

Product	General Description	Uses	Technical Data			
Metal Working						
Allied 10-00	High speed chamfering electrode. Easy to control groove size and depth on both AC & DC.	<ul style="list-style-type: none"> Carbon Steel Stainless Steel Aluminum Copper 	Current Amperage (in) (mm)	AC or DC straight polarity (electrode-)	150-250 210-350 250-400 300-500	3/32 1/8 5/32 3/16 2.5 3.25 4.0 5.0
Metal Welding						
Allied 20-11	Superior electrode for repair and hard facing of high speed steels	<ul style="list-style-type: none"> Hot Shears Trimming Plates Dies Lathe Tools 	Hardness Hot Hardness Current Amperage (in) (mm)	As welded 58-62 RC Heat treated 63-65 RC AC or DC (either polarity)	45-90 80-120	3/32 1/8 2.5 3.25
Allied 20-13	Superior electrode for repair and hard facing of oil hardening steels	<ul style="list-style-type: none"> Shearing Blades Pressure Rollers Shedder Hammers Dredger Teeth 	Hardness Current Amperage (in) (mm) TIG(in) 36"(mm)	As welded 64-65 RC AC or DC (either polarity)	45-90 80-120	3/32 1/8 2.5 3.25 1/16 3/32 1/8 1.6 2.5 3.25
Allied 20-15	Electrode for build-up and repair of all "air" hardening steels	<ul style="list-style-type: none"> Shearing Blades Pressure Rollers Shedder Hammers Dredger Teeth 	Hardness Current Amperage (in) (mm) TIG(in) 36"(mm)	As welded 55-60 RC AC or DC (either polarity)	45-90 80-120	3/32 1/8 2.5 3.25 1/16 3/32 1/8 1.6 2.5 3.25
Allied 20-17	Electrode for build-up and repair of all water hardening steels	<ul style="list-style-type: none"> Shearing Blades Pressure Rollers Shedder Hammers Dredger Teeth 	Hardness Current Amperage (in) (mm) TIG(in) 36"(mm)	As welded 60-64 RC AC or DC (either polarity)	45-90 80-120	3/32 1/8 2.5 3.25 1/16 3/32 1/8 1.6 2.5 3.25
Allied 20-19	Electrode for build-up and repair of all hot work tool steels	<ul style="list-style-type: none"> Shearing Blades Pressure Rollers Shedder Hammers Dredger Teeth 	Hardness Current Amperage (in) (mm) TIG(in) 36"(mm)	As welded 56-58 RC AC or DC (either polarity)	45-90 80-120	3/32 1/8 2.5 3.25 1/16 3/32 1/8 1.6 2.5 3.25
Hard Facing						
Allied 201	A super abrasion resisting composite type alloy that deposits exposed tungsten carbide chips	<ul style="list-style-type: none"> Concrete Saws Oil Bits Masonry Drills Horse Shoes 	Hardness Flame Adjustment Carbide Chip Sizes (Special sizes available upon request)	Matrix RB 94 Carbides RC 77 Large Neutral flame	1/8" 3/16" 1/4"	
Allied 207B	Versatile self-fluxing alloy with high abrasion, corrosion, and heat resistance. For use with gas, TIG or arc welding	<ul style="list-style-type: none"> Valve Faces Core Drills Cane Knives Cams 	Hardness Flame Adjustment Bonding Temp. Current – Arc Current – TIG Amperage – Arc Amperage – TIG (in)	Matrix Hardness 60-61 RC Neutral Approx. 1800° F (982° C) DC Reverse Polarity (Electrode +) DC Straight Polarity (Electrode -)	80-100 110-140 140-170 170-220	70-90 90-120 110-150 150-210 1/8 5/32 3/16 1/4
Allied 207BT	A super abrasion and frictional alloy with excellent corrosion and heat resistance	<ul style="list-style-type: none"> Valve Faces Core Drills Cane Knives Cams 	Hardness Flame Adjustment Bonding Temp. Current – Arc Current – TIG Amperage – Arc Amperage – TIG (in)	Matrix Hardness 66-68 Neutral Approx. 1800° F (982° C) DC Reverse Polarity (Electrode +) DC Straight Polarity (Electrode -)	80-100 110-140 140-170 170-220	70-90 90-120 110-150 150-210 1/8 5/32 3/16 1/4

Allied 20-27	High heat and metal-to-metal overlay and joining alloy with excellent crack resistance at outstanding low amp operation	<ul style="list-style-type: none"> • Hot Trim Dies • Valve Seats • Mine Water Pumps • Crushing Knives 	Hardness –as-welded RC 32-39 Work Hardened RC 46-49 Tensile Strength 103,000 psi Current AC or DC Reverse Polarity (Electrode +) Amperage 70-120 120-170 140-200 200-225 (in) 3/32 1/8 5/32 3/16
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Hard Facing			
Allied 20-28	A superior electrode for high abrasion at elevated temperatures.	<ul style="list-style-type: none"> • Furnace Augers • Coke Pusher Holes • Tap Hole Augers 	Hardness as welded RC 63-65 Current AC or DC Reverse (Electrode +) Amperage 140-170 180-220 230-300 (in) 1/8 5/32 3/16 (mm) 3.25 4.0 5.0
Allied 20-35XL	Premium all position flux cored wire resists severe abrasion and mild impact.	<ul style="list-style-type: none"> • Conveyors • Grader Blades • Road Rippers • Sizing Screen 	Hardness As welded RC 62-65 Current DCEP (Electrode +) Amperage 100-325 175-375 Volts 15-33 20-33 Diameter .045" 1/16"
Allied 20-65	High alloy electrode with high abrasion and good impact resistance. High deposition rate.	<ul style="list-style-type: none"> • Furnace Grates • Conveying Chains • Earth Movers • Coal Augers 	Hardness RC 57-61 Current AC or DC Reverse Polarity (electrode +) Amperage 80-125 100-160 125-190 (in) 1/8 5/32 3/16 (mm) 3.25 4.0 5.0
Allied 20-66	High alloy electrode with high abrasion and good impact resistance. High deposition rate	<ul style="list-style-type: none"> • Hammer Mills • Pan Scrapers • Fan Blades • Chutes 	Hardness RC 56-60 Current AC or DC Reverse Polarity (electrode +) Amperage 80-125 100-160 125-190 (in) 1/8 5/32 3/16 (mm) 3.25 4.0 5.0
Allied 20-98	Wear resistant electrode for high abrasion with medium impact on steel, cast iron or manganese steel.	<ul style="list-style-type: none"> • Rippers • Bucket Teeth • Bucket Lips • Mill Plows 	Hardness RC 48-53 Current AC or DC Reverse Polarity (electrode +) Amperage 100-130 120-175 140-200 (in) 1/8 5/32 3/16 (mm) 3.25 4.0 5.0
Allied 20-99	Premium hard surfacing electrode for severe impact.	<ul style="list-style-type: none"> • Railroad Frogs • Crusher Jaws • Swing Hammers • Grizzly Bars 	Tensile Strength 106,000psi (75kg/mm2) Yield Strength 62,000psi (43kg/mm2) Elongation Approx. 40 Hardness As welded approx. 10 RC Work Hardened Approx. 45 RC Current AC or DC Reverse polarity (electrode +) Amperage 90-130 120-165 140-190 (in) 1/8 5/32 3/16 (mm) 3.25 4.0 5.0
Solders			
Allied 304	Low temperature silver bearing soft solder for ferrous and non-ferrous metals, Cadmium free.	<ul style="list-style-type: none"> • Dairy Equipment • Oxygen Lines • Sanitary Apparatus • Instruments 	Tensile Strength Up to 15,000psi (10kg/mm2) Working Temp 430 degrees F (221 degrees C) Hardness 15 Color Match Excellent on stainless steel Corrosion Resist. Good Electrical Conduct. Very Good Diameters (in) 1/16 3/32 1/8 (mm) 1.6 2.5 3.25
Copper, Brass, Bronze			
Allied 403	Superior TIG brazing rod for copper base alloys, steels, cast irons or combinations of these	<ul style="list-style-type: none"> • Valve Seats • Steel to Silicon Bronze • Naval (Yellow)Brass 	Tensile Strength Up to 50,000 psi (35kg/mm2) Hardness (BHN) 80-100 Bonding Temperature 1850 degrees – 1900 degrees F Current (TIG) DC straight polarity (electrode -) (Gas) Argon or Helium

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Copper, Brass, Bronze				
Allied 40-20	Premium phosphorus bronze electrode for applications subjected to frictional wear.	<ul style="list-style-type: none"> • Valve Bodies • Turbines • Impellers • Pumps • Gears 	Tensile Strength Yield Strength Elongation % Hardness (HB) Current Amperage (in) (mm)	Up to 60,000 psi (42 kg/mm2) Up to 35,000 psi (25 kg/mm2) Approx. 35 Approx. 120 DC Reverse Polarity (electrode +) 100-150 125-190 1/8 5/32 3.25 4.0
Allied 40-23	Phosphor (TIN) bronze electrode for applications subjected to frictional wear	<ul style="list-style-type: none"> • Arc Brazing Steels • Impellers • Gear Wheels 	Tensile Strength Yield Strength Elongation % Hardness (HB) Current Amperage (in)	50,000 to 60,000 psi (32 to 42 kg/mm) 20,000 to 30,000 psi (14 to 25 kg/mm) 30 to 40 80-120 AC or DC Reverse polarity (electrode +) (on cast iron use DC Reverse) 100-150 125-190 1/8 5/32
Allied 40-25	A premium universal bronze electrode for joining and surfacing.	<ul style="list-style-type: none"> • Ship Propellers • Turbines • Pump Housings • Valves 	Tensile Strength Yield Strength Elongation % Hardness (HB) Corrosion Resistance Current Amperage (in) (mm)	Up to 100,000 psi (71 kg/mm2) Up to 63,000 psi (44kg/mm2) Approx. 20 200 Very Good DC Reverse polarity (electrode +) 90-125 120-150 135-200 1/8 5/32 3/16 3.25 4.0 5.0
Allied 40-27	High purity copper electrode for joining and build-up. Matches typical corrosion and thermal conductivity characteristics of copper	<ul style="list-style-type: none"> • Electrical Installations • Copper Clad Steel • Deoxidized Copper Parts & Sheets 	Tensile Strength Elongation % Hardness (HB) Corrosion Resistance Electrical Conductivity Current Amperage (in) (mm)	Up to 31,000 psi (22 kg/mm) Approx. 35 50-60 Excellent Very Good DC Reverse polarity (electrode +) 100-130 140-170 170-200 1/8 5/32 3/16 3.25 4.0 5.0
Allied 40-29	Silicon bronze electrode for copper base alloys, steels, cast irons or combinations.	<ul style="list-style-type: none"> • Valve Bodies • Turbines • Impellers • Pumps • Gears 	Tensile Strength Elongation % Hardness (HB) Current Amperage (in)	Up to 60,000 psi (42 kg/mm2) Approx. 35 Approx. 120 DC Reverse Polarity (electrode +) 100-150 125-190 1/8 5/32
Silver Brazing				
Allied 500	Easy flowing phos-silver alloy for copper and copper alloy brazing. Self-fluxing on copper-to-copper joints. Good electrical conductivity.	<ul style="list-style-type: none"> • Chemical Hardware • Radiator Cores • Refrigerators • Heat Exchangers 	Applications Liquidus Solidus Brazing Range Diameter (in) (mm)	Loose fitting joints (.003" to .006") 1470 degrees F (800 degrees C) 1190 degrees F (643 degrees C) 1300-1550 degrees F (704 - 815 degrees C) 1/8 1/8 x .050 3.25 3.25 x 1.2
Allied 507 & 507F	Premium easy flowing flux-coated silver braze alloy. Cadmium-free	<ul style="list-style-type: none"> • Tubing • Switches • Medical Equipment • Nickel Alloys 	Tensile Strength Working Temp. Elongation Hardness(HB) Color Match Corrosion Resistance Diameter (in)	Up to 70,000 psi (53kg/mm2) 1160 degrees F (627 degrees C) Approx. 25 Approx. 115 Good on stainless steel Good 1/16 3/32

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Aluminum, Light Metals						
Allied 601	High-strength alloy for welding zinc die cast and soldering aluminum, SELF FLUXING	<ul style="list-style-type: none"> Air Conditioning Refrigeration Electrical Units Automotive 	Tensile Strength	Up to 35,000 psi (25kg/mm2)		
			Working Temp.	Approx. 710 degrees F (375 degrees C)		
			Color Match	Very good		
			Corrosion Resistance	Very good		
Allied 605T	Bare aluminum brazing & TIG alloy for use on all known weldable aluminum alloys. High strength, good electrical conductivity, and good color match	<ul style="list-style-type: none"> Window Frames Thin Walled Tubing Furniture Instruments 	Tensile Strength	Up to 35,000 psi (25kg/mm2)		
			Working Temp.	1070 degrees F (575 degrees C)		
			Elongation %	Up to 15%		
			Hardness (HB)	Approx. 50		
			Color Match	Good (will darken if anodized)		
			Electrical Conduct.	Good		
			Diameter (in)	1/16	3/32	1/8
			(mm)	1.6	2.5	3.25
Allied 60-08	Universal flux-coated electrode for arc or gas welding. Exceptional arc stability at low amperages. Ideal for outdoor use.	<ul style="list-style-type: none"> Build-up Castings Aluminum Castings Tanks & Pipes Machining Errors 	Tensile Strength	Up to 34,000 psi (24kg/mm2)		
			Elongation %	15-25		
			Hardness (HB)	40-55		
			Current	DC Reverse polarity (electrode +)		
			Amperage	50-80	80-130	100-160
			(in)	3/32	1/8	5/32
Steel						
Allied 700F	Superior strength, general use brazing rod for joining & build-up on carbon steels, cast iron, etc.	<ul style="list-style-type: none"> Gear Teeth Bearing Shafts Rusty Surfaces Bicycle Assemblies 	Tensile Strength	Up to 113,800 psi (80 kg/mm2)		
			Hardness (HB)	140-200		
			Working Temp.	1400-1750 degrees F (76-955 degrees C)		
			Remelt Temperature	Approx. 1800 degrees F (980 degrees C)		
			Diameters (in)	1/16	3/32	1/8 3/16
Allied 70-02	Easiest to use, all position electrode for steels and cast steels. Outstanding restrrike, minimal spatter, and self-lifting slag.	<ul style="list-style-type: none"> Sheets & Plates Pipes Angle Iron Build-up Worn Surfaces 	Tensile Strength	Up to 76,000 psi (53 kg/mm2)		
			Yield strength	Up to 65,000 psi (45 kg/mm2)		
			Elongation %	Approx. 25		
			Current	AC or DC straight polarity (electrode -)		
			Amperage	40-90	70-140	95-185 140-250
			(in)	3/32	1/8	5/32 3/16
			(mm)	2.5	3.25	4.0 5.0
Allied 70-03	High strength, all-position electrode for extremely contaminated steels. Weld multi-layers without removing slag.	<ul style="list-style-type: none"> Light Gauge steels Pipeline Welding Automobile Repairs Tank Fabrication 	Tensile Strength	Up to 85,000 psi (59 kg/mm2)		
			Yield Strength	Up to 69,000 psi (48 kg/mm2)		
			Elongation %	Approx. 25		
			Current	AC or DC either polarity		
			Amperage	20-100	30-140	50-175
			(in)	3/32	1/8	5/32
			(mm)	2.5	3.25	4.0
Allied 70-05	Super high strength, hydrogen-controlled electrode for high tensile, finely grained carbon steels. Outstanding ductility and elongation.	<ul style="list-style-type: none"> Vats & Piping Dozer Blades Bucket Teeth Crane Booms Shovel Booms 	Tensile Strength	Up to 175,000 psi (79 kg/mm2)		
			Elongation %	Approx. 23		
			Current	AC or DC reverse (electrode +)		
			Amperage	70-120	100-150	120-210 200-275
			(in)	3/32	1/8	5/32 3/16
			(mm)	2.5	3.25	4.0 5.0
Allied 70-06XL	High impact resistant electrode for joining and surfacing of most steels. Outstanding corrosion resistance.	<ul style="list-style-type: none"> Railroad Tracks Frogs & Switches Mill Hammers Rolls 	Tensile Strength	Up to 106,000 psi (75 kg/mm2)		
			Elongation %	36%		
			Current	AC or DC reverse (electrode +)		
			Amperage	90-130	120-165	140-190
			(in)	1/8	5/32	3/16
			(mm)	3.25	4.0	5.0
Allied 70-07	A superior super strength electrode for welding high alloy and dissimilar steels.	<ul style="list-style-type: none"> Tools & Die Springs Broken Stud Removal Unknown Steels 	Tensile strength	Up to 127,000 psi (82 kg/mm2)		
			Work hardens	Up to 180,000 psi (126 kg/mm2)		
			Yield strength	Up to 90,000 psi (63 kg/mm2)		
			Elongation %	Approx. 37%		
			Hardness (HB)	Approx. 235 BHN		
			Current	AC or DC reverse polarity (electrode +)		
			Amperage	30-40	40-80	65-120 90-150 140-220
			(in)	1/16	3/32	1/8 5/32 3/16

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Steel						
Allied 70-10	Heat and corrosion resistant alloy for all grades of stainless steel. Fully austenitic structure	<ul style="list-style-type: none"> Furnace Parts Ladles High Temp Fan Blade Heat Treating Utensil 	Tensile Strength Yield strength Elongation % Hardness (HB) Heat resistance Current Amperage (in)	Up to 100,000 psi (70kg/mm2) Up to 65,000 psi (46kg/mm2) Approx. 40 200 Up to 2190 degrees F (1200 degrees C) AC or DC reverse polarity (electrode +) 50-80 70-110 90-150 3/32 1/8 5/32		
Allied 70-11	High grade, extra low carbon CR-Ni-Mo stainless steel electrode. Ideal as protective overlay. Hot crack resistance and mirror-like deposit.	<ul style="list-style-type: none"> Dairy Equipment Chemical Equipment Paper Mill Equipment Tanks, Pipes, Fittings 	Tensile strength Yield strength Elongation % Hardness (HB) Corrosion Resist. Current Amperage (in)	Up to 100,000 psi (70kg/mm2) Up to 65,000 psi (45 kg/mm2) Approx. 40 Approx. 180 Very good AC or DC reverse polarity (electrode +) 40-90 75-120 90-150 3/32 1/8 5/32		
Allied 70-15	Universal nickel-based electrode for high heat and cryogenic applications. High deposition and good ductility.	<ul style="list-style-type: none"> Heat Treatment Equip Cryogenic Equipment Nickel Alloys 	Tensile Strength Elongation % Heat Resistance Cryogenic Use Scaling Resistance Current Amperage (in) (mm)	Up to 85,000 psi (59kg/mm2) 30 Excellent Excellent Excellent DC reverse polarity (electrode +) Limited use on AC equipment 80-120 120-150 130-180 3/32 1/8 5/32 2.5 3.25 4.0		
Allied 70-67	Premium low alloy, high strength electrode. Excellent low-temperature impact properties.	<ul style="list-style-type: none"> Mining Equipment Paper Industry Equipment Construction Equip 	Tensile strength Current Amperage (in) (mm)	Up to 80,000 psi (56kg/mm2) AC or DC reverse (electrode+) 60-100 110-150 140-299 220-280 3/32 1/8 5/32 3/16 2.5 3.25 4.0 5.0		
Allied 70-88XL	The ultimate all position low carbon stainless steel electrode	<ul style="list-style-type: none"> Dairy Equipment Chemical Equipment Paper Mill Equipment Tanks, Pipes, Fittings 	Tensile strength Current Amperage (in) (mm)	Up to 80,000 psi AC or DC reverse polarity 35-55 60-80 90-110 3/32 1/8 5/64 2.5 3.25 4.0		
Multi-Purpose Brazing						
Allied 803F	Premium low fuming bronze brazing rod bare and flux coated.	<ul style="list-style-type: none"> Gear Teeth Bearing Shafts Rusty Surfaces Bicycle Assemblies 	Working Temp. Hardness (HB) Diameters (in) (mm)	1600 degrees F (870 degrees C) 80-110 1/16 3/32 1/8 5/32 3/16 1/4 1.6 2.5 3.25 4.0 5.0 6.0		
Cast Iron						
Allied 80-49	Premium high nickel alloy. Pulsating arc removes impurities for a porosity-free weld. Maximum Machinability.	<ul style="list-style-type: none"> Engine Blocks Gear Housing Join Cast Iron to Steel 	Tensile strength Elongation % Hardness (HB) Color match Current Amperage (in) (mm)	Up to 50,000 psi (35kg/mm2) Approx. 30 Approx. 160 Similar to cast iron AC or DC straight polarity (electrode) 30-70 55-110 75-135 100-175 3/32 1/8 5/32 3/16 2.5 3.25 4.0 5.0		

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Cast Iron						
Allied 80-85	Nickel-free electrode for dirty or difficult-to-weld cast iron. Non-machinable deposit.	<ul style="list-style-type: none"> Furnace Grates Pump Housings Build Up Worn Areas Low Quality Cast Iron 	Tensile strength Hardness (HB) Color match Current Amperage (in) (mm)	Up to 60,000 psi (42kg/mm2) Approx. 350 Good AC or DC reverse polarity (electrode +) 75-110 100-150 1/8 5/32 3.25 4.0		
Allied 80-89	High strength alloy for dirty or contaminated cast iron. Alloyed core wire produces crack-resistant, machinable deposits.	<ul style="list-style-type: none"> Gear Housings Join Cast Iron to Steel Sewer Pipes Nodular Cast Iron 	Tensile strength Elongation % Hardness (HB) Current Amperage (in)	Up to 75,000 psi (52kg/mm2) Approx. 23 Approx. 210 AC or DC reverse (electrode +) 40-70 70-110 90-130 110-370 3/32 1/8 5/32 3/16		
Allied 80-95	Premium alloyed electrode for high strength welding of cast iron.	<ul style="list-style-type: none"> Gear Housings Join Cast Iron to Steel Sewer Pipes Nodular Cast Iron 	Tensile strength Elongation % Hardness (HB) Current Amperage (in) (mm)	Up to 80,000 psi (56kg/mm2) Approx. 20 Approx. 200 AC or DC straight polarity (electrode -) 35-80 65-120 75-140 3/32 1/8 5/32 2.5 3.25 4.0		
Allied SAT Electrodes (Stainless)						
7308-16 7310-16	7808L-16 7316-16	7309-16 7316L-16	7309L-16 7317L-16	7309Mo-16 7347-16		
Allied Flux-Cored Stainless Steel						
SS308LT-1	SS309LT-1	SS316LT-1	SS317LT-1			
Allied MIG/TIG/Subarc Stainless Steels						
SS308 SS308L SS308LSi	SS309 SS309L SS309LSi	SS316 SS316L SS316LSi	SS310 SS317L SS347			
Allied 300XL – Cladded Wear Plate						
Allied 300XL	Premium high alloyed chromium carbide cladded wear plate. (Please see our separate brochure on Allied 300XL for more technical data)	<ul style="list-style-type: none"> Mining Steel Mills Glass Plants Paper, Pulp & Power Plants Dredging, Cement & Refinery 	Base Plate Cladding Hardness	ASTM A 38 Austenitic steel with a premium high chromium carbide concentration 68 Rockwall C		
Allied 300XL Pipe	Premium high alloyed chromium carbide cladded wear pipe. Size 2" - 30" diameter. Please see our separate brochure on Allied 300XL for more technical data)	<ul style="list-style-type: none"> Mining Steel Mills Glass plants Paper, pulp & power plants Dredging, cement & refinery 	Base Plate Cladding Hardness	Carbon steel Pipe Austenitic steel with a premium high chromium carbide concentration 68 Rockwall C		