CARPENTER
Powder Products

High-Temperature Braze Applications

Brazing is often used when a metallurgical bond is required, but where welding temperatures may cause distortion of the parts or a change in the alloy's morphology. The temperatures used in brazing melt the filler powder and draw it into the base alloys to be joined via capillary action. A wide variety of brazing applications exist in aircraft engines, land-based turbines, chemical equipment, medical devices, and food handling components, among others. CPP provides clean, spherical, gas atomized powders in a wide range of standard alloys for use in these markets. The powders are provided with very consistent chemistries and particle sizes to provide uniform products and production flow rates. Many of the more common alloys used are listed in this sheet. Should another alloy be required, the Research & Development staff has extensive experience and facilities to provide what is required for your application.

Ready to Meet Your Needs

A pioneer in the development and production of metal powders, CPP offers a tremendous variety of alloys covering nearly every application. Great pride is taken in our ability to control the alloy's chemistry and particle size to meet stringent customer requirements. Superb consistency is provided within and between production lots.

Standard Packaging

PE Bottles	5 kg	10 lbs
PE Pails	25 kg	50 lbs

Other packages available upon request.

Being the only major powder metals manufacturer with production facilities in both North America and Europe enables CPP to supply customers in a timely and cost-effective manner. Currently in place are one 450 kg and two 1000 kg furnaces in Bridgeville, PA, USA, a 1200 kg furnace in Woonsocket, RI, USA, and twin 5500 kg furnaces in Torshalla, Sweden. This is one of the largest capacities for gas atomized powder available from any manufacturer. Extensive research and development capabilities are available for developing new alloys to meet our customers' needs including a 150 kg furnace in Reading, PA, USA. Facilities include cover gas, vacuum, and air induction melt furnaces which are capable of using a variety of gasses for atomization, depending upon the alloy being produced. Certifications include ISO 9001, AS 9100, and NADCAP.

Producing metal powders for over 40 years, CPP has hundreds of years of combined experience and is committed to continuous manufacturing improvement. Strategic relationships are often initiated with customers to develop and supply new powder metal alloys in the exact specification which best suits the requirements of their application.

High-Temperature Braze Powders

Micro-Melt®	Alloy	Chemical Composition (Typical Values in wt.%)										AWS	X-Ref	EN 1044
		Ni	Co	Cr	Si	B	Fe	C	Mo	Al	Others			
A4775	AMS 4775	Bal	—	14	4.5	3	4.5	0.75	—	—	—	BNi-1	125	NI 101
A4776	AMS 4776	Bal	—	14	4.5	3	3	—	—	—	—	BNi-1a	L.C.	NI 1A1
A4777	AMS 4777	Bal	—	7	4.2	3	3	—	—	—	—	BNi-2	L.M.	NI 102
A4778	AMS 4778	Bal	—	—	4.5	3	—	—	—	—	—	BNi-3	130	NI 103
A4779	AMS 4779	Bal	—	—	3.5	2	—	—	—	—	—	BNi-4	135	NI 104
A4782	AMS 4782	Bal	—	19	10	—	—	—	—	—	—	BNi-5	30	NI 105
A4783	AMS 4783	17	Bal	19	8	0.8	—	0.4	—	—	**W:** 4	BCo-1	210	Co 101
G173	D-15	Bal	10	15	—	2.3	—	—	—	3.5	**Ta:** 3.5	—	—	—
G99	B50TF99	Bal	—	19.5	10	—	—	—	—	—	**Mn:** 9.5	—	35	—
G142	B50TF142	Bal	—	17	9	0.1	—	—	—	—	—	—	3003	—
BRB	BRB	Bal	9	14	—	2.5	—	—	—	4	—	—	—	—
A914	A914	Bal	20	—	4.3	3	—	—	—	—	—	—	—	—
G207	BNi-9	Bal	—	15	—	3.5	—	—	—	—	—	BNi-9	150	—
B-20	B-20	Bal	—	—	2.5	1.4	—	—	—	—	—	—	#25	—
B-27	B-27	Bal	—	—	3.5	1.3	—	0.05	—	—	—	—	—	—
B-33	B-33	Bal	—	4.5	3.3	1.5	1.5	0.2	—	—	—	—	—	—
B-40	B-40	Bal	—	9	3.1	1.7	2.9	0.3	—	—	—	—	#42	—
B-50	B-50	Bal	—	12.5	3.8	2.5	4.3	0.6	—	—	—	—	#52	—
B-56	B-56	Bal	—	13	3.7	3	4	0.7	—	—	—	—	#56	—
B-60	B-60	Bal	—	14.5	4.3	3.2	4.3	0.8	—	—	—	—	#62	—
B-60C	B-60C	Bal	—	15	4.3	3.4	4.2	0.7	2.5	—	**Cu:** 2.5	—	#69	—
CuNiSnP	—	4.2	—	—	—	—	—	—	—	—	**Cu:** Bal, **Sn:** 15.5, **P:** 5.3	—	—	—

Please contact us with your requests for alloys not listed. We have many more alloys available that space limitations prevent us from listing.

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