

RANKIN



VERSAAlloy® Nickel Brazing Alloys



VERSAAlloy® Ultra-High Purity

Unique clean powder metallurgy process produces nickel alloys in a variety of forms for optimum brazing.

- 6", 12", and 18" rods in diameters as small as 1/32"
- Special configurations
- Custom rings and shapes upon request
- No flux needed

VERSAAlloy® Advantages

- Engineered to provide exact amount and shape of brazing material for preforms
- Efficient alternative to pastes, tapes, and foils for rings
- No binder contamination in rods and preforms
- Repeatable and predictable

Rankin Protective Metal Alloys (PMA) brazing preforms offer 100% repeatability eliminating rework costs. For multiple and repetitive brazing process, PMA's brazing preforms yield consistent cost-effective quality. Preforms have an indefinite shelf life. They are faster and easier to work with and cleaner (no binders or fillers) than pastes or tapes. PMA's unique manufacturing process utilizing Super Solidus Liquid Phase Sintering permits fabrication of customized shapes and forms to meet customer's requirements. Brazing preforms are of a homogenous alloy, and provide the exact amount of brazing alloys for optimum quality control.

For more information call **800.845.7259**,
visit **broco-rankin.com**, and email us at
sales@rankin.com



Brazing Alloys Technical Data

Alloy	SPEC.* AWS A5.8	Nominal Composition				Melting Temp °F		Brazing Range °F	Form
						Solidus	Liquidus		
	AMS								
VERSAlloy 75	BNI-1 AMS 4775	Cr	14.0	Fe	4.50	1790	1970	1950-2200	Powder, Rods, Preforms
		B	3.10	C	0.75				
		Si	4.50	Ni	Balance				
VERSAlloy 76	BNI-1a AMS 4776	Cr	14.00	Fe	4.50	1780	1970	1950-2200	Powder, Rods, Preforms
		B	3.10	C	0.75				
		Si	4.50	Ni	Balance				
VERSAlloy 77	BNI-2 AMS 4777	Cr	7.00	Fe	3.00	1780	1830	1850-2150	Powder, Rods, Preforms
		B	3.10	C	0.06 max				
		Si	4.50	Ni	Balance				
VERSAlloy 78	BNI-3 AMS 4778	B	3.10	Fe	0.50 max	1800	1900	1850-2150	Powder, Rods, Preforms
		Si	4.50	Ni	Balance				
		C	0.06 max	-	-				
VERSAlloy 79	BNI-4 AMS 4779	B	1.80	Fe	1.5 max	1800	1950	1850-2150	Powder, Rods, Preforms
		Si	3.50	Ni	Balance				
		C	0.06 max	-	-				
VERSAlloy 82	BNI-5 AMS 4782	Cr	19.00	C	0.10 max	1975	2075	2100-2200	Powder, Rods, Preforms
		Si	10.00	Ni	Balance				
		B	0.03 max	-	-				
VERSAlloy 83	BCo-1 AMS 4783	Cr	19.00	Fe	1.0 max	2050	2100	2100-2250	Powder, Rods, Preforms
		Ni	17.00	B	.80				
		Si	8.00	C	0.40				
		W	4.00	Co	Balance				
VERSAlloy 1610	BNI-6	P	11.00			1610	1610	1700-2000	Powder
		C	0.06 max						
		Ni	Balance						
VERSAlloy 1630	BNI-7	Cr	14.00	Fe	0.20 max	1630	1630	1800-2000	Powder
		P	10.00	C	0.06 max				
		B	0.01 max	Ni	Balance				
		Si	0.10 max						

Rankin PMA VERSAlloy brazing rods are available in 1/32 x 12", 3/64" x 18", 3/64 x 6", 1/16" x 18", 3/32" x 18", 1/8" x 18", and 5/32" x 18".

Powder is available in -325 mesh or -140+325 mesh range. Preforms are designed and made to order based on customer provided specifications.

Custom alloys and formulations available upon request.

Rankin PMA VERSAlloy Brazing Alloy Application Process Procedures

For Oxyacetylene Welding (OAW): Thoroughly clean area to be overlaid from all surface contamination and oxidation then preheat the base metal. Use a neutral flame to preheat the base metal to a 'sweat'. Do not melt the base metal. Introduce the VERSAlloy rod tip into the flame. Brazing alloy will flow freely. Manipulate to cover desired area. Nickel alloys produced by the PMA process are free of oxide and are self-fluxing as applied on conventional base metals.

Call Rankin Protective Metal Alloys at 800.845.7259 with questions and for special order information.



Versatile Alloys... Optimum Solutions

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