

BRAZING ALLOYS TECHNICAL DATA

Destination	SPEC.* AWS A5.8 AMS	NORMAL COMPOSITION				MELTING POINT DEGREES F/C			BRAZING RANGE DEGREES F/C
						Solidus		Liquidus	
VERSAIloy® 75	Bni-1 AMS 4775	Cr	14.0	Fe	4.5	1790	°F	1900	1950 - 2200 1066-1204
		B	3.0	C	0.70	977	°C	1038	
		Si	4.5	Ni	BAL				
VERSAIloy® 76	Bni-1a AMS 4776	Cr	14.0	Fe	4.50	1790	°F	1970	1970-2200 1077-1204
		B	3.0	C	0.06 max	977	°C	1077	
		Si	4.5	Ni	BAL				
VERSAIloy® 77	Bni-2 AMS 4777	Cr	7.0	Fe	3.0	1780	°F	1830	1850-2150 1010-1177
		B	3.1	C	0.06 max	971	°C	999	
		Si	4.5	Ni	BAL				
VERSAIloy® 78	Bni-3 AMS 4778	B	3.1	Fe	0.50 max	1800	°F	1900	1850-2150 1010-1177
		Si	4.5	Ni	BAL	982	°C	1038	
		C	0.06 max						
VERSAIloy® 79	Bni-4 AMS 4779	B	1.9	C	0.06 max	1800	°F	1950	1850-2150 1010-1177
		Si	3.5	Ni	BAL	982	°C	1066	
		Fe	1.5 max						
VERSAIloy® 82	Bni-5 AMS 4782	Cr	19.0	C	0.10 max	1975	°F	2075	2100-2200 1149-1204
		Si	10.1	Ni	BAL	1079	°C	1135	
		B	0.03 max						
VERSAIloy® 83	BCo-1 AMS 4783	Cr	19.0	Fe	1.0 max	2050	°F	2100	2100-2250 1149-1232
		Ni	17.0	B	0.80	1121	°C	1149	
		Si	8.0	C	0.40				
		W	4.0	Co	BAL				
VERSAIloy® 1610	BNi-6	P	11.0			1610	°F	1610	1700-2000 927-1093
		C	0.10 max			877	°C	877	
		Ni	REM						
VERSAIloy® 1630	BNi-7	Cr	14.0	Fe	0.20 max	1630	°F	1630	1700-2000 927-1093
		P	10.1	C	0.08 max	888	°C	888	
		B	0.01 max	Ni	BAL				
		Si	0.10 max						

* Also meet many aerospace industry specifications, such as Pratt and Whitney, Garrett, Textron Lycoming, GE & others.

BRAZING TECHNIQUES With proper flux, any brazing method can be used to braze assemblies with VERSAIloy® nickel and cobalt brazing alloys.

Oxyacetylene Torch Use slightly carburizing (2-3x) flame. Preheat base metal to a "sweat." Feed braze material into flame and base metal simultaneously. Material will flow freely by capillary action and fill braze joint.

Furnace Highest quality brazes are obtained in furnace brazing. Vacuum. Below 5 x 10⁻³ TORR to 1 x 10⁻⁴ TORR
Pure Dry Hydrogen: -60° F Dew Point or below Pure Dry Argon: -80° F Dew Point or below