

WEST WELD ALLOYS

STEEL WELDING ALLOYS

MIG - TIG - STICK WELDING

WW777 - High strength alloy designed for welding difficult-to-join steel such as high carbon steel, spring steel, alloy steels, and dissimilar combinations. Tensile strength 120,000 PSI.

WW444 - Versatile alloy ideal for applications requiring a controlled Hydrogen alloy. Excellent alloy for joining medium carbon, low alloy, and steel sensitive to cracking. Tensile strength 95,000 PSI.

WW333 - Designed to give high strength weld joints on a broad range of mild steel applications. Easy slag removal and high strength make this a most universal welding alloy. Tensile strength 88,000 PSI.

STICK WELDING

WW447 - High strength low hydrogen electrode for welding low to medium carbon and low alloyed steels. Tensile strength 113,000 psi

WW336 - Deep penetrating electrode designed to join rusty, painted over, and contaminated steel. Tensile strength 80,000 PSI.

TORCH WELDING

WW96FC - Ultra high strength brazing alloy designed for brazing a broad range of carbon steel. Tensile strength 100,000 PSI.

WW66FC - Universal general purpose brazing alloy designed for a broad range of mild steel applications. Tensile strength 65,000 PSI.

WW76 - Very smooth low temperature alloy for torch, carbon arc, or TIG welding, on brass, copper, steel, and cast steel.

WW56 - FC or BARE - High strength silver alloy designed for joining all types of stainless. Ideal for joining stainless to copper base and steel alloys. Tensile strength 90,000 PSI. Bonding temp 1100 deg F.

WW25 - Low-heat, super high strength solder designed for joining all types of stainless. Tensile strength 20,000 PSI. Bonding temp 425 deg F.

WW223 - Pure nickel TIG alloy used for joining and repairing cast iron and steel. Argon shielding gas.

CAST IRON WELDING ALLOYS

STICK WELDING

WW222 - High strength cast iron electrode designed to join cast iron at minimum heat input. Electrode will not overheat, providing excellent slag coverage. Tensile strength 60,000 PSI.

WW289 - Ideal cast iron electrode when a color match and machinability are required. This alloy blends well with cast iron, providing an excellent finish. Tensile strength 55,000 PSI.

WW221 - Nickel alloy with fluzing agents to form a non-porous deposit for welding of ductile, malleable, and grey cast iron.

TORCH - TIG WELDING

WW224 - Torch brazing alloy for cast providing high strength, good color match, and machinability. Tensile strength 50,000 PSI.

WW76 - Very smooth low temperature alloy for torch, carbon arc, or TIG welding on brass, copper, steel, and cast steel.

WW223 - Pure nickel alloy used for joining and repairing cast iron and steel. Argon shielding gas.

note - Not all welding alloys are listed
Please make inquiries on other products.

ARC GOUGING AND CUTTING

WW450 - Gouging and cutting electrode designed for chamfering, piercing, and removing old welds. AC/DC straight polarity.

TOOL STEEL WELDING

In addition, West Weld has a complete line of tool steel arc and TIG welding alloys suited for all tool steel applications. Please inquire for further applications

STAINLESS STEEL WELDING ALLOYS

MIG - TIG - STICK WELDING

WW666 - This universal alloy is ideal when stainless steel is unknown. High strength, easy slag removal, and spatter-free deposit make this electrode a first choice for most stainless applications. Tensile strength 90,000 PSI.

STICK WELDING

WW666VD - Vertical down welding of pipelines and other applications where excellent weldability is needed. Alloyed like the WW666.

TORCH WELDING

WW56 - FC or BARE - High strength silver alloy designed for joining all types of stainless. Ideal for joining stainless to copper base and steel alloys. Tensile strength 90,000 PSI. Bonding temp 1100 deg F

WW25 - Low-heat, super high strength solder designed for joining all types of stainless. Tensile strength 20,000 PSI. Bonding Temperature 425 deg F.

ALUMINUM WELDING ALLOYS

MIG - TIG - STICK WELDING

WW555 - High strength flux coated aluminum arc welding electrode. Smooth running and easy slag removal make this alloy ideal for maintenance welding applications. Tensile strength 33,000 PSI. DC reverse polarity only.

TORCH WELDING

WW575 - Low melting temperature (675 deg F) alloy used to repair aluminum castings or sheets without the use of flux. Warm base metal until the rod melts then rub rod over hot metal.

HARD FACING WELDING ALLOYS

MIG - STICK WELDING

WW999 - Abrasion and impact resistant hard-facing alloy. This electrode is most universal, covering a wide range of applications. RC 52-55

WW998 - High abrasion and medium impact. High chrome carbide alloy. RC 58-62

WW997 - Features the most resistance to extreme abrasive applications. This electrode delivers Rc 65 with single layer deposits.

WW996 - Enriched manganese welding rod designed to build up and join manganese. Work hardens to RC 50

WW888 - Build-up with resistance to impact and friction. Good for metal to metal wear. RC 40

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WW111 BRONZE ARC WELDING ALLOY

Bronze electrode for build-up and joining repair of copper and steel alloys including cast iron. Very easily operated. AC polarity only.

SIZES AVAILABLE

DIA	3/32	1/8	5/32
AMP	75-100	90-130	110-150

WW110 BRONZE ARC WELDING ALLOY

Bronze electrode for build-up and joining repair of copper and steel alloys including cast iron. Very easily operated. DC reverse only.

SIZES AVAILABLE

DIA	1/8	5/32
AMP	90-130	100-150

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----- Cast Iron Alloys -----

WW222 FOR CAST IRON

Premium electrode for joining or build-up on cast iron. Strong, smooth deposits wash evenly with cast iron. Will easily join cast iron to steel and join dissimilar thicknesses. Coatings will not overheat causing flux cover to break down half way through the electrode. Machinable with carbide tools or by grinding. Tensile strength 55,000 to 60,000 PSI. AC DC+.

SIZES AVAILABLE

DIA	3/32	1/8	5/32
AMP	80-100	100-120	120-150

WW221 FOR CAST IRON

Premium nickel alloy specially formulated to weld oil soaked cast irons. Flux coating cleans and seals casting allowing nickel to flow smoothly and blend with cast iron for ultimate tensile strength. Good for furnace grates, machine working parts, motor parts, a foundry repairs. Deposit is hachinable. Good color match to cast iron. Tensile strength to 65,000PSI. DC-

SIZES AVAILABLE

DIA	3/32	1/8	5/32
AMP	50-100	70-110	95-140

WW289 FOR CAST IRON

Most versatile, quality nickel electrode. High strength and double the elongation of conventional nickel cast iron electrodes, very machinable, heavy build-up at low amperages, welds in all positions and slag is easily removed. Welds heavy cast sections "Meehanite", nodular ductile, as well as grey cast, and iron to steels. Hardness 190 Brinell. Tensile strength 67,000 PSI. AC or DC+.

SIZES AVAILABLE

DIA	3/32	1/8	5/32	3/16
AMP	60-100	85-120	90-140	120-170

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WW228 FOR CAST IRON

Penetrating electrode for dirty cast iron, often used for sealing oil soaked cast iron prior to welding-butching, surface. Not recommended for joining except extremely oil soaked casting that cannot be cleaned. Non-machinable.

SIZES AVAILABLE

DIA	3/32	1/8	5/32
AMP	70-110	80-125	100-150

WW224 FOR CAST IRON

Torch welding for cast iron. Excellent color match. Good for thin sections or building up worn or missing sections. Used for welding manifolds, heads and gear housings. Best process for joining cast iron. Preheat and slow cooling a must. The deposit is machinable. Tensile strength 40,000 PSI.

SIZES AVAILABLE

DIA	1/8	5/32	3/16	1/4	5/16
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-----Steel Alloys and Metal Cutting Alloys-----

WW333 ALL PURPOSE MILD STEEL

Smooth operating alloy for fabrication or repair welding. Easy to weld in all positions without current change at machine. Good penetration and fusion, even on dirty or rusty steels. No-stick striking, even works as a drag rod. Works well on thick or thin sections. Easy flux removal. Clean, even weld results. Works equally well on AC or DC+ or -. Tensile strength 88,300 PSI.

SIZES AVAILABLE

DIA	5/64	3/32	1/8	5/32	3/16
AMP	40-46	60-75	75-115	120-150	150-210

WW444 MEDIUM AND HIGH CARBON STEEL

Controlled hydrogen alloy for welding medium and high carbon steels. All purpose, all position. High crack resistance and porosity free. Good machinability. Does not have hard spots as is often found with production type low-hydrogen alloys. Heavy flux cover protects cooling of weld metal from atmosphere. Tensile 90,000 psi.

SIZES AVAILABLE

DIA	3/32	1/8	5/32
AMP	50-90	90-130	115-170

WW336 DEEP PENETRATING

All position, deep penetrating alloy without slag interference, porosity free. Often used for root pass to reduce possibility of root crack or slag inclusion. Good on rust, painted, or dirty steel. Tensile strength 85,000 PSI.

SIZES AVAILABLE

DIA	3/32	1/8	5/32	3/16
AMP	45-75	75-115	90-135	130-185

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WW334 MEDIUM AND MILD STEEL

Flat position filler rod for joining heavy sections rapidly. High efficiency on deposit nearing 200% yields. Tensile strength 75,000 PSI.

SIZES AVAILABLE

DIA	1/8	5/32	3/16	1/4
AMP	150-165	200-225	250-275	350-380

WW447 HIGH STRENGTH ALLOY

High strength, low hydrogen alloy for welding or build-up of equipment under severe stress. The weld deposit is machinable and can be flame cut. Tensile strength 160,000 PSI.

SIZES AVAILABLE

DIA	1/8	5/32	3/16	1/4
AMP	110-130	150-170	180-215	240-270

WW450 GOUGING AND CUTTING

Chamfering and cutting electrode used for gouging cast iron prior to welding. Also for piercing holes, cutting rivets, or cutting off casting risers. Works well for cutting or chamfering of steel, cast iron, stainless steel, aluminum, and bronze alloys. AC or DC straight.

SIZES AVAILABLE

DIA	3/32	1/8	5/32	3/16
AMP	110-150	150-240	180-350	200-425

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-----Aluminum Alloys-----

WW555 ALUMINUM ALLOY

Flux coated arc aluminum welding rod for building up, or joining aluminum castings and extrusions, such as transmission housing and gravel truck boxes. Tensile strength 33,000 PSI

SIZES AVAILABLE

DIA	3/32	1/8	5/32
AMP	60-80	120-150	130-170

WW550 ALUMINUM ALLOY

IFC aluminum flux cored brazing rod. Used with oxygen-acetylene torch for joining thin and heavy aluminum sections. Melt temperature 1090 deg F. Tensile strength 33,000 PSI.

SIZES AVAILABLE

DIA	1/8	3/16
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WW575 ALUMINUM ALLOY

Torch build up or repair of aluminum castings or sheets, without the use of flux. Base metal must be ground or filed and free of grease. Warm base metal until the rod melts without aid of torch. Melt Temp 675 deg

SIZES AVAILABLE

DIA	1/8	5/32	3/16	1/4
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-----Stainless Steel Alloys-----

WW666 STAINLESS STEEL- ALL PURPOSE

General purpose low carbon stainless steel alloy. Used for repair welding of all types of stainless steels. Exceeds all requirements for food handling equipment, dairy and chemical tanks or fittings. Welds stainless steels in all positions. Easy slag clean up. Tensile strength 100,000 PSI AC and Dc reverse +.

SIZES AVAILABLE

DIA	1/16	5/64	3/32	1/8	5/32
AMP	25-50	40-70	45-80	55-100	80-135

WW669 STAINLESS STEEL- HIGH TEMPERATURE

For welding stainless steels exposed to high heats and direct flames. Welds resist oxidation at temperatures to 2000 deg F. Used in the construction and repair of furnaces, boilers, ovens, heat exchangers, and manifolds. Tensile strength 96,000 PSI

SIZES AVAILABLE

DIA	3/32	1/8	5/32
AMP	40-80	70-110	90-130

WW668 STAINLESS STEEL-SEVERE CORROSION

Exceptionally easy operating electrode. Has exceptionally high resistance to acid corrosion including hydrochloric, sulfuric, acetic, and hot formic acids. Resists corrosion from iodine, vinegar, and sulphites. Welds stainless steels in all positions. Easy slag removal. Tensile strength 95,000 PSI Runs equally well on AC or DC reverse +.

SIZES AVAILABLE

DIA	3/32	1/8	5/32
AMP	40-70	55-100	80-135

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-----Universal High Strength Alloy-----

WW777 SPECIAL ALLOY ELECTRODE

Superior strength electrode with exceptional weldability in all positions. Smooth, even weld with easy clean-up. Good for welding low, medium, and high carbon steels including T1 steel, or for joining dissimilar metals. Welds spring steel, tool steel, and all stainless steels including all 400 series stainless steels. Performs with AC current better than normal stainless steels. Machinable. Also used as cushion prior to hard surfacing. Deposits exceed 120,000 PSI. AC or DC reverse.

SIZES AVAILABLE

DIA	1/16	3/32	1/8	5/32	3/16
AMP	25-50	45-80	60-90	80-125	125-185

WW787 SPECIAL ALLOY ELECTRODE

Joining electrode for difficult to weld steels including medium, high carbon, high and low alloy steels, cryogenic steels, all nickel alloys including Monel, Inconel, Hastelloys, Nichrome, and dissimilar combinations. Good for crack sensitive areas, heavy vibration, and extremes in high and low temperatures. Welds in all positions. Tensile strength 100,000 PSI. DC reverse.

SIZES AVAILABLE

DIA	3/32	1/8	5/32	3/16
AMP	50-85	75-110	90-130	120-170

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-----Build-up and Hardfacing Alloy-----

WW888 MACHINABLE BUILD-UP

Build-up alloy with high resistance to impact and friction. Welds well in all positions. Flame cuts, 380 Brinell hardness. AC-DC reverse.

SIZES AVAILABLE

DIA	5/32	3/16
AMP	140-180	180-250

WW889 MACHINABLE BUILD-UP

Alloy used as under cement for harder electrode or for joining manganese or high carbon steels. No preheat normally required. Tensile strength 100,000 PSI with a deposited hardness of 200 brinell and will work harden to 500 Brinell.

SIZES AVAILABLE

DIA	1/8	5/32	3/16
AMP	100-140	140-190	190-250

WW887 MACHINABLE BUILD-UP

Alloy has very high compressive strength and resists impact or high compressive rolling friction such as rollers, sprocket chains, or glide rails. 260 Brinell, will flame cut. AC-DC reverse+.

SIZES AVAILABLE

DIA	5/32	3/16	1/4
AMP	150-200	200-260	240-270

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-----Build-up and Hardfacing Alloy-----

WW997 VERY HIGH ABRASION

Alloy with special coating giving 240% electrode recovery, no flux covering. Rc 63-67 single pass. Very good resistance to abrasion, corrosion, friction combined with heat. Normally used in areas exposed to extreme sliding conditions, earth moving, brick making, and cement mills. Use cushion layer of WW777 or WW889. Build-up should not exceed 3 passes of WW997.

SIZES AVAILABLE

DIA	1/8	5/32	3/16
AMP	120-140	140-180	180-230

WW995 HIGH HEAT CORROSION

Protective coating alloy for high heat or extreme corrosion. Use to build-up or repair hot forming dies, steam valve seats, or parts exposed to molten metals. Will not distort when heated then exposed to abrasion or impact. Hardness Rc 45. AC or DC reverse +.

SIZES AVAILABLE

DIA	1/8	5/32	3/16
AMP	80-125	100-140	125-175

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-----Build-up and Hardfacing Alloy-----

WW999 HIGH IMPACT/ HIGH ABRASION

For impact as well as abrasion such as shovel blades, bucket teeth, dozer end bits, or percussion drill bits. Also as final hard coat over WW888. Build-up should not exceed 3 passes of WW999. An all position alloy. Hardness Rc 56-60.

SIZES AVAILABLE

DIA	3/32	1/8	5/32	3/16
AMP	60-75	80-100	130-160	150-180

WW998 HIGH ABRASION

For hardfacing surfaces exposed to very tough abrasion and medium impact. High chrome, carbide alloy. Good for rock crushing, augers, sand pumps, and pulverizing mills. Build-up should not exceed 3 passes of WW998. Hardness Rc 62.

SIZES AVAILABLE

DIA	3/32	1/8	5/32	3/16	1/4
AMP	90-110	110-130	130-160	160-200	200-250

WW996 VERY HIGH IMPACT

High impact and abrasion resistance, without cross checking even when using multi-passes. Used as a build-up alloy when resurfacing low alloy and manganese steels. Also used as joining alloy for manganese steels. Good build-up for crushers, hammers, bucket teeth, buckets, mixers, or frogs. Base metal or electrode during welding operation. 220 Brinell as deposited work hardens to 500 Brinell.

SIZES AVAILABLE

DIA	1/8	5/32	3/16	1/4
AMP	115-130	150-170	180-200	200-250

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WW60FC FLUX COATED BRASS

General purpose flux coated brass torch alloy. For brazing steel, cast iron, and their alloys.

SIZES AVAILABLE

DIA 3/32 1/8 3/16 1/4

WW60 BARE BRASS

General purpose bare brass torch alloy. For brazing steel, cast iron, and their alloys. Use WW100 flux.

SIZES AVAILABLE

DIA 1/16 3/32 1/8 3/16 1/4

WW76 BARE BRONZE

Very smooth low temperature alloy for torch or carbon arc. Good for joining and build-up of copper alloys, such as brass propellers and joining buss bars. Also used to join carbon steel and zinc plating at low temperature. Melt temperature 1570 deg F. Tensile strength 62,000 PSI

SIZES AVAILABLE

DIA 1/16 3/32 1/8 3/16

WEST WELD ALLOYS

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-----Copper Based Alloy-----

WW96FC HIGH STRENGTH TORCH ALLOY

Nickel silver bronze brazing alloy for low temperature joining of low, medium, and high alloy steels when added strength is required. Use for joining large carbides to tool steel, tool steels to medium carbon steels when heat treating is not required, repairing broken drill bits or adding an extension, joining tubular assemblies including chrome and 41xx series steels such as wheel chairs. Tensile strength 100,000 PSI.

SIZES AVAILABLE

DIA	3/32	1/8	3/16
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WW86FC BUILD-UP & JOINING TORCH ALLOY

Bronze, chrome low temperature alloy used for build-up on surfaces exposed to friction of metal against metal. Fuses with steel, cast iron, copper, nickel, and their alloys. Good for replacing gear teeth, worn key ways, bearing and seal surfaces, valve seats and pistons. Work hardens in service although very machinable after application. 130 Brinell as deposited, work hardens to 200 Brinell.

SIZES AVAILABLE

DIA	3/32	1/8	3/16
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WW66IFC TORCH BRAZE WITH FLUX INSIDE

Unique brazing alloy with special active flux inside. Very active flux boils out from inside brass wrap flowing into area to be joined, with extra cleaning action. Inside flux also protected from moisture giving WW66IFC extra long shelf life. Melt Temperature 1400 deg F to 1600 deg F. Tensile strength 40,000 PSI

SIZES AVAILABLE

DIA	3/32	5/32
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WEST WELD ALLOYS

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-----Silver Alloys-----

WW45 45% SILVER CONTENT BARE

Industrial grade silver braze with 45% silver content. An economical alternative to maintenance repair of food handling equipment, medical equipment, or carbide tips. A thin flowing cadmium free alloy with good corrosion resistance and electrical conductivity.

MeltingPoint 1200 degF Completely Fluid 1425 degF Tensile strength 65,000PSI

SIZES AVAILABLE

DIA 1/32 3/64 1/16 3/32

WW45FC 45% FLUX COATED SILVER BRAZE

Flux coated, industrial grade silver braze, with 45% silver content. An economical alternative to maintenance repair of food handling equipment, medical equipment or carbide tips. A thin flowing cadmium free alloy with good corrosion resistance and electrical conductivity.

MeltingPoint 1200 degF Completely Fluid 1425 degF Tensile strength 65,000PSI

SIZES AVAILABLE

DIA 3/64 1/16 3/32

WW25 GENERAL PURPOSE HIGH STRENGTH SOLDER

Silver bearing solder for stainless steel or dissimilar metals. Corrosion resistant and stays bright and shiny. Double the strength of 50/50 solder, more where exposed to vibration or shock. Also gives the best electrical conductivity of all solders. Suitable for food services, medical industries, anywhere there is concern for human health and/or safety.

MeltingPoint 425 deg F Completely Fluid 425 Deg F Tensile strength 15,000PSI

SIZES AVAILABLE

DIA 1/16 3/32 1/8

WEST WELD ALLOYS

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-----Silver Alloys-----

WW56 BARE SILVER BRAZE

56% silver bearing silver braze with high capillary action and strong bonding. Pure contents make this alloy suitable for food and medical industry. Good color match to stainless steels and will also bond copper and nickel alloys to themselves or any combination. Best suited for production or semi-production.

MeltingPoint 1130 deg F Completely Fluid 1200 Deg F

SIZES AVAILABLE

DIA 1/32 3/64 1/16 3/32

WW56FC FIRST QUALITY SILVER BRAZE

56% silver content gives this alloy a free flowing, high ductility, unequalled capillary action, and the deepest penetrating silver. Alloy's contents are non-toxic making it suitable for food processing and medical industry, even when brazed joint comes in contact with food and water. Excellent color match for stainless steels and silverware. WW56FC will hold thin metal when other silvers will fail, including joining stainless steel, brass and nickel alloys. Flux coating gives a lower melting temperature than conventional silver braze.

MeltingPoint 1070 deg F Completely Fluid 1100 Deg F Tensile strength 85,000PSI

SIZES AVAILABLE

DIA 3/64 1/16 3/32

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-----Silver Alloys-----

WW18 18% SILVER PHOS COPPER

Most versatile of phos copper alloys. Excellent for refrigeration, and air conditioning repair. Flow characteristics allow for repair of poor to good fixups. Flux may be required.

MeltingPoint 1190 deg F Completely Fluid 1190 deg F

SIZES AVAILABLE

DIA 1/16 3/32 1/8 1/8 x .050 3/16 1/4

WW16 6% SILVER PHOS COPPER ALLOY

Good field repair of copper tubing or brass. Extremely fluid allowing for repair of slight cracks. Flux not required.

MeltingPoint 1190 deg F Completely Fluid 1400 deg F

SIZES AVAILABLE

DIA 1/16 3/32 1/8 1/8 x .050 3/16

WW17 PHOS COPPER ALLOY

Excellent, economical alloy, for joining copper to copper, or brass to brass or to each other. No flux required. Best used with untarnished base metals or under controlled conditions.

MeltingPoint 1300 deg F Completely Fluid 1450 deg F

SIZES AVAILABLE

DIA 1/16 3/32 1/8 1/8 x .050 3/16

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-----Maintenance & Tool Steel Alloys-----

WW777 TIG UNIVERSAL HIGH TENSILE STRENGTH ALLOY

The exceptionally high elongation and tensile strength makes it a highly versatile maintenance welding alloy. Deposits are dense, smooth, and resistant to corrosion, heat, and cracking. Use for joining cracked die sections, high manganese, tool steels high carbon, low carbon, and stainless steels. Examples include; hot and cold shears, drill shanks, springs, drill shank extensions, and heat treat baskets. DC- straight polarity. Argon shielding gas.

TECHNICAL DATA: Hardness.....BHN236
 Tensile Strength.....Up to 120,000 PSI
 Elongation.....Up to 35%
 Machinability.....Excellent
 Heat Treatment.....Non-heat Treatable

SIZES AVAILABLE

DIA .035 .045 1/16 3/32 1/8 (36" Lengths)

WW787 TIG HIGH ELONGATION NICKEL-CHROMIUM ALLOY

WW787 TIG weld deposits will respond to almost all tool steel heat treatments without cracking. The high alloy content makes weld metal resistant to corrosion and heat scaling up to 1200 deg F. Joining of cracked and fractured tools, dies, fixtures, and other parts that may not require subsequent heat treatment. Build-up prior to surfacing with other alloys. When used as weld without heat treatment, the low coefficient of friction makes it ideal for build-up and surfacing on shafts, bearing surfaces, and valves. Ideally suited for high temperature applications such as steam turbing buckets, blades, and covers. DC- straight polarity. Argon shielding gas.

TECHNICAL DATA: Hardness.....BHN330-375
 Tensile Strength.....Up to 100,000 PSI
 Elongation.....Up to 40%
 Machinability.....Excellent
 Heat Treatment.....Non-heat Treatable

SIZES AVAILABLE

DIA .045 1/16 3/32 1/8 (36" Lengths)

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-----Maintenance & Tool Steel Alloys-----

WW333 TIG LOW CARBON ALLOY

A specifically manufactured triple deoxidized mild steel rod that provides the ultimate in dense, porous free weld deposits. For build-up or joining mild steel units when hardness is not required. Examples are; low alloy shafts, keyways, gears, spacers, items to be carburized or nitrided, sheet metal fabrication, and maintenance. DC- straight polarity. Argon Shielding gas.

TECHNICAL DATA: Tensile Strength.....85,000 PSI
 Elongation.....27%
 Machinability.....Good

SIZES AVAILABLE

DIA .045 1/16 3/32 1/8 (36" Lengths)

WW444 TIG MEDIUM CARBON ALLOY

A special triple deoxidized steel rod that produces dense, porous free deposits as a result of the special deoxidizers consisting of zirconium, titanium, silicon, and manganese. For build-up, underlays, and joining low and medium carbon steels. Especially suited to G.T.A. pipe welding and wherever an exceptionally clean weld is required. DC- straight polarity. Argon shielding gas.

TECHNICAL DATA: Tensile Strength.....Up to 105,000 PSI
 Elongation.....Up to 35%
 Machinability.....Good

SIZES AVAILABLE

DIA .045 1/16 3/32 1/8 (36" Lengths)

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-----Maintenance & Tool Steel Alloys-----

WW666 TIG STAINLESS STEEL ALLOY

The highest quality drawn wire made to close tolerance and rigidly controlled chemistry. This wire may be used for joining dissimilar metals, for low friction overlay work and where corrosion resistance is necessary. Ideal for repair welding of all types of stainless steels. Exceeds all requirements for food handling equipment. DC-straight polarity. Argon shielding gas.

TECHNICAL DATA: Tensile Strength.....Up to 100,000 PSI
 Elongation.....38%
 Machinability.....Good

SIZES AVAILABLE
DIA .035 .045 1/16 3/32 1/8 (36" Lengths)

WW555 TIG ALUMINUM ALLOY

Cleanliness and density of the wire is precisely controlled. Used for fabrication and repairing castings, plates, aluminum sheets, and for build-up and filling cracks.

TECHNICAL DATA: Tensile Strength.....Up to 33,000 PSI
 Machinability.....Excellent

SIZES AVAILABLE
DIA 1/16 3/32 1/8 (36" Lengths)

WW223 TIG HIGH NICKEL ALLOY

A commercially pure nickel weld deposit is produced by this drawn wire which is easily machined, drilled, tapped, and filed. For all units that require a pure nickel weld. Examples include; worn, broken, and shy castings. DC- straight polarity Argon shielding gas.

TECHNICAL DATA: Tensile Strength.....50,000 PSI
 Machinability.....Excellent

SIZES AVAILABLE
DIA 1/16 3/32 1/8 (36" Lengths)

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WW211 TIG COPPER-NICKEL ALLOY

A specially alloyed copper-nickel drawn wire that produces porosity free weld deposits on low grade cast iron castings and patterns. Weldments can be machined through the heat affected zone when the tungsten from the torch is directed on the deposited metal rather than on the iron. Excellent for repairing all types of cast iron parts such as molds, castings and patterns when a close color match is required. DC- straight polarity

TECHNICAL DATA: Alloy Type.....55-45 Copper Nickel
Tensile Strength.....Up to 100,000 PSI
Elongation.....38%
Machinability.....Good

SIZES AVAILABLE

DIA 1/16 3/32 1/8 (36" Lengths)

WW990 TIG HIGH TEMPERATURE, HIGH ABRASION & CORROSION

Produces dense sound weld deposits that acquire a high polish in service and has a low coefficient of friction. Maintains an effective hardness at operating temperatures up to 1800 degF and is not affected by corrosive materials. Primarily employed as a hard overlay on parts subject to abrasion and corrosive media. Used for wear facing cement machinery, agricultural machinery, iron and steel plant equipment, metal working tools, coke pusher shoes, and carbon scrapers. DC- straight polarity. Argon shielding gas

TECHNICAL DATA: Alloy Type.....High Alloy-Cobalt Base
Hardness.....Rockwell C46-55
Heat Treatment.....Non-heat Treatable

SIZES AVAILABLE

DIA 1/8 5/32 3/16 (14" Lengths)

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WW999 TIG HIGH TEMPERATURE, HIGH IMPACT & CORROSION

A premium cobalt based rod that produces weld deposits that withstand severe impact at elevated temperatures. Scaling resistance is excellent up to 1900F deg. Hot work tools including trimming dies, punches, shear blades, press forging dies, extrusion dies, and mandrels. Other parts that render themselves to this alloy include; conveyor rolls, tong b mill guides, and impeller parts. DC- straight polarity. Argon shielding gas.

TECHNICAL DATA: Alloy Type.....55-45 Copper Nickel
Tensile Strength.....Up to 100,000 PSI
Elongation.....38%
Machinability.....Good

SIZES AVAILABLE

DIA 1/16 3/32 1/8 (36" Lengths)

WWA2 TIG AIR HARDENING TOOL STEEL

Weld deposits are completely heat treatable and have resistance to high abrasion, mild impact, and wear. Suitable for both cold and hot working applications. Tools and dies of the 5% chromium type and high carbon punches, trimmers, coining dies, mandrels, and forming dies. DC- straight polarity. Argon shielding gas.

TECHNICAL DATA: Hardness.....Rockwell C46-55
as welded
Heat Treatment.....Non-heat Treatable

SIZES AVAILABLE

DIA .035 .045 1/16 3/32 1/8 (36" Lengths)

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WWM2 TIG HIGH SPEED TOOL STEEL

A high quality finely drawn 8% molybdenum high speed alloy wire that produces hard as welded deposits, and retains hardness up to operating temperatures of 1100F deg. Good resistance to abrasion and frictional wear, Repairing of fine edged cutting tools such as; drills, reamers, broaches, punches, and other applications that require sharp keen edges DC- straight polarity. Argon shielding gas.

TECHNICAL DATA: Alloy Type.....Typical Molybdenum High Speed
Hardness.....Rc61-63
as welded
Heat Treatment.....Use M2 Procedure

SIZES AVAILABLE
DIA .035 .045 1/16 3/32 1/8 (36" Lengths)

WWH13 TIG HOT WORKING TOOL STEEL

Hot working weld deposits are tungsten free, homogenous, porous free, dense, and may be annealed and rehardened, if necessary. Primarily designed for use on tools and dies subject to heat checking and wear. Examples include; die casting dies used in the aluminum, magnesium, and zinc die casting industries as well as for the repair of press forging dies and inserts. May be used on other hot or cold working units such as shears,

TECHNICAL DATA: Alloy Type....Tungsten Free 5% Chromium
Hot Work
Hardness.....Rockwell C54-57
as welded
Heat Treatment.....Use H13 Procedure

SIZES AVAILABLE
DIA .035 .045 1/16 3/32 1/8 (36" Lengths)

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WW8620 TIG LOW AND MEDIUM CARBON ALLOY STEELS

A high quality, balanced low alloy drawn wire containing chrome, nickel, and molybdenum. Weld deposits respond to heat treatment the same as standard AISI 8620 steel. Primarily used for joining, building up, and repairing the AISI 8620 and other medium alloy steels where tensile strength up to 105,000psi is required. Excellent for underlays prior to surfacing with a harder alloy or steels that have a high carbon base. DC- straight polarity Argon shielding gas.

TECHNICAL DATA: Alloy Type.....Chrome-Nickel-Molybdenum
Hardness.....Rc25-30
as welded
Heat Treatment.....Use AISI 8620 Procedure

SIZES AVAILABLE
DIA .035 .045 1/16 3/32 1/8 (36" Lengths)

WWH TIG BUILD UP

Machinable weld deposits that incorporate excellent thermal shock and wear resistance well as toughness. All types of die casting dies, and other hot and cold working units where a medium hardness is required that is tough. Used for repairing broken teeth on automobile transmission gears in the as welded condition. DC- straight polarity. Argon shielding gas.

TECHNICAL DATA: Alloy Type.....Low Carbon Chromium Alloy
Hardness.....Rockwell C36-38
as welded

SIZES AVAILABLE
DIA .035 .045 1/16 3/32 1/8 (36" Lengths)

WWH12 TIG HIGH HARDNESS, HOT WORKING TOOL STEEL

A special high chromium-molybdenum-tungsten hot work tool steel specifically formulated to give high hardness and excellent wear resistance for both hot and cold work applications. Weld deposits can be tempered to a lower hardness as desired. Used for repairing a variety of tool steels when heat treatment is not a factor. Specifically used in areas that need a high hardness weld as deposited. DC- straight polarity. Argon shielding gas.

TECHNICAL DATA: Alloy Type.....Chromium-Molybdenum-Tungsten
Hot Work
Hardness.....Rockwell C58-60
as welded
Heat Treatment.....Use H12 Procedure

SIZES AVAILABLE
DIA 1/16 3/32 1/8 (36" Lengths)

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-----High Temperature Metalizing Powders-----

The preheating of the base metal is different for each alloy and will be explained in the process description of this method.

The following Metalizing Powders are packaged in 1# 2# 5# 10# and 30# containers

WWHSW25 BUILD UP

For cladding, sealing, or build up, to be overlaid with harder powder. Tough powder that very machinable. It is good build up on cams, chutes, collars, pins, pistons, sheaves, winches, paddles, jaws or journals where deposit will withstand friction, impact, or both.

TECHNICAL DATA: Hardness.....Rc25
 Machinability.....Excellent

WWHSW35 BUILD UP

Intermediate hardness with very good resistance to cracking and stress. For build up on steel, cast iron, stainless steel, and nickel alloys. Also may be used on bearing surfaces, forming dies, glass molds, guides, journals and jaws, plastic molds, pump shafts, sleeve rolls, slide blocks steel casting defects, valve seats and stems. Thin or thick overlays can be made. Very good for abrasion and corrosion resistance even against steam or chemicaled water, frictional wear, and will not cross check even at elevated temperature

TECHNICAL DATA: Hardness.....Rc35
 Machinability.....Good

WWHSW186 BUILD UP HIGH CORROSION

For steel, stainless steel, and cast iron. Very fluid powder for ease of fusing and machining. Good for thin overlays or multiple pass build ups. Provides resistance to abrasion, metal to metal friction, galling, corrosion (steam, salt water, and chemical compounds), moderate impact and heat scaling. Used on bearing surfaces, journals, valves, feed rolls, molds, pump parts, shafts, or wear rings.

TECHNICAL DATA: Hardness.....Rc35-45
 Machinability.....Excellent

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WWHSW299 BUILD UP/ CAST IRON REPAIR

For sealing, filling, and build up, on cast iron and steel. Very machinable deposits on cast iron with no hard spot even in the area between the deposit and the original cast iron. Excellent for overlays on crank castings, cylinder heads, motor housings, machine parts, sprockets and gears. Good for repairing cracks in manifolds or blocks.

TECHNICAL DATA: Hardness.....Rb89
 Machinability.....Very good
 Tensile Strength.....50,000 PSI

WWHSW64 HARDFACING

Good hardfacing for steel, stainless steel, cast iron, nickel and its alloys. Has very high resistance to friction, galling, and fine particle abrasion. Very easily sprayability. Excellent repair or OEM of augers, blades, cams, chutes, chains, dies, plow shears, mixers, plungers, valves, and wear pads. Will resist softening at elevated temperatures, scoring heat scaling corrosion, friction, and abrasion.

TECHNICAL DATA: Hardness.....Rc64
 Machinability.....Grinding only

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-----**Low Temperature Metalizing Powders**-----

Before applying the primer bond, the base metal has to be preheated to about 200 deg F and the base metal temperature should not exceed 500 deg F during the process of applying the primer and the following coats.

The primer bond coat and the following low temperature metalizing powders are packaged in 1# 2# 5# 10# and 30# containers.

WWCSWO PRIMER BONDING COAT

Initial coat for all other WWCS powder spray alloys. High strength transitional alloy for maximum bond strength between desired final deposit and all base metals with the exception of pure copper.

WWCSW111 BRONZE ALLOY

Typically used for repair of bushings, seals, pistons, piston rods, and thrust collars. WWCSW111 is the easiest of the WWCS powders to apply and finish. It will deposit on all metals with the exception of pure copper. This alloy is corrosion resistant.

TECHNICAL DATA: Hardness.....Rb65-75
 Machinability.....Good
 Density.....94%

WWCSW333 MILD STEEL ALLOY

Typically used for pump impellers, starter motor shafts, guides, journals, and very worn shafts. Often used as an economical build up for OEM, or as a base coat, cushion layer prior to finish coat of other powders.

TECHNICAL DATA: Hardness.....Rb80-88
 Machinability.....Good
 Density.....93%

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Powder metals (hot & cold spray)
Solders
Galvanizing bars
Silver alloys
Hardfacing Alloys - electrodes or wire
Alloys for joining dissimilar steels
Any other applications

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