - 800°C. Flux approved by DVGW and PZH.

Box containing: 100g

Box containing: 500g

Box containing: 1.000g



armack HSP Flux for brazing

Flux in powder form for silver and copper phosphorus based alloys type FH10 according to DIN EN 1045 for brazing of copper, brass, steel and stainless steel. The effective temperature range lies between 550 - 800°C. Flux approved by PZH.

Box containing: 100g

Box containing: 1.000g

armack HS-S Flux for brazing

Flux in brown paste form for silver based alloys type FH12 according to DIN EN 1045 for brazing of hard metals and CrNi steels as well as steel, stainless steel and tندر resistant steel. The effective temperature range lies between 520 - 1.020°C. The Flux HS-S is suitable for all flame and induction brazing procedures. Typical applications: the tool industry.

Box containing: 100g

Box containing: 1.000g



armack HKM Flux for brazing and welding

Flux based on boron compounds in pink powder form for brass alloys type FH20 according to DIN EN 1045 for brazing of copper, copper alloys, grey cast iron, malleable cast iron and steel as well as the welding of brass. The effective temperature range lies between 700 - 1000°C. Flux approved by PZH.

Box containing: 100g

Box containing: 500g

armack HKMP Flux for brazing and welding

Flux based on boron compounds in white paste form for brass alloys type FH20 according to DIN EN 1045 for brazing of copper, copper alloys, grey cast iron, malleable cast iron and steel as well as the welding of brass. The effective temperature range lies between 700 - 1000°C. Flux approved by PZH.

Box containing: 100g

Box containing: 500g



COPPER-PHOSPHORUS ALLOYS

CODE	COMPOSITION %				SOLIDUS - LIQUIDUS °C	OPERATING TEMPERATURE °C	DENSITY g/cm ³	TENSILE STRENGTH kg/mm ²	STANDARD		
	Ag	Cu	P	Sn					ISO 17672	EN 1044	AWS A5.8
COPPER-PHOSPHORUS ALLOYS											
CuP6		94	6		710-890	760	8,1	56	CuP 179	CP 203	
CuP7		93	7		710-820	730	8,1	58	CuP 180	CP 202	BCuP-2
CuP8		92	8		710-770	720	8	60	CuP 182	CP 201	
CuP7Sn7		86	7	7	650-700	700	8	60	CuP 386	CP 302	BCuP-9
COPPER-PHOSPHORUS ALLOYS WITH SILVER											
Ag2P	2	91,5	6,5		645-825	740	8,1	55	CuP279	CP 105	BCuP-6
Ag5P	5	89	6		645-815	710	8,2	55	CuP 281	CP 104	BCuP-3
Ag15P	15	80	5		645-800	700	8,4	54	CuP 284	CP 102	BCuP-5
Ag18P	18	75,5	6,5		643-666	670	8,4	50	CuP 285		

SILVER BRAZING ALLOYS CADMIUM FREE

CODE	COMPOSITION %					SOLIDUS - LIQUIDUS °C	OPERATING TEMPERATURE °C	DENSITY g/cm ³	TENSILE STRENGTH kg/mm ²	STANDARD		
	Ag	Cu	Zn	Sn	Si					ISO 17672	EN 1044	AWS A5.8
ALLOYS WITH TIN												
Ag56Sn	56	22	17	5		620-655	640	9,4	48	Ag 156	AG 102	BAG-7
Ag55Sn	55	21	22	2		630-660	650	9,4	44	Ag 155	AG 103	
Ag45Sn	45	27	25,5	2,5		640-680	670	9,2	43	Ag 145	AG 104	BAG-36
Ag40Sn	40	30	28	2		650-710	690	9,1	44	Ag 140	AG105	BAG-28
Ag34Sn	34	36	27,5	2,5		630-730	710	9	48	Ag 134	AG 106	
Ag30Sn	30	36	32	2		665-755	740	8,8	48	Ag 130	AG 107	
Ag25Sn	25	40	33	2		680-760	750	8,8	48	Ag 125	AG 108	BAG-37
ALLOYS WITHOUT TIN												
Ag60	60	26	14			695-730	710	9,5	45		AG 202	
Ag45	45	30	25			665-745	730	9,1		Ag 245		BAG-5
Ag44	44	30	26			675-735	730	9,1	51	Ag 244	AG 203	
Ag25	25	40	35			700-790	780	8,8	45	Ag 225	AG 205	
Ag20	20	44	36		0,15	690-810	810	8,7	43		AG 206	

SILVER BRAZING ALLOYS – SPECIAL APPLICATIONS

CODE	COMPOSITION %					SOLIDUS - LIQUIDUS °C	OPERATING TEMPERATURE °C	DENSITY g/cm3	TENSILE STRENGTH kg/mm2	STANDARD		
	Ag	Cu	Zn	Ni	Mn					ISO 17672	EN 1044	AWS A5.8
ALLOYS WITH NICKEL												
Ag49MnNi	49	16	23	4,5	7,5	680-705	690	8,9	55	Ag 449	AG 502	BAG-22
Ag49MnNi/1	49	27	21	0,5	2,5	670-690		8,9				
Ag50Ni	50	20	28	2		660-750	710	9,0	45	Ag450		BAG-24
ALLOYS WITHOUT COPPER												
Ag72Zn	72		28			710-780		8,4	44			
ALLOYS WITHOUT ZINC												
Ag72	72	28				780-780		10	35	Ag 272	AG 401	BAG-8
TRIMETALS STRIPS												
Ag49MnNi/1	49	27,5	20,5	0,5	2,5	670-690	-700	9,0		COPPER CORE RATIO 1:2:1		
Ag49MnNi/1	49	27,5	20,5	0,5	2,5	670-690	-700	9,0		COPPER CORE RATIO 1:6:1		
Ag49MnNi/1	49	27,5	20,5	0,5	2,5	670-690	-700	9,0		COPPER CORE RATIO 1:1:1		

BRASS ALLOYS

CODE	COMPOSITION %							SOLIDUS - LIQUIDUS °C	DENSITY g/cm3	TENSILE STRENGTH kg/mm2	STANDARD		
	Cu	Zn	Ag	Ni	Mn	Sn	Si				ISO 17672	EN 1044	AWS A5.8
CuZn40Si	60	rest					0,3	875-895	8,4	40	Cu 470a	CU 301	
CuZn39Sn	59	rest				0,4	0,3	875-895	8,4	45	Cu 470	CU 302	RBCuZn-A
CuZn39SnMn	59	rest		0,7	0,7	0,4	0,3	870-890	8,4	45	Cu 681	CU 306	RBCuZn-B
Cu59ZnAg	59	rest	1		0,1	0,1	0,1	860-890	8,4	45			
Cu48ZnNi10	48	rest		10			0,3	890-920	8,7	54	Cu 773	CU 305	RBCuZn-D

FORMS OF ALLOYS

- Rods on spools or in coils: Ø 0,5 - Ø 3,0 mm
- Bare rods and coated rods: Ø 1,0 / 1,5 / 2,0 / 2,5 / 3,0 mm, length 500 mm and 1.000 mm
- Strips: thickness 0,1/ 0,2 / 0,3 mm, width 2,0 do 90 mm
- Trimetals strips: thickness 0,2/0,25/ 0,3 / 0,4 mm, width 2,0 - 70 mm
- Rings and other forms from wire and strip



FLUXES FOR SOLDERING

armack ZWS soldering fluid

Highly active solder flux according to DIN EN 29454-1 3.2.2.A (F-SW 11) for soldering of highly oxidized titanium zinc, galvanized steel plates and high-purity zinc. armack solder fluid ZWS enables a quick and reliable soldering and good joining of overlapping soldering seams, due to the thorough wetting achieved. Flux approved by PZH.

Bottle containing: 250g

Bottle containing: 1.000g



armack C66 soldering gel

soft solder flux according to DIN EN 29454-1 3.1.1.A (F-SW 12) for soldering of sheets and pipes made of copper, brass, iron, zinc and lead. armack solder gel C66 has an excellent oxide-releasing and cleaning effect. It enables a quick and reliable soldering due to the thorough wetting achieved. Flux approved by PZH.

Bottle containing: 125g

Bottle containing: 500g

armack solder grease

solder flux in grease form according to DIN EN 29454-1 3.1.1.A (F-SW 21) for soldering and tinning in combination with solid solder wire or solder bars. armack solder grease enables a quick and reliable soldering. Flux approved by PZH.

Box containing: 50g

Box containing: 100g

Box containing: 250g



armack CWK soldering fluid

solder flux according to DIN EN 29454-1 3.1.1.A (F-SW 21) for soldering sheet metal, roof gutters and downspouts in copper. armack solder fluid CWK enables a quick and reliable soldering. Flux approved by PZH.

Bottle containing: 250g

Bottle containing: 1.000g

armack RST soldering oil

Highly active solder flux according to DIN EN 29454-1 3.2.2.A (F-SW 11) for stainless steel. armack solder oil RST enables a quick and reliable soldering. Flux approved by PZH.

Bottle containing: 100ml

Bottle containing: 250ml

Bottle containing: 500ml



armack solder paste LF No. 3

Paste is a mixture of micrograd powder of Sn97Cu3 alloy according to ISO 9453 and flux according to DIN EN 29454-1 3.1.1.C (F-SW 21), used in conjunction with soft solder No. 3 for soldering of copper and copper alloys (brass, bronze). Flux approved by DVGW and PZH.

Box containing: 100g

Box containing: 250g

SOFT SOLDERS

CODE	COMPOSITION %					SOLIDUS - LIQUIDUS	APPLICATION	FORM
	Sn	Pb	Cu	Ag	Sb	°C		
TIN – LEAD ALLOYS								
Pb90Sn10	10	90				268-299	lighting industry; car tinsmiths	triangular rods
Pb74Sn25Sb	25	74			1	186-260	car tinsmiths	triangular rods
Pb70Sn30	30	70				183-255	lighting industry; roofing craft	triangular rods
Pb60Sn40	40	60				183-235	roofing craft; electronics	triangular rods; cored wire and massive wire on spools
Pb50Sn50	50	50				183-212	roofing craft	triangular rods
Sn60Pb40	60	40				183-190	roofing craft; electronics	triangular rods; cored wire and massive wire on spools
Sn90Pb10	90	10				183-213	automotive industry; roofing craft	triangular rods
LEAD FREE ALLOYS								
Sn99Cu1	99		1			227-245	electronics	triangular rods; cored wire and massive wire on spools
Sn97Cu3	97		3			230-250	drinking water-heating; roofing craft	triangular rods; cored wire and massive wire on spools
Sn97Ag3	97			3		221-224	electronics	triangular rods; cored wire and massive wire on spools
Sn95CuAg	96,5		0,5	3		217-219	electronics	triangular rods; cored wire and massive wire on spools

