

POLYMET INDUSTRIAL HARDFACING WIRE

Polymet Alloy	Description	Weld Deposit Nominal Composition (wt%)											Rockwell Hardness	Available Forms & Diameters			Welding Process	Application
		Ni	Co	Fe	Cr	W	Mo	Si	Mn	V	C	Other		Coated	Cored	Solid		
IRON BASED - BUILD UPS																		
Poly◇Build	Low Alloy Steel Build Up Materials			Bal	1.0		0.3	0.5	2.0		0.2		HRC 29		.045", 1/16"		GMAW / Open Arc	Build up of low alloy steels before HF
Poly◇Build S	Medium Alloy Steel Build Up Materials			Bal	2.0		0.5	0.4	1.5		0.2		HRC 35-40		.045", 1/16"		GMAW / Open Arc	Build up and hardface low alloy steels
IRON BASED - TOOL STEEL - METAL TO METAL																		
Poly◇Tool 25	High Alloy Steel Build Up	2.0		Bal	1.0		0.8	0.5	1.5		0.08		HRC 23-28		1/16", 3/32", 1/8"		FCAW / SAW	Sowblocks, Bolsters, Shafts, Rams
Poly◇Tool M-7	M7 Tool Steel			Bal	3.8	2.0	9.0	1.0	0.4	2.0	1.0		HRC 58-66		.045", 1/16"		GMAW	Tire shredders, Hot& Cold Dies,
Poly◇Tool 102	Air Hardening Similar H-12 Tool Steel			Bal	8.0	1.1	1.2	1.0	1.9	0.2	0.4		HRC 52-56		.045", 1/16"	.024" / .035"	GMAW / Open Arc	Dragline pins, Bell seats, Hot & Cold Shear Blades, Cable sheaves
Poly◇Tool 113	H13 Tool Steel			Bal	5.0		1.5	0.8	0.8	1.0	0.4		HRC 52-55		1/8"	.024", .035", .045"	GTAW / GMAW / SAW	Forging Dies, Shear Blades, Forming Rolls
Poly◇Tool 135	CrNiMo Tool Steel Build Up	2.2		Bal	1.5		1.0	0.5	1.5		0.12		HRC 35-40		1/16", 3/32", 1/8"		GMAW	Die impressions, Rams, Rolls & Bolsters
Poly◇Tool 149	CrNiMo Tool Steel Build Up	1.5		Bal	10.0		2.8	0.8	0.7		0.15		HRC 45-49		1/16"		GMAW	Die impressions, Cavities, Flash Lines
Poly◇Tool 154	CrNiMoV Tool Steel Build Up	1.7		Bal	5.0	2.0	1.5	0.3	0.4	0.4	0.12		HRC 40-44		3/32", 1/8"		FCAW	Die impressions, Cavities, Flash Lines
Poly◇Tool 164	CrNiMoV Tool Steel Build Up	1.0		Bal	11.0	1.0	1.0	1.0	1.0	0.5	0.25		HRC 50-52		3/32"		FCAW	Forging Dies for Non-Ferrous Alloys
IRON BASED - SUBMERGED ARC - METAL TO METAL																		
Poly◇Clad 102	Air Hardening Similar to H-12 Tool Steel			Bal	8.0	1.1	1.2	1.0	1.9	0.2	0.4		HRC 52-56		1/8"		SAW	Dragline pins, Bell seats, Hot & Cold Shear Blades, Cable sheaves
Poly◇Clad 105B	Air Hardening Tool Steel			Bal	2.3		0.4	1.1	2.1	0.12	0.16		HRC 43		1/8"		SAW	Idlers, Rollers, Mine Car Wheels, (4 layer max)
IRON BASED - CHROMIUM & COMPLEX CARBIDE HARDFACING ALLOYS - METAL TO EARTH ABRASION																		
Poly◇Chrome 265	High-Impact General Purpose			Bal	6.0		0.5	1.4	1.7		0.6		HRC 56-60		.045", 1/16"		GMAW / OPEN ARC	General purpose hardfacing, high impact abrasion
Poly◇Chrome 265G	High-Impact General Purpose			Bal	6.0		0.5	1.4	1.7		0.6		HRC 56-60		1/16"		GMAW	General purpose hardfacing used for metered carbide application
Poly◇Chrome 117	High-Impact / Medium Abrasion			Bal	10.0		1.5	1.0	1.5		2.3	CU 0.4	HRC 43-60		7/64"		OPEN ARC	Cone Crushers, Roll Crushers, Gyrotory Crushers, Pump Shells
Poly◇Chrome 121	Moderate-Impact / Medium Abrasion			Bal	15.0			1.5	1.5		3.0		HRC 40-51		.045", 1/16"		GMAW / OPEN ARC	Moderate impact abrasion, Hammers & other engaging tools
Poly◇Chrome 100	Medium-Low Impact / Moderate-High Abrasion			Bal	23.0			1.0	2.0		5.0		HRC 59-60		.045", 1/16"		GMAW / OPEN ARC	Bucket parts, Tillage Tools, Fan Blades, Auger Flights
Poly◇Chrome 100C	High-Abrasion / Medium-Low Impact			Bal	25.0		1.0	1.5	1.5		4.3		HRC 58-62		7/64"		OPEN ARC	Pulverizer Rolls, Cement Plant, Power Generation, Crusher Rolls
Poly◇Chrome 100D	High Abrasion / Lower Impact			Bal	29.0			0.8	1.7		5.0		HRC 55-62		7/64", 1/8"		OPEN ARC	Pulverizer Ring & Rolls, Power Generation, Industrial Standard
Poly◇Chrome 3000C	High Abrasion / Moderate Impact			Bal	25.0		1.0	1.5	1.5		4.3	B 0.5	HRC 58-64		.045", 1/16", 7/64"		OPEN ARC	Pulverizer Rings & Rolls, ID Pipe & Elbows
Poly◇Chrome 101XC	Higher Abrasion / Low Impact			Bal	27.0			0.8	2.5		7.0		HRC 55-62		7/64", 1/8"		OPEN ARC	Hardface Plate, ID Pipe & Elbows
Poly◇Chrome 101XCB	Higher Abrasion / Low Impact			Bal	26.0			0.8	2.5		6.5	B 0.5	HRC 59-60		1/8"		OPEN ARC	Single Layer Hardfaced Plate, ID Pipe & Elbows
Poly◇Chrome 20CC	Complex Carbide / High Abrasion			Bal	21.0	4.0	6.0	0.6	1.2		5.0		HRC 60-65		1/16", 7/64"		OPEN ARC	Hot Wear, Ash Fans, Sintering Plant Parts, Shredder Wear Parts
Poly◇Chrome 243	Complex Carbide / High Abrasion			Bal	21.0			0.4	0.4		5.3	Nb 7.5	HRC 58-60		1/6", 7/64"		OPEN ARC	Hardface Plate, ID Pipe & Elbows, Screw Conveyors,
Poly◇Chrome 245	Complex Carbide / High Abrasion			Bal	21.0	1.8	6.0			0.8	5.7	Nb 5.5	HRC59-61		.045", 1/16", 7/64"		OPEN ARC	Hot Wear, Ash Fans, Sintering Plant Parts, Shredder Wear Parts
IRON BASED - VANADIUM - TITANIUM & TUNGSTEN CARBIDES HARDFACING ALLOYS - METAL TO EARTH EXTREME ABRASION																		
Poly◇Tic-O	Titanium Carbide / High Abrasion High-Load Impact			Bal	8.0		1.5	0.8	1.5		2.0	Ti 5.5	HRC 50		1/16", 7/64", 1/8"		OPEN ARC	High Pressure Cement Rolls, Hammers, High Impact Abrasion
Poly◇Van-O	Vanadium Carbide / High Abrasion Mod Impact	0.4		Bal		6.0	0.4	1.4	0.8	16.0	3.9		HRC 50-55		1/16"		OPEN ARC	Tub Grinders, Buckets & Bucket Teeth,
Poly◇Tung-O	Iron Matrix WC / Extreme Abrasion			Bal		38-60							HRC 50-60		1/16", 7/64"		OPEN ARC	Farm Implements, Augers Flights, Pug Mill Knives
NICKEL BASED HARDFACING - ABRASION / CORROSION / HIGH TEMPERATURE																		
Poly◇Ni-Wear 50	NiCrBSi / High Abrasion/Temperature/Corrosion	Bal		3.5	13.0			3.7			0.60	B 2.5	HRC 45-56		1/16"	1/8", 5/32"	OAW / GTAW / GMAW	Wear & Corrosion
Poly◇Ni-Wear 60	NiCrBSi / High Abrasion/Temperature/Corrosion	Bal		4.5	14.0			4.0			0.70	B 3.0	HRC 55-60		1/16"	1/8", 5/32"	OAW / GTAW / GMAW	Wear & Corrosion, Draw Blocks, Impeller Screws, Slurry Pipe
NICKEL BORON MATRIX - TUNGSTEN CARBIDE HARDFACING ALLOY - METAL TO EARTH EXTREME ABRASION																		
Poly◇Tung NiBWC	NiB Tungsten Carbide / Extreme Abrasion	Bal				38-58		4.0	0.3			B 3.0			1/16", 7/64"		GMAW	Dredge Cutter heads & Teeth, ID Elbow, Pipe, Oil Tool Bits
Poly◇Tung NiCrBWC	NiCrB Tungsten Carbide / Extreme Abrasion	Bal			10.0	38-58		3.0	0.3			B 1.6			1/16", 7/64"		GMAW	Dredge Cutter heads & Teeth, ID Elbow, Pipe, Oil Tool Bits
COBALT BASED HARDFACING ALLOY - ABRASION / CORROSION / HIGH TEMPERATURE																		
Poly◇Stel 901	Alloy 1 / Hi Abrasion/Temperature/Corrosion		Bal		30.0	12.0					2.4		HRC 50-60	▲	.045", 1/16"	1/8", 5/32"	SMAW / GMAW / GTAW	Screw Components, Hydropulper, Pump Sleeves
Poly◇Stel 906	Alloy 6 / Med Abrasion/Temperature/Corrosion		Bal		27.0	4.0					1.0		HRC 40-44	▲	.045", 1/16"	.052" & UP	SMAW / GMAW / GTAW	Flights of extrusion screws, Shafts,
Poly◇Stel 912	Alloy 12 / Med-Hi Abrasion/Temperature/Corrosion		Bal	2.5	29.0	8.0					1.5		HRC 43-47	▲	.045", 1/16"	.062", .080", .125" & Up	SMAW / GMAW / GTAW	Saw Teeth, Valve plugs and seats, chain saw bars, Bearing areas
Poly◇Stel 921	Alloy 21 / Med Abrasion/Temperature/Corrosion		Bal		28.0		5.0				0.2		HRC 30-35	▲	.045", 1/16"	.045", .062", .093" & Up	SMAW / GMAW / GTAW	Steam valves, Hot shears, Chemical & Petrochemical valves, Dies
Poly◇Stel 930	Cobalt Alloy 190 / High Abrasion/Temperature	3.0*	Bal	3.0*	26.0	14.0					3.2		HRC 55-62			.035", .045", 3/32"	GTAW	Oil Drilling Rock Bits
Poly◇Stel 980	Cobalt Alloy T-800 / Hi Abrasion/Hi Temperature		Bal		17.5		29.0	3.5			0.04		HRC 54-62			.030", .035", .045", .062"	GTAW	Blade Z Notch Repair

▲ Contact Customer Service for availability.

* Maximum

January 2008 Update

1/25/20081/25/20081/25/2008

Superalloy Hardfacing and Welding Wire

Polymet Alloy	Description	Specifications				Nominal Composition Percent by Weight																Available Forms				Applications																
		GE	Pratt & Whitney	AMS	Other	Ni	Co	Fe	Cr	W	Mo	Al	Si	Mn	Nb	Ti	Ta	Zr	C	Other	Rockwell Hardness	Solid Spooled	Solid Cut Length	Cored Spooled																		
Nickel Based Alloys																																										
P♦MET 802	Mar M 002				RR # MSRR 7210	BAL	5.0		8.5	9.5		5.5				2.2	2.8		0.02																Structural components							
P♦MET 808	Rene 108	B50TF262				BAL	9.5		8.0	9.5	0.5	5.5				0.8	3.0	0.01	0.10	1.5 Hf														Structural components								
P♦MET 818	Inconel 718			5832	AWS # A5.14 ERNiFeCr-2	BAL	1.0*	17.0	19.0			3.0	0.6	0.35*	0.35*	5.1	0.9		0.08*															Turbine frames & casings								
P♦MET 820	Rene 220	B50TF239			PCC 1-59-02.061	BAL	12.0		19.0			3.2	0.5			5.3	1.0	3.3	0.03															Structural components								
P♦MET 822	GTD 222	C50TF101			PCC 1-59-02E.078	Proprietary Material																												Combusters								
P♦MET 823	GTD 222	B50A940				Proprietary Material																																				Combusters
P♦MET 838	Inconel 738	B50TF191				BAL	8.5	0.5*	16.0	2.6	1.8	3.4	0.3*	0.2*	0.9	3.4	1.8	0.10	0.17																Buckets & tip repairs							
P♦MET 839	Inconel 939	B50TF250				BAL	19.0		22.5	2.0		1.9			1.0	3.7	1.4	0.10	0.15																Blades & vanes							
P♦MET 840	Inconel 939		PWA 1495			BAL	19.0	0.2*	22.5	2.0		1.9	0.1*	0.1*	1.0	3.8	1.4	0.04*	0.15																Blades & vanes							
P♦MET 842	Rene 142	B50TF274				BAL	12.0		6.8	4.9	1.5	6.1					6.3	0.02*	0.12	2.8 Re, 1.2 Hf															Blade tip repairs							
P♦MET 845	C 242					BAL	10.0	1.0*	20.0			10.3	0.2*	0.3	0.3	0.3*			0.3															Vanes & repairs								
P♦MET 847	Mar M 247				AS EMS 55447	BAL	10.0	0.50*	8.2	10.0	0.7	5.5	0.20*	0.20*		1.0	3.0	0.05*	0.16	1.5 Hf															Vanes							
P♦MET 860	Inconel 625			5837	AWS # A5.14 ErNiCrMo-3	BAL	1.0*	5.0*	21.5			9.0	0.4*	0.5*	0.5*	3.6	0.4*		0.08*															Blade repairs								
P♦MET 863	Hastelloy C-263			5872		BAL	20.0	0.7*	20.0			5.8	0.5	0.4*	0.6*		2.1		0.06															Turbine frames & casings								
P♦MET 865	Waspalloy			5828		BAL	13.5	2.0*	19.5			4.2	1.4	0.1*	0.1*		3.1		0.06	0.007 B														Turbine casings								
P♦MET 870	Hastelloy W			5786	AWS # A5.14 ErNiMo-3	BAL	2.5*	5.5	5.0			24.5		1.0*	1.0*				0.12*															Hot section component repairs								
P♦MET 875	Hastelloy X			5798	AWS # A5.14 ERNiCrMo-2	BAL	1.5	18.5	21.8	0.6		9.0		1.0*	1.0*				0.10															Combusters								
P♦MET 880	Rene 80	B50TF259				BAL	9.5		14.0	4.0	4.0	3.0				5.0		0.06*	0.17															Blade tip repairs								
P♦MET 895	Rene 195					Proprietary Material																																		Blades		
Cobalt Based Alloys																																										
P♦MET 905	L605			5796		10.0	BAL	3.0*	20.0	15.0			1.0*	1.5					0.10																Engine components							
P♦MET 906	Alloy 6			5788	RR # MSRR 9500/19		BAL		27.0	4.0									1.0							40-44 C									Engine components							
P♦MET 909	Mar M 509	B50TF89	PWA 1185		CHROM RT 5027-B35	10.0	BAL		23.5	7.0						0.2	3.5	0.4	0.6																	Blades & vanes						
P♦MET 910	ADH	RMD6000 CL B				21.3	BAL	1.7*	23.5	6.0		0.7	0.8*				0.7	0.021*	0.4	0.45 B															Vane braze repairs							
P♦MET 911	RMD 6000		Proprietary Material																																			Vane braze repairs				
P♦MET 912	Alloy 12					RR # MSRR 9500/228		BAL	2.5	29.0	8.0									1.5						43-47 C										Engine components						
P♦MET 913	Alloy 12 HC				RR # MSRR 9500/15		BAL	2.5	29.0	9.0									1.9						45-50 C										Blades							
P♦MET 914	FSX 414					10.5	BAL	2.0*	29.5	7.0			1.0*	1.0*					0.25																Vane repairs							
P♦MET 918	Mar M 918	B50A824		5814		20.0	BAL		20.0								7.5		0.06																Vane repairs							
P♦MET 921	Alloy 21			5835			BAL		28.0		5.0								0.2						30-35 C									Engine components								
P♦MET 931	Alloy 31			5789	RR # MSRR 9500/25	10.5	BAL		25.0	7.5			0.7	0.7					0.51						21-27 C									Blade Z notch repairs								
P♦MET 940	Ultimet					9.0	BAL	3.0	26.0	2.0	5.0								0.06																Engine components							
P♦MET 972	Merl 72		PWA 795			15.0	BAL		20.0	9.0		4.4				0.2	3.0		0.35	1.0 Hf															Blade tip repairs							
P♦MET 980	T800	B50TF193			SNECMA DMR 34.071		BAL		17.5		29.0		3.5						0.04						54-62 C										Blade Z notch repairs							
P♦MET 988	HS 188			5801		22.0	BAL	3.0*	22.0	14.5			0.4	1.25*					0.1	0.075 La															Engine components							
P♦MET 994	CM 64	B50TF55	PWA 694		RR # MSRR 9500/226	5.0	BAL		28.0	20.0									0.9	1.0 V					47-54 C										Blade Z notch repairs							
* Maximum	Rene is a registered trademark of General Electric Co. Ultimet and Hastelloy are registered trademarks of Haynes International. Inconel is a registered trademark of Inco Alloys International.																																									

THERMAL SPRAY WIRE

Polymet Alloy	Description	Specifications		Competitor's Equivalents		Nominal Composition															Rockwell Hardness	Diameter		Available Forms		Applications			
		GE	Pratt & Whitney	TAFA	Metco & Other	Ni	Co	Fe	Cr	W	Mo	Al	Si	Mn	Sn	Ti	Cu	B	C	Other		1/16" 1.6 mm	1/8" 3.2 mm	Solid Spooled	Cored Spooled				
IRON BASE HARDFACING ALLOYS																													
P♦Met 50	Fe Al			35MXC				BAL				5.5	1.0							2.0				30-35 C	✓		✓	Bond Coat, Anti-skid, Traction rolls	
P♦Met 223	LCr Carbide			98MXC		3.0		BAL	26.0		0.8		1.6	1.6						1.70				35-40 C	✓		✓	Good Corrosion & Wear, Machinable	
P♦Met 225	Cr Carbide							BAL	23.0				1.0	2.0						5.50				55-60 C	✓		✓	Abrasion Resistance, Sand Pipes	
P♦Met 226	HCr Carbide				8222			BAL	28.0				1.0							5.00				55-60 C	✓		✓	Abrasion Resistance, Aggregate Handling	
P♦Met 273	Fe Cr B Si			95MXC	Armacor-M			BAL	29.0				1.4	1.7				3.7					55-60 C	✓		✓	Abrasion Resistance, Rolls, Boiler Tubes		
P♦Met 285	Van Carbide					0.5		BAL		6.0	0.5		1.5	1.0						4.0	16.0V			55-60 C	✓		✓	Abrasion Resistance, Exhaust Fan blades	
P♦Met 295	Tungsten Carbide							BAL	3.0	30.0	0.75									2.5				60-65 C	✓		✓	Abrasion Resistance, Exhaust Fans, Rolls	
P♦Met 296	Fe Cr Ni B			96MXC	Armacor 16	6.0		BAL	23.0				2.0	1.0					2.0	2.5				50-55 C	✓		✓	Abrasion Resistance, Boiler Tubes	
P♦Met 297	Tung Carbide			97MXC	Duocor	6.0		BAL	13.0				1.0	1.0							26.0 WC; 6.0 TiC			60-65 C	✓		✓	Abrasion Resistance, Rolls, Boiler Tubes	
COPPER BASE ALLOYS																													
P♦Met 590	Al Bronze			10T	Sprabronze AA							7.0		0.4										62-68 B	✓	✓	✓	Housings, Bearings, Shafts, Bond Coats	
P♦Met 599	Copper			05T											0.7								98.0	35-40 B	✓		✓	High Conductivity, Electrical Components	
ALUMINUM BASE ALLOYS																													
P♦Met 688	Al 12Si		PWA 36935	01A				0.8*					BAL	12.0	0.15*										80-85 B	✓		✓	Turbine Engine, Dimensional Buildup
P♦Met 692	Al 6Si			01S	Metco SF			0.8*					BAL	5.2	0.05*		0.2*								70-75 B	✓		✓	Turbine Engine, Dimensional Buildup
P♦Met 699	Aluminum			01T	Metco Al								99.5												60-65 B	✓		✓	Corrosion Resistance, Electric Conductivity
IRON BASE ALLOYS																													
P♦Met 709	LC Steel			30T				BAL					0.2	0.8										0.15	95-105 B	✓		✓	Economical, Bearings, Seating Surfaces
P♦Met 710	304 SS			80T		9.3		BAL	19.0				1.0*	2.0*											90-100 B	✓		✓	Corrosion Resistance, Print Rolls, Restoration
P♦Met 714	HC Steel			38T				BAL					0.3	0.7											20-25 C	✓		✓	Low Shrink, Shafts, Housings, Pistons, Fans
P♦Met 720	420 SS			60T	Metcoloy 2			BAL	13.0				1.0*	1.0*											40-45 C	✓	✓	✓	Wear Resistance, Machine Elements
P♦Met 723	18 5 SS			55T	Metcoloy 5	5.0		BAL	18.0				1.0*	8.8											90-96 B	✓	✓	✓	Thick Coatings, Rams, Rollers
P♦Met 730	316 SS			88T	Metcoloy 1	12.0		BAL	17.0		2.5		1.0*	2.0*											90-100 B	✓	✓	✓	Corrosion Resistance, Shafts, Print Rolls
P♦Met 731	Fe Cr Al			Alcro				BAL	23.5			5.3	0.7	0.45*											85-90 B	✓		✓	Boiler Tubes, Dimension Restoration
NICKEL & MOLYBDENUM BASE ALLOYS																													
P♦Met 806	Nickel			06T		99.0								0.30*											55-60 B	✓		✓	Corrosion Resistance, Impellers, Sleeves
P♦Met 818	Inconel 718	B50TF202		78T	8718	BAL	1.0*	17.0	19.0		3.0	0.6	0.35*	0.35*		0.9									25-30 C	✓		✓	Oxidation Resistance, Turbine Engines
P♦Met 821	Ni 20Cr			06C		BAL			20.0				1.0	2.5*											85-95 B	✓		✓	Oxidation Resistance, Machinable Coatings
P♦Met 860	Inconel 625			71T	8625	BAL	1.0*	5.0*	21.5		9.0	0.4*	0.5*	0.5*		0.4*									90-95 B	✓		✓	Oxidation Resistance, Corrosion, Digestors
P♦Met 876	Alloy C-276			77T	8276	BAL		5.0	15.0	4.0	16.0														30-40 C	✓		✓	Resistance to Reducing/Oxidizing Corrosives
P♦Met 884	Ni 20Al			79B	405	BAL							20.0												60-80 B	✓	✓	✓	Bond Coats
P♦Met 885	Ni 5Al	B50TF56	PWA 36937	75B	8400	BAL							5.0												65-85 B	✓		✓	Bond Coat, Turbine Engine Part Buildup
P♦Met 886	Ni Cr Al	B50TF119	PWA 36947	73MXC	8443	BAL			19.0				7.0												75-85 B	✓		✓	Oxidation Resistance, High Temp. bond coats
P♦Met 887	Ni Cr Al Y			76MXC		BAL			22.0				10.0												75-85 B	✓		✓	Oxidation Resistance, Ceramic Undercoat
P♦Met 888	Ni Mo Al			74MXC	8447	BAL					5.0	5.5													75-85 B	✓		✓	Wear Resistance, Buildup of Steels
P♦Met 889	Ni Cr Ti			45CT		BAL			43.5							0.7									30-35 C	✓		✓	Corrosion Resistance, Boiler Tubes
P♦Met 899	Molybdenum		PWA 36913	13T	Sprabond						99.5														15-35 C	✓	✓	✓	Corrosion & wear, piston rings
OTHER ALLOYS																													
P♦Met 542	Babbitt			04T	Sprababbitt										90.0										15T 35	✓	✓	✓	Bearings, solderable connections

*Maximum Armacor-M, Armacor 16 and Duocor are registered trademarks of Liquidmetal; MXC, 75B 45CT and Alcro are registered trademarks of Praxair; C276 and Hastelloy are registered trademarks of Haynes International; Inconel is a registered trademark of International Nickel Co.; Metcoloy, Sprabond and Sprabronze AA are registered trademarks of Sulzer Metco, Inc.