



Brazing pastes
Solder pastes

ITALIAN MANUFACTURER

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Brazing Filler Metal Alloys

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Company Profile

LINBRAZE is a leading manufacturer of metal powders, granules and brazing pastes for brazing, soldering and braze-welding, specializing in the technologies of metal atomization and post atomization, in the development and production of innovative products, such as non-ferrous and precious metal powders of high quality needed for a wide range of industrial technology applications. *LINBRAZE* is strongly focused in the field of component manufacturing for automotive industry, powder metallurgy, metal injection molding, surface coatings, diamond tools, metallic fillers, tool-making, cold cast applications, architectural applications, sculptures, dusting, printing inks, screen-printing, coatings on paper or foil substrates, industrial paints, decorative paints, antifoul paint additives.



Through continuous investment in research and development and through an established network of relationships with the top international research centers, *LINBRAZE* has developed a technological and manufacturing leadership globally recognized: a record evidenced by the partnerships signed with leading global players in the automotive, military, heating, aeronautic, nuclear, etc.



LINBRAZE, immersed in the green of the Sicilian hills, takes seriously the management of the environment and the social responsibility by engaging conscientiously to develop renewable products, through innovation and sustainable improvement of production processes.



Vision

To listen, and meet the needs of our customers, driving them to the excellence as market leader, helping them sell better. Bringing every day in their company the security of a advanced product and the joy of receiving tailor-made solutions, simple and innovative, with the use of professional competencies certified and diversified by offering a constant support and a efficient service.



Technological innovation

Linbrazze employs a team of skilled technicians for the development of new products and technologies, and capable of provide a fair level of technical support at zero cost. The continuous investment in technological innovation, the thirty years of experience and a high degree of specialization of the company's technical resources are our strengths to create and maintain competitive standards of quality and of efficiency that make us unique in the market of pastes and of metal powders.

Top Quality

LINBRAZE continues to offer higher quality, a wider choice of products, the highest performance, added value services, technological superiority and an excellent relationship between supply and price. Within our manufacturing and before shipment to the customer, raw materials, semi-finished and finished products are tested through different levels of analysis and quality testing. Observing and complying with the requirements of the customer is the key part of *LINBRAZE* trade policy, helping to avoid potential increases in costs and the onset of inconvenience is our daily concern. The *LINBRAZE* production provides internal quality standards that far exceed international regulations ISO, AWS, EN.

Mission

Applying the innovative technology of metal powders and pastes to help our customers to solve global challenges. Our valuable proposition provides innovative and sustainable solutions, designed to help our customers improve productivity, to reduce costs and mitigate risks. *LINBRAZE* believes in the Italian industrial model (Made in Italy) that combines elements of superior quality and simple solutions, offering a thirty-year experience in the field of powder metallurgy and brazing. Our sense of belonging, courage and intellectual curiosity inspire our way of being and identify the people with whom we work. *LINBRAZE* continues to expand its international presence, engineering products and the expertise of the service, always binding its development to the satisfaction of its customers.



Brazing Filler Metal Alloys

Linbrazepastes are a series of brazing filler metals in carefully formulated contain finely atomized metal powder and vehicle systems designed for use in furnace brazing, acetylene torch, induction and resistance heating, etc. Linbrazeproduces over 2000 different products and every day continues to create new solutions by focusing on the distinctive features of the Linbrazeprodukt, offering higher quality, a highest performance, added value services, technological superiority and an excellent relationship between supply and price.

All pastes are designed to be automatically dispensed to control costs and improve the joint quality. Brazing pastes save time and money, improve quality and appearance, mean economy of inventory.



LINBRAZE Paste Filler Metals

LINBRAZE pastes are tailor made, produced and developed, on the customer requirements, each LINBRAZE paste is composed by the following basic components:

Atomized filler metal powder

A pure metal or alloy which selected by specific composition, melting range and compatibility with base metals to be joined, when arrive to the working temperature, liquifies to flow into the gap between two close-fitting parts, creating a brazed or soldered joint. LINBRAZE alloys are conform to all accepted industry standards.



Binder

A blending agent which, when added to metal powder keeps the filler metal in stable suspension, prevents metal oxidation and ensures the extended shelf life. LINBRAZE offers a controlled formulation that ensures consistent application and keeps paste alloy localized in the joint area. The pastes without flux are used for brazing under controlled atmosphere.

Flux-binder agent

Is a blending agent containing flux which, when added to the atomized powder, keeps the filler metal in stable suspension. This binder is designed to remove and prevent formation of surface oxides from the metal during heating. Type and amount are carefully matched to the individual application, ensuring consistent and dependable joints with minimal flux residue.



Cadmium-free silver alloys

LIN-Alloy	Composition in %						Melting Range °C	Standard		
	Ag	Cu	Zn	Sn	Si	Ni		ISO 17672	EN 1044	AWS A5.8
TO 125	25	40	33	2			680 - 760	Ag 125	AG 108	BAG-37
TO 130	30	36	32	2			665 - 755	Ag 130	AG 107	
TO 140	40	30	28	2			650 - 710	Ag 140	AG 105	BAG-28
TO 145	45	27	25,5	2,5			640 - 680	Ag 145	AG 104	BAG-36
TO 155	55	21	23	2			630 - 660	Ag 155	AG 103	
TO 156	56	22	17	5			620 - 655	Ag 156	AG 102	BAG-7
TO 160	60	30		10			600 - 730	Ag 160	AG 402	BAG-18
TO 205	5	55	39,8		0,2		820 - 870	Ag 205	AG 208	
TO 212	12	48	39,8		0,2		800 - 830	Ag 212	AG 207	
TO 263	63	24	13				690 - 730			
TO 272	72	28					780	Ag 272	AG 401	BAG-8

Characteristics / Applications:

LINBRAZE cadmium-free silver brazing filler pastes mentioned are classified and based in relation to the primary metal of which they are composed. The cadmium-free silver pastes, famous for their free-flowing, ductile nature and relative low melting range, are commonly used for brazing ferrous and non-ferrous metals, except aluminum, titanium and magnesium. All our silver-bearing pastes are cadmium-free and are compatible with all the conventional methods of heating. To use pastes help to save time and money, avoiding the need of solid brazing materials and reducing the inventory costs associated with maintaining a stock of preform sizes and shapes. All pastes can be dispensed by automated devices which deliver a precise quantity of filler material or by manual dispensing devices.

Heat sources: acetylene torch, induction and resistance heating

Silver brazing alloys for tungsten carbide

LIN-Alloy	Composition in %						Melting Range °C	Standard		
	Ag	Cu	Zn	Ni	Mn	Sn		ISO 17672	EN 1044	AWS A5.8
TO 440	40	30	28	2			670 - 780	Ag 440		BAG-4
TO 449	49	16	23	4,5	7,5		680 - 705	Ag 449	AG 502	BAG-22
TO 450	50	20	28	2			650 - 710	Ag 450		BAG-24
TO 454	54	40	5	1			720 - 855	Ag 454		BAG-13
TO 456	56	42		2			630 - 660	Ag 456		BAG-13a
TO 463	63	28,5		2,5		6	690 - 800	Ag 463		BAG-21
TO 485	85				15		960 - 970	Ag 485	AG 501	BAG-23

Characteristics / Applications:

LINBRAZE silver brazing filler pastes mentioned are classified and based in relation to the primary metal of which they are composed. The cadmium-free silver pastes, famous for their free-flowing, ductile nature and relative low melting range, are commonly used for brazing ferrous and non-ferrous metals, except aluminum, titanium and magnesium. All our silver-bearing pastes are cadmium-free and are compatible with all the conventional methods of heating. To use pastes help to save time and money, avoiding the need of solid brazing materials and reducing the inventory costs associated with maintaining a stock of preform sizes and shapes. All pastes can be dispensed by automated devices which deliver a precise quantity of filler material or by manual dispensing devices.

Heat sources: acetylene torch, induction and resistance heating

Copper brazing alloys

LIN-Alloy	Composition in %						Melting Range °C	Standard		
	Cu	Sn	Ag	Ni	Mn	Co		ISO 17672	EN 1044	AWS A5.8
ME 87	87						1085	Cu 087		BCu-2
ME 99	99						1085	Cu 099	CU 103	BCu-1a
ME 102	99,95						1085	Cu 102	CU 102	BCu-3
ME 110	99,90						1085	Cu 110	CU 101	BCu-1b
ME 188	99		1				1070 - 1080	Cu 188	CU 104	BCu-1
ME 186	97			3			1085 - 1100	Cu 186	CU 105	
ZO 922	94	6					910 - 1040	Cu 922	CU 201	
ZO 925	88	12					825 - 990	Cu 925	CU 202	
ME 8703	87			3	10		965 - 995			
ME 8604	86				10	4	980 - 1030			
ME 6022	60			20	20		990 - 1040			

Characteristics / Applications:

LINBRAZE copper brazing pastes are used for joining low carbon steel and stainless steel components. LINBRAZE brazing pastes offer the fastest and most economical process to furnace brazing for automotive and industrial components. All pastes can be dispensed by automated devices which deliver a precise quantity of filler material or by manual dispensing devices. Copper pastes save time and money avoiding the need of solid brazing material and reducing the inventory costs associated with maintaining a stock of preform sizes and shapes. The above list is a standard range of our regular production, for any special request please do not hesitate to contact us directly or through our consultants.

Heat sources: inert-gas continuous furnace H₂/N₂, cracked ammonia, exogas, vacuum furnace

Brass brazing alloys

LIN-Alloy	Composition in %						Melting Range °C	Standard		
	Cu	Zn	Sn	Si	Mn	Ni		ISO 17672	EN 1044	AWS A5.8
NE 470	59	39,7	0,3				875 - 895	Cu 470	CU 302	RBCuZn-A
NE 4701	59	39,65		0,35			875 - 895	Cu 470a	CU 301	
NE 471	58	41,1	0,5	0,2	0,2		870 - 900	Cu 471	CU 304	RBCuZn-C
NE 670	60	39,3	0,2	0,3	0,2		870 - 900	Cu 670	CU 303	
NE 680	58	40	1	0,2	0,3	0,5	870 - 890	Cu 680	CU 306	
NE 773	48	41,8		0,2		10	890 - 920	Cu 773	CU 305	



Nickel brazing alloys

LIN-Alloy	Composition in %							Melting Range °C	Standard		
	Ni	Cr	Si	B	Fe	C	P		ISO 17672	EN 1044	AWS A5.8
EL 600	Rem.	14	4,5	3,1	4,5	0,75	0,02	980 - 1060	Ni 600	NI 101	BNi-1
EL 610	Rem.	14	4,5	3,1	4,5	0,06	0,02	980 - 1070	Ni 610	NI 1A1	BNi-1a
EL 612	Rem.	15		3,6	1,5	0,06	0,02	1055	Ni 612	NI 109	BNi-9
EL 620	Rem.	7	4,5	3,12	3	0,06	0,02	970 - 1000	Ni 620	NI 102	BNi-2
EL 630	Rem.		4,5	3,12	0,5	0,06	0,02	980 - 1040	Ni 630	NI 103	BNi-3
EL 631	Rem.		3,5	1,85	1,5	0,06	0,02	980 - 1070	Ni 631	NI 104	BNi-4
EL 650	Rem.	19	10,12	0,03		0,06	0,02	1080 - 1135	Ni 650	NI 105	BNi-5
EL 700	Rem.						11	875	Ni 700	NI 106	BNi-6
EL 710	Rem.	14	0,1	0,02	0,2	0,06	10,1	890	Ni 710	NI 107	BNi-7
EL 720	Rem.	25	0,1	0,02	0,2	0,06	10	880 - 950	Ni 720	NI 112	BNi-12

Characteristics / Applications:

LINBRAZE nickel brazing pastes are a mixture of the brazing filler metal powders about 90% and different special grade of organic binders, water or solvent-based. Binders are chosen to decompose cleanly, well below brazing temperatures, leaving no residue and is removed in the furnace during brazing process. Nickel brazing pastes are designed for easy applications, long shelf life and have superior adhesion qualities. The formulation is tailor-made, according to furnace working conditions and the application method. All pastes can be dispensed by automated devices which deliver a precise quantity of filler material or by manual dispensing devices. The above list is a standard range of our regular production, for any special request please do not hesitate to contact us directly or through our consultants.

Heat sources: inert-gas continuous furnace H₂/N₂, exogas, vacuum furnace



Copper Phosphorus brazing alloys

LIN-Alloy	Composition in %						Melting Range °C	Standard		
	Cu	P	Ag	Ni	Sn	Si		ISO 17672	EN 1044	AWS A5.8
RO 180	93	7					710 - 820	CuP 180	CP 202	
RO 279	91,7	6,3	2				645 - 825	CuP 279	CP 105	
RO 281	89	6	5				645 - 815	CuP 281	CP 104	BCuP-3
RO 283	86,7	7,3	6				643 - 813	CuP 283		BCuP-4
RO 284	80	5	15				645 - 800	CuP 284	CP 102	BCuP-5
RO 286	75	7	18				645	CuP 286	CP 101	
RO 385	86,2	7			6,5	0,3	635 - 675	CuP 385		BCuP-9
RO 386	86,2	6,8			7		650 - 700	CuP 386	CP 302	

Characteristics / Applications:

LINBRAZE copper phosphorous brazing paste are suitable for the fluxless brazing of copper and the brazing of copper alloys with flux. Pastes for furnace brazing are formulated from alloy powders and specialty grade organic binders. Binders are chosen to decompose cleanly, well below brazing / working temperatures, leaving no residue. Several different environmentally friendly binder formulations are available. All pastes can be dispensed by automated devices which deliver a precise quantity of filler material or by manual dispensing devices. Copper phosphorus pastes save time and money avoiding the need of solid brazing material and reducing the inventory costs associated with maintaining a stock of preform sizes and shapes. The above list is a standard range of our regular production, for any special request please do not hesitate to contact us directly or through our consultants.

Heat sources: Inert-gas continuous furnace H₂/N₂, cracked ammonia, exogas, vacuum furnace, acetylene torch, induction and resistance heating



Soldering alloys

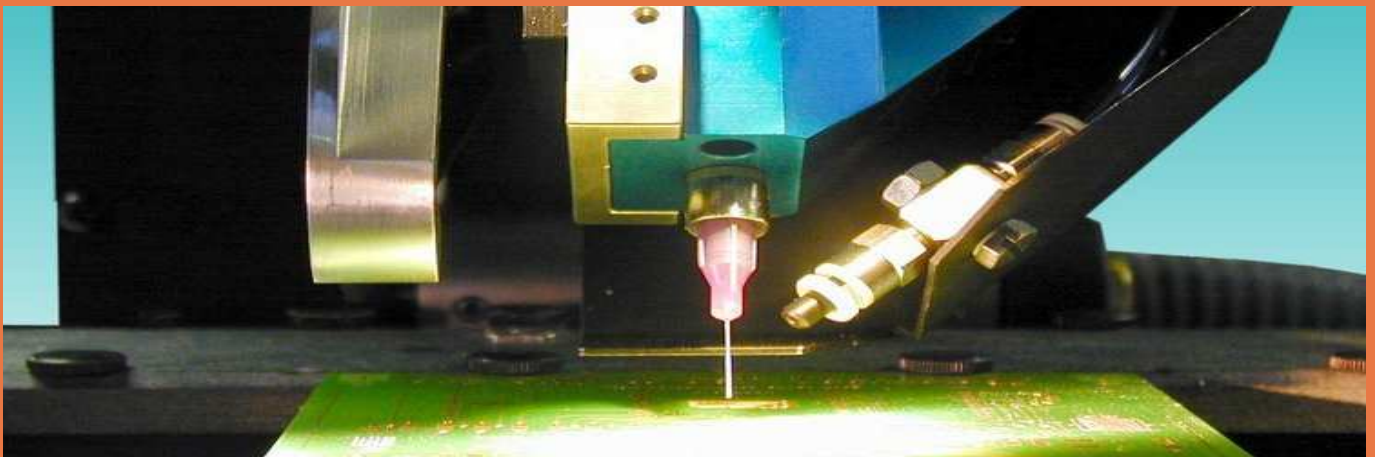
LIN-Alloy	Composition in %				Melting Range °C	Standard	
	Sn	Pb	Ag	Cu		ISO 9453:2006	ISO 3677
NO 101	63	37			183	101	S-Sn63Pb37
NO 103	60	40			183 - 190	103	S-Sn60Pb40
BO 111	50	50			183 - 215	111	S-Pb50Sn50
BO 113	45	55			183 - 226	113	S-Pb55Sn45
BO 114	40	60			183 - 238	114	S-Pb60Sn40
BO 115	35	65			183 - 245	115	S-Pb65Sn35
NO 402	97			3	227 - 310	402	S-Sn97Cu3
NO 501	98		1	1	217 - 227	501	S-Sn98Cu1Ag
NO 502	95		1	4	217 - 353	502	S-Sn95Cu4Ag1
NO 503	92		2	6	217 - 380	503	S-Sn92Cu6Ag2
NO 701	96		4		221 - 228	701	S-Sn96Ag4
NO 702	97		3		221 - 224	702	S-Sn97Ag3
NO 703	96,5		3,5		221	703	S-Sn96Ag4
NO 704	95		5		221 - 240	704	S-Sn95Ag5
NO 711	96		3	1	217 - 220	711	S-Sn96Ag3Cu1

Characteristics / Applications:

Soft-solder pastes alloys for HVAC, plumbing and electronic applications. Every solder meets the highest standards for consistent performance and purity. The electronics-grade solder powder are produced through noble gas atomization while maintaining low oxides perfectly sized and spherical shape. The binders are chosen to decompose cleanly, well below soldering temperatures, leaving no residue. Several different environmentally friendly binder formulations are available. All pastes can be dispensed by automated devices which deliver a precise quantity of filler material or by manual dispensing devices. The above list is a standard range of our regular production, for any special request please do not hesitate to contact us directly or through our consultants.

Heat sources:

Hot-air, torch, induction, resistance heating and laser



Customer's Care & Satisfaction

LINBRAZE 's objective is to help the customers around the world to discover new ways to save on overall costs, improving the quality of their brazing processes thus improving the quality of their parts produced using our materials.

LINBRAZE supports the customers through the study of their latent or emerging needs, the creation and the development of products/services capable to meet their requests.

LINBRAZE is concentrated on offering transparent, effective and understandable communication to the customers. Understanding what is important to our customers gives us the opportunity to bring to them the solutions most suited to their needs.

Our objective is to propose the superior quality of *LINBRAZE* in terms of product, service, technical assistance and technology, presenting a business proposal with the right solutions in terms of optimization of the costs incurred by the customer.

Our customer service speaks English, Italian and German.



Guidance to the Solution

LINBRAZE provides its customers with simple and innovative solutions tested in our labs before being proposed to them.

Our consultative approach is focused to resolve problematic issues and improve production processes of our customers.

For more information about our solutions, for your industry, please contact us at the Headquarters in the Division Brazing & Metal Powders Division:

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Timely Delivery Service

LINBRAZE offers its customers a timely delivery service. By having centralized our manufacturing and our warehouse in our headquarters in Italy, we have the ability to manage with flexibility and immediacy the urgent requirements. Efficient services of logistics and transport with immediate availability in stock, make *LINBRAZE* a partner flexible, secure and reliable.



Worldwide Distribution

LINBRAZE is present in several countries in the world with agencies, direct and indirect. Contact us for more information about the point of sale nearest you.





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