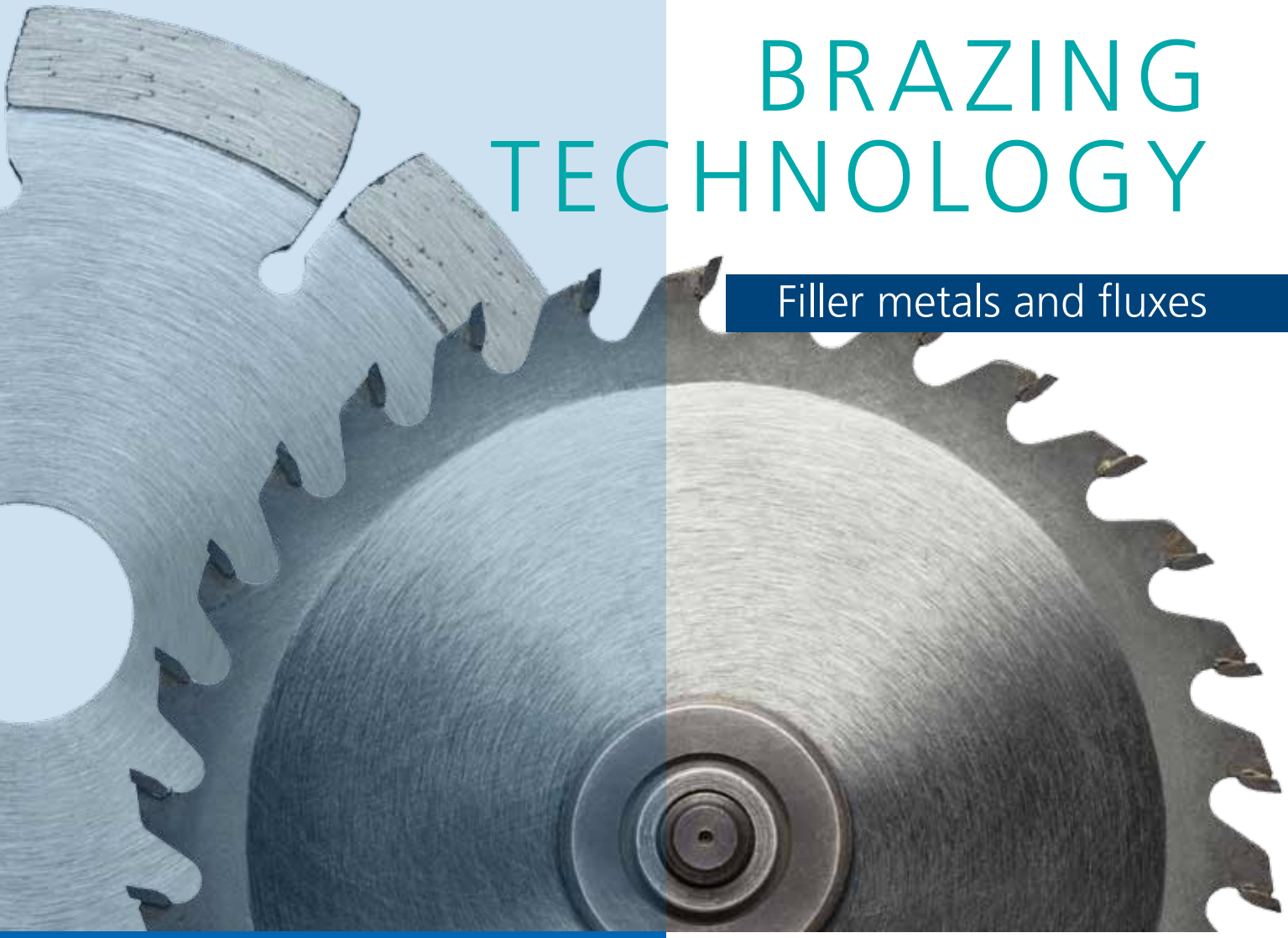
CARBIDE & DIAMOND TIPPED TOOLS

BRAZING TECHNOLOGY

Filler metals and fluxes



Delivery programme dedicated to:

- Manufacturers of Diamond tipped tools
- Manufacturers of Carbide tipped tools

STELLA
WELDING ALLOYS

CARBIDE AND DIAMOND TIPPED TOOLS

A selection of brazing alloys, with and without silver, for manufacturing of: tungsten carbide tipped tools, diamond tipped tools, wood-working tools, tools for working and cutting of stone, cement, asphalt, saw blades, plastic materials crushers, mining and drilling tools, knives and tools for paper cutting, surgical instruments, plowshares, knives for cardboard, plastic, leather, etc.

BRAZING ALLOYS WITH SILVER

CODE	COMPOSITION %								MELTING RANGE SOL - LIQ	DENSITY	TENSILE STRENGTH	STANDARD	NOTES
	Ag	Cu	Zn	Sn	Si	Ni	Mn	In	°C	g/cm³	kg/mm²	ISO 17672	
ALLOYS													
Ag20	20	44	36		0,15				690-810	8,7	43		Alloys with nickel and manganese give excellent wetting results when joining carbides. Ag49MnNi is recommended for high temperature service conditions.
Ag27MnNi	27	38	20			5,5	9,5		680-830	8,7		Ag 427	
Ag40Sn	40	30	28	2					650-710	9,1	44	Ag 140	
Ag40Ni	40	30	28			2			670-780	8,9		Ag 440	
Ag44	44	30	26						675-735	9,1	51	Ag 244	
Ag45Sn	45	27	25,5	2,5					640-680	9	43	Ag 145	
Ag49MnNi	49	16	23			4,5	7,5		680-705	8,9	55	Ag 449	
Ag49MnNi/1	49	27	21			0,5	2,5		670-690	8,9			
Ag50Ni	50	20	28	2					660-705	9,0	45	Ag 450	
Ag55Sn	55	21	22	2					630-660	9,4	44	Ag 155	Ag55Sn and Ag56Sn exhibit the lowest brazing temperatures.
Ag56Sn	56	22	17	5					620-655	9,4	48	Ag 156	
Ag56InNi	56	27				2,5		14,5	600-710	9,6			Suitable for brazing pieces that will be subject to TiN coating.
Ag64MnNiIn	64	26				2	2	6	730-780	9,6			
Ag72	72	28							780-780	10	35	Ag 272	Furnace brazing of diamond wire beads.
TRIMETALS													
Ag49MnNi/1 TR	49	27,5	20,5			0,5	2,5		670-690	9,0			Three layer trimetal strips with copper central core. Excellent for brazing hard metal and carbides, preventing post-braze cracking and absorb in-service impact loads.
Ag49MnNi/1 TR 161	49	27,5	20,5			0,5	2,5		670-690	9,0			
Ag49MnNi/1 TR 111	49	27,5	20,5			0,5	2,5		670-690	9,0			
Ag40Ni TR	40	30	28			2			670-780	8,9		Ag 440	
Ag38MnNi TR	38	26	24			4,5	7,5		650-690	8,9			

FLUXES

FLUX AG3	For high brazing temperatures.
FLUX AG35	For very high brazing temperatures.
FLUX AG4	General purpose.
FLUX AG7	General purpose. Also for Stainless Steel.
FLUX AG8	For Stainless Steeel and Hard Metal. Extended high temperature activity life. Brown paste. To be used with automatic distribution systems.
FLUX AG11	General purpose. Also for Stainless Steel. To be used with automatic distribution systems.
FLUX AG12	For Stainless Steeel and Hard Metal. Extended high temperature activity life. Brown paste. To be used with automatic distribution systems.

BRAZING ALLOYS WITHOUT SILVER

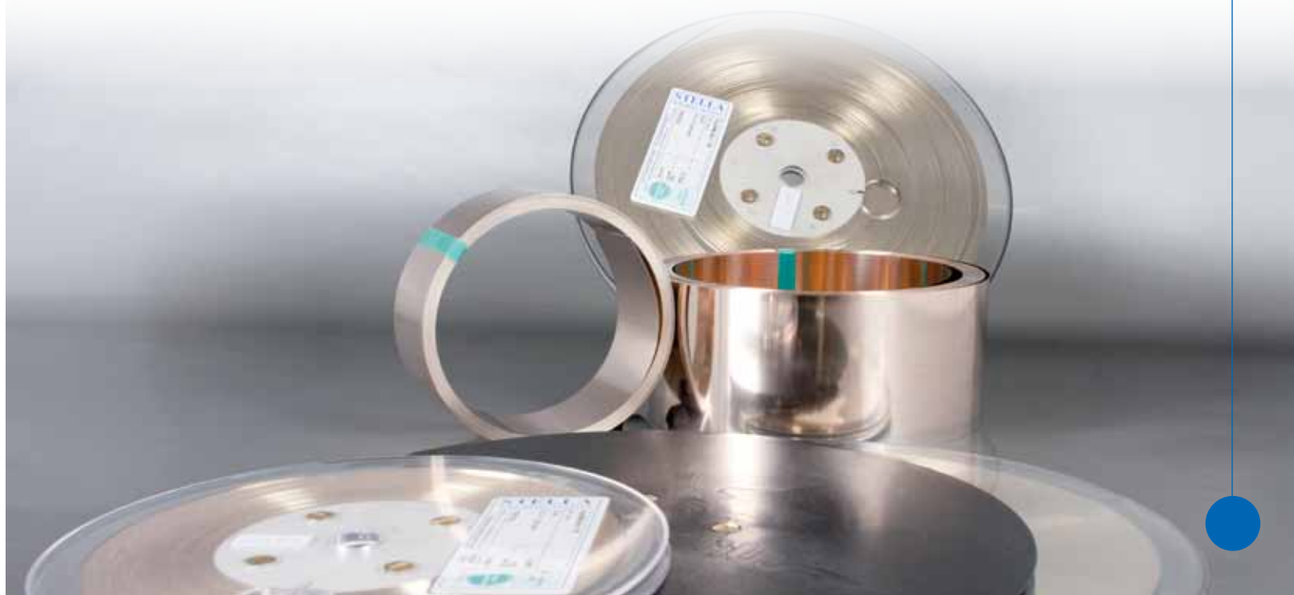
CODE	COMPOSITION %								MELTING RANGE SOL - LIQ	DENSITY	TENSILE STRENGTH	STANDARD	NOTES
	Cu	Zn	Ag	Ni	Mn	Sn	Si	Other	°C	g/cm³	kg/mm²	ISO 17672	
ALLOYS													
Cu60Zn	60	Bal					0,3		875-895	8,4	40	Cu 470a	Brass. High temperature brazing.
Cu59ZnSn	59	Bal				0,4	0,3		875-895	8,4	45	Cu 470	
Cu48ZnNi10	48	Bal		10			0,3		890-920	8,7	54	Cu 773	Brasses with nickel addition. High temperature brazing, improved brazed joint mechanical properties.
Cu48ZnNi9Ag	48	Bal	1	9			0,2		890-920	8,7	54		
Cu53ZnNi6	53	Bal		6			0,2		900-920	8,5	49		
Cu97Ni3B	97			3				B 0,03	1085-1100			Cu 186	Very high temperature brazing of steels, hard metal and carbides. Alloys especially suited to the brazing of rock-drilling tools.
Cu87MnCo3	87				10			Co 3	980-1030	8,7			
Cu86MnNi2	86			2	12				960-990	8,8			
Cu85MnNi3	85			3	12				960-990	8,8			
Cu67MnNi9	67			9	24				950-955	8,2			
Cu58ZnMnCo2	57,5	38,5			2			Co 2	880-930	8,2			
Cu55ZnMn4Ni6	55	Bal		6	4		0,3		880-920	8,9			
CuMn38Ni9,5	52,5			9,5	38				880-925	7,7			
OF-Cu	99,95								1085	8,9		Cu 102	Pure copper for protective atmosphere furnace brazing.
ETP-Cu	99,90								1085	8,9		Cu 110	

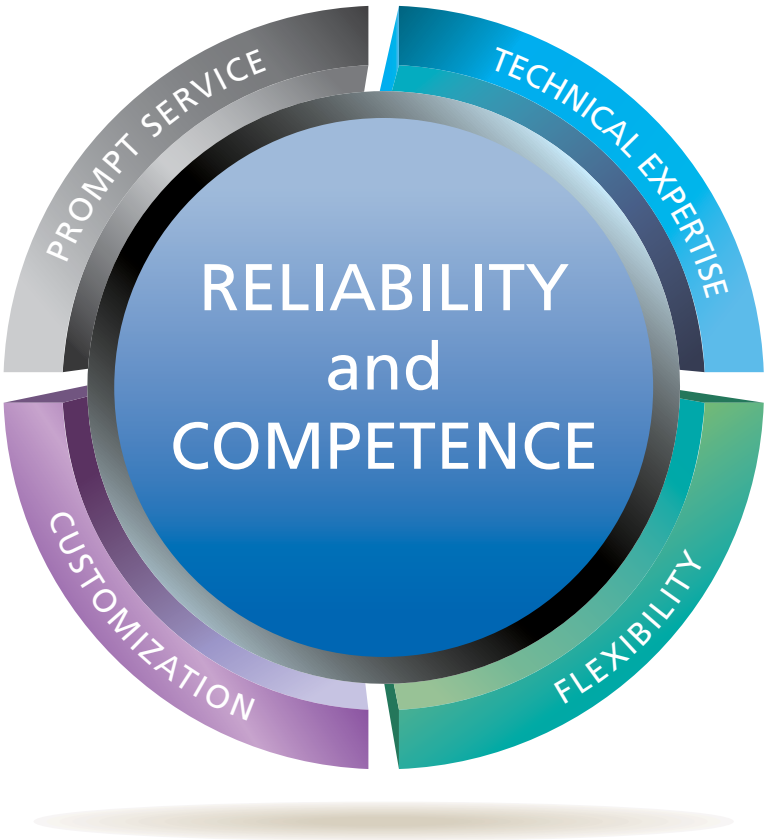
FLUXES

FLUX BR1	Brazing with brass filler metals.
FLUX BR7	For very high temperatures.

NICKEL ALLOYS FOR VACUUM BRAZING

CODE	COMPOSITION %					MELTING RANGE SOL - LIQ	STANDARD	NOTES
	Ni	Cr	Fe	B	C	°C	AWS A5.8	
ALLOYS								
Ni1	Bal	14	4,5	3,1	0,7	1021-1052	BNi-1	Nickel based alloys in powder and paste. Vacuum brazing of diamond and carbide grits on steel supports.
Ni1a	Bal	14	4,5	3,1		977-1077	BNi-1a	
Ni2	Bal	7	3	3		971-999	BNi-2	





Brazing alloys with Silver and without Silver

Rods • Wires

Strips • Trimetals • Preforms

Powder and pastes

Fluxes

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