

POSTALLOY® 14

Description

POSTALLOY 14 is a self-fluxing, oxy-acetylene hardfacing alloy that is applied below the fusion temperature of the base metal. It may be used on carbon steels, alloy steels, nickel alloys and cast iron. POSTALLOY 14 flows out easily and may be applied in extremely thin layers. Deposits are non-sparking, non-magnetic, and non-heat treatable.

Excellent cold and hot abrasion resistance - Maintains a high level of hardness up to 1200°F (649°C) .

Outstanding for metal-to-metal wear resistance - Deposits take on an extremely high polish, and will resist galling and freezing when in contact with other metals.

Good Corrosion Resistance - POSTALLOY 14 will provide corrosion protection that is equal to most stainless steels and Inconel alloys

Applications

Valve seats, Cement and paper pulp mixing blades, Pistons, Forming dies and wire drawing dies, Cams, Overlaying rails, Pump shafts and bushings, Guides and racks in high temperatures, Overlaying edges of augers, Industrial knives, Screws, Cutters and shredders, Impellers

Weld Deposit Properties

Hardness (<i>room temp</i>)	59 Rc
	(800°F) 55 Rc
	(1000°F) 50 Rc
	(1200°F) 45 Rc

POSTALLOY® 21

Description

POSTALLOY 21 is a "self-hardening" wear resistant overlay engineered for abrasion and abrasion combined with medium impact. The alloy chemistry provides good resistance to spalling and chipping while the special low hydrogen coating minimizes dilution and helps to eliminate underbead cracking.

Use on carbon and low alloy steels, It can be used out-of-position and can be used with all types of AC or DC equipment.

Applications

Excavator parts, Bucket lips and teeth, Tamping tools, Dozer and grader blades, Screw conveyors, Grader end bits, Elevator bucket lips, Post hole augers, Muller tires, Wear areas on clamshell, Mining, Dragline and shovel buckets, Earthmoving and construction equipment

Weld Deposit Properties

Hardness as deposited	56-60 Rc
Deposit Thickness	2-3 Passes
Deposits are non-machinable	

POSTALLOY® 27

Description

POSTALLOY 27 is a build-up electrode in the machinable range of hardness providing wear resistance that is far superior to low and medium carbon steel and low alloy steels. Deposits are extremely tough and have a high resistance to impact and deformation and are not subject to spalling or roll-over. In addition, deposits are dense, crack-free and porosity-free.

Applications

Rebuilding badly worn machine parts back to original dimensions, Roll ends, Shafts, Build-up of parts prior to overlaying with a more wear resistant overlay, Wobblers, Brake drums, Tractor rolls, Sprockets, Rails, Trunnions, Idlers, Dredge pump casings, Gear teeth, Wheels

Weld Deposit Properties

Hardness	up to 31Rc
Deposit Thickness	as required
Impact Resistance	Excellent
Compressive Strength	High

Data contained in this catalog are typical of the products described, but are not suitable for specifications.

POSTALLOY® 30

Description

POSTALLOY 30 is a high strength, ductile, crack resistant welding alloy specifically designed for welding problem steels such as, low alloy, high carbon or crack sensitive tool steels. Ideal for welding dissimilar steels - low alloy, spring steels, carbon steels, tool steels.

EXCELLENT JOINING CHARACTERISTICS - With the combination of balanced alloy chemistry and high strength, crack resistant weld deposits, the capability to weld dissimilar problem steels is outstanding.

CARBON HAS NO ADVERSE AFFECTS - Carbon, the cause of most problems associated with weld cracking and hard spots, is rendered harmless.

ACTS AS A SHOCK ABSORBER DURING OPERATION - Since POSTALLOY 30 does not respond to heat-treatment and remains ductile, it has the ability to withstand heavy impact or shock loading.

Applications

Shafts and keyways, gear tooth build up, stamping and forging dies, shovel teeth and blades, wear plates, grousers, heat-treating parts, cracked steel casings, jigs and fixtures and chain links.

Weld Deposit Properties

Tensile Strength (up to)	120,000psi
Elongation	35%
Machinable with Carbide Tools	
Cannot be flamecut	

POSTALLOY® Super 35

Description

POSTALLOY SUPER 35, a general purpose mild steel electrode, simplifies all welding applications involving mild steel and provides the maintenance welder with a tremendous degree of versatility.

It is remarkably easy to use even on an AC "buzz box". Just strike the arc and let it go to work. POSTALLOY SUPER 35 is easy to use in all positions and features instant strike and restrike characteristics. The arc is smooth and the slag is self-releasing. High amperage capability for deep penetration when welding through rust, paint, grease and dirt. Deposits on galvanized steels with little or no burning of the Surrounding galvanized coating. Leaves no porosity. Electrode may be bent without the coating popping off when welding hard to reach corners. High degree of moisture resistance.

Applications

Low smoke volume makes it ideal for confined or poorly ventilated areas. Can be used as a contact or "drag" electrode. May be used at the lowest possible amperage to prevent burnthrough on thin sheet metal.

Weld Deposit Properties

Tensile Strength	80,000psi
Elongation	24%

POSTALLOY® 40

Description

An outstanding aluminum electrode with exceptional weldability and unsurpassed capabilities. The core wire - lowest melting 1000°F (538°C). The coating - extruded... more flux is compacted per inch of core wire than ever before. Together these two features produce an electrode with superior qualities.

Applications

Foundry defects, Railings, Machining errors, Structural members, Food processing equipment, Welding outdoors when TIG welding become difficult due to erratic shielding gas, Truck and trailer repair, Cracked housings and castings Coverage.

Weld Deposit Properties

High Tensile Strength	34,000psi
Outstanding Arc Stability	
Highly Concentrated Arc	
Rapid Deposition	

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POSTALLOY® 50

Description

For all grades of cast iron and cast iron to steel. POSTALLOY 50 is a unique new electrode that uses "state of the art" coating technology to produce maximum welding performance. It should be used for welding all grades of cast iron and cast iron to steel or stainless.

POSTALLOY 50 offers the following important benefits: Maximum Crack Resistivity due to its ideal combination of strength and ductility, and its high tolerance for harmful contaminants, such as sulfur and phosphorus.

Applications

Dense Deposits on Dirty, Oil-Soaked Cast Iron - The superior arc-purging action of POSTALLOY 50 penetrates through surface contamination as well as contamination that has literally soaked into the casting to produce a solid porosity-free deposit.

Weld Deposit Properties

Tensile Strength	75,000psi
Hardness	200 BHN
Deposits are machinable	

POSTALLOY® 51

Description

POSTALLOY 51, for welding offers excellent weldability and highly crack resistant deposits. Especially for thin-walled castings and when maximum machinability is desired after one pass.

Important features of POSTALLOY 51 are: Controlled penetration provides sufficient force to penetrate through surface contaminants, but prevents excessive dilution; Low amperage minimizes the hard brittle zone around the weld; Outstanding machinability; Excellent wash and fluidity; Very good weld bead tie-in; Deposits are dense and porosity -free; POSTALLOY 51 will not turn red and overheat, allowing full use of the electrode.

Applications

Thin wall castings, contaminated steel etc.

Weld Deposit Properties

Hardness	55,000psi
Tensile Strength	Excellent
Machinability	170 BHN

POSTALLOY® 94

Description

POSTALLOY 94 is a bronze electrode that has the ability to join many types of base metals. Deposits are very tough and wear resistant, developing a tensile strength which will exceed most of the base metals it will be called upon to weld. Typical base metals are: Brass, Bronze, Tool steels, Brass to steel, Bronze to stainless, Cast iron, Copper to steel, Bronze to cast iron, Carbon steel, Copper to stainless, Stainless Steel.

Frictional Wear and Corrosion Resistance - The corrosion resistance is among the best of the copper alloys, providing good resistance to salt water and acids. Deposits work-harden in service and take on an exceptionally high polish.

Applications

Bearings, Valve bodies and seats, Bushings, Guides, Impellers, Gear teeth and pulleys, Mixing arms, Non sparking alloy, Paper mill rolls, Anti-scratch surface, Propellers

Weld Deposit Properties

Hardness as deposited	150 BHN
Work hardens to	225 BHN
Tensile Strength	100,000psi
Elongation	28%

Data contained in this catalog are typical of the products described, but are not suitable for specifications.

POSTALLOY® 95 (AC)

Description

Joining and overlaying copper alloys, steel and cast iron. Ideal for dissimilar combinations, such as steel to copper. Excellent weldability. Provides a good combination of strength and ductility. The arc is smooth with a consistent burn-off rate. It may be used out-of-position. The core wire of POSTALLOY 95 and 950 melts well below the melting point of iron base alloys, such as steel and cast iron. This makes it ideal for applications where the use of standard steel or cast iron electrodes would be damaging to the base metal.

Applications

Bearing surfaces, Pumps, Bushings, Valve parts, Impellers, Gear wheels, Bushings, Corroded cast iron parts, Propellers, Galvanized steel

Weld Deposit Properties

Hardness	100 BHN
Elongation	40%
Tensile Strength	60,000psi
Machinability	Excellent

POSTALLOY® 950 (DC Rev)

Description

Joining and overlaying copper alloys, steel and cast iron. Ideal for dissimilar combinations, such as steel to copper. Excellent weldability. Provides a good combination of strength and ductility. The arc is smooth with a consistent burn-off rate. It may be used out-of-position. The core wire of POSTALLOY 95 and 950 melts well below the melting point of iron base alloys, such as steel and cast iron. This makes it ideal for applications where the use of standard steel or cast iron electrodes would be damaging to the base metal.

Applications

Bearing surfaces, Pumps, Bushings, Valve parts, Impellers, Gear wheels, Bushings, Corroded cast iron parts, Propellers, Galvanized steel

Weld Deposit Properties

Hardness	100 BHN
Elongation	40%
Tensile Strength	60,000psi
Machinability	Excellent

POSTALLOY® 205

Description

Ideal for use on manganese steel. Under severe impact, such as hammering or pounding, deposits quickly become tougher and harder, and will not spall or mushroom. POSTALLOY 205 may be used alone, as a combination build-up and hardfacing alloy, or used as a build-up and cushion prior to overlaying with a more abrasion resistant alloy, such as 213 or 214.

POSTALLOY 205 is an all-position electrode for joining or overlaying for high impact. It operates on either AC or DC reverse; the arc is smooth and stable with low spatter loss. Slag removal is easy.

Applications

Coal crushing segments, Shovel drive sprockets, Dipper teeth and lips, Bucket teeth, Pulverizing hammers, Grizzly bars, Shovel tracks, Gear teeth and attaching wear plates, Crusher pads, Railway frogs and switches, Guard rails, Shovel idler wheels

Weld Deposit Properties

Hardness as deposited	15 - 22 Rc
Work hardens to	55 Rc
Tensile Strength	125,000 psi
Elongation	34%

Data contained in this catalog are typical of the products described, but are not suitable for specifications.

POSTALLOY® 206HD

Description

POSTALLOY 206HD is a high chromium, nickel, molybdenum alloy electrode that produces deposits with excellent strength and elongation, combined with a high degree of toughness. Weld deposits work-harden in service and provide outstanding impact resistance. The austenitic structure of the weld deposit provides very good corrosion resistance. Its versatility allows it to be used for joining, as well as a cushion layer prior to hardfacing with a harder, more wear resistant alloy. Use on carbon and alloy steels, stainless and manganese steels and joining dissimilar combinations.

Applications

Rebuilding under carriage components, Impactors, Sprockets, Weld in wear plate, Gear teeth, Cushion layer for hardfacing alloys, Sheaves

Weld Deposit Properties

Hardness as deposited	100-150 Rb
	work hardens to 30-35 Rb
Tensile Strength	100,000psi
Elongation	25%

POSTALLOY® 207

Description

POSTALLOY 207 is a high alloy, work-hardening austenitic manganese steel hardfacing electrode. It can be used equally well for joining and build-up/surfacing of carbon, low alloy and manganese steels. Weld deposits made with POSTALLOY 207 are a modified chromium-manganese chemistry providing an excellent combination of weld metal strength and ductility. Work-hardens rapidly under repeated impact. The yield strength is higher than ordinary manganese alloys providing greater resistance to mushrooming when subjected to compressive loads and repeated impact.

Ideal as a cushioning or buffer layer on manganese steel parts that must be rebuilt on a repetitive basis. Since it will not embrittle until 1000°(538°C), it will act as an insulator to the manganese base metal in helping it keep below 500°(260°C) during the welding operation.

Applications

Fabricating manganese steels, Dragline and power shovel bucket lips and teeth, Manganese to mild or low alloy steels, Railroad crossovers and frogs, Hammer mill hammers, Grizzly bars, Pulverizing hammers, Steel mill wobblers

Weld Deposit Properties

Hardness as deposited	20 Rc
Work hardens to	50-55 Rc
Tensile Strength	130,000 psi
Elongation	35%

POSTALLOY® 214

Description

POSTALLOY 214 is a high chromium carbide hardfacing electrode for high abrasion and mild impact applications. Deposits take on a high polish, producing excellent frictional and sliding abrasion resistance. Use on carbon and alloy steels, stainless steels and cast iron.

Heat and Corrosion Resistant - Corrosion resistance is equal to straight chromium steels and it retains its hardness up to 1000°F(538°C).

POSTALLOY 214 offers good out-of-position welding characteristics on either AC or DC. Fast deposition rate and easy slag removal. It produces minimum dilution for high first pass hardness and deposits are extremely smooth - almost ripple free.

Applications

Farm implements, Dust fan blades, Asphalt and concrete mixer paddles, Crushing and pulverizing tools, Road ripper teeth, Grader blades, Ditch digger teeth, Muller tires, Conveyor screws, Feed screws, Dredge pump impellers

Weld Deposit Properties

Hardness (up to)	60 Rc
Deposit Thickness	2-3 passes
Cannot be flame cut	
Relief checks readily to prevent stress build-up.	

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POSTALLOY® 215HD

Description

POSTALLOY 215HD hardfacing electrodes, available in 1/4"(6.0mm) and 1/2"(12.5mm), are a unique concept in hardfacing technology. They are tubular, permitting higher travel speeds and much higher percentages of carbide forming elements contained in the core than with ordinary flux-coated electrodes. Weld deposit chemistries consist of chromium carbides combined in such a way as to produce extremely good abrasion resistance coupled with mild to moderate impact resistance. Deposits take on a high polish to resist sliding particle abrasion and will maintain good hot hardness up to 1000°F (538°C).

Due to its unique tubular design, POSTALLOY 215HD offers very smooth operational characteristics. Both the 1/4" and 1/2" diameters will fit standard electrode holders.

Applications

Mining, Quarrying and construction Equipment, Screw conveyors, Dredge bucket lips, Clamshell and dragline buckets, Suction dredge cutter teeth, Bucket lips and teeth, Grizzly bars, Scraper and grader blades, Excellent final layer on manganese jaw crushers and swing hammers, Chutes, liner plates

Weld Deposit Properties

Average Hardness 58-62 Rc

Deposit Thickness 2-3 passes

Cannot be flame cut

Relief checks readily to prevent stress build-up.

POSTALLOY® 216HD

Description

POSTALLOY 216HD hardfacing electrodes, available in 1/4"(6.0mm) and 1/2"(12.5mm), are a unique concept in hardfacing technology. They are tubular, permitting higher travel speeds and much higher percentages of carbide forming elements contained in the core than with ordinary flux-coated electrodes. Weld chemistry produces a chromium carbide deposit designed for overlying surfaces exposed to high abrasion and medium impact. Carbides are dispersed throughout a tough alloy matrix that is both heat and impact resistant. Good hot-hardness up to 1000°F (538°C). Weld deposit chemistries consist of chromium carbides combined in such a way as to produce extremely good abrasion resistance coupled with mild to moderate impact resistance. Deposits take on a high polish to resist sliding particle abrasion and will maintain good hot hardness up to 1000°F (538°C).

Outstanding Features

Excellent AC or DC operation, even on a "buzz box". High metal recovery - no slag to chip. Over 90% efficient. Low amperage - 1/4" from 80 amps, 1/2" from 180 amps. High deposition rates - up to 3 times faster than ordinary electrode
Moisture resistant coating, even under severe weather or high humidity

Weld Deposit Properties

Average Hardness 58-62 Rc

Deposit Thickness 2-3 passes

Cannot be flame cut

Relief checks readily to prevent stress build-up.

POSTALLOY® 218HD

Description

POSTALLOY 218HD is designed for applications involving severe mineral or earth abrasion at temperatures up to 1400°F (760°C). This unique electrode is actually a combination of five types of carbides, uniformly dispersed throughout the weld metal. Several of these carbides have micro-hardness readings that are harder than tungsten carbide. First pass hardness is greater than other wearfacing electrodes - 63 Rc on mild steel. POSTALLOY 218HD hardfacing electrodes, available in 1/4"(6.0mm) diameter, are a unique concept in hardfacing technology. They are tubular, permitting higher travel speeds and much higher percentages of carbide forming elements contained in the core than with ordinary flux-coated electrodes. Due to its unique tubular design, POSTALLOY 218HD offers very smooth operational characteristics

Applications

Sinter plant parts, Solid waste shredder parts, Coke pusher shoes, Agricultural implements, Coke crusher segments, Earth moving and construction equipment, Tong bits, Cement mill parts, Slag ladles, Brick making equipment, Ash fans, Cereal grinding equipment and muller plows

Weld Deposit Properties

Average Hardness 63-66 Rc

Deposit Thickness 2 layers

Excellent heat resistance up to 1400°F

Weld deposits will relief check crack readily

Data contained in this catalog are typical of the products described, but are not suitable for specifications.

POSTALLOY® 219HD

Description

When protection with tungsten carbide is needed, POSTALLOY 219HD is an ideal choice. Weld deposits contain tungsten carbide in a chromium rich matrix for added wear and corrosion protection. POSTALLOY 219HD hardfacing electrodes, available in 1/4"(6.0mm) diameter, are a unique concept in hardfacing technology. They are tubular, permitting higher travel speeds and much higher percentages of carbide forming elements contained in the core than with ordinary flux-coated electrodes. Due to its unique tubular design, POSTALLOY 219HD offers very smooth operational characteristics.

Applications

Auger points, Debarking hammers, Cutter teeth, Anvil knives, Flights, Tamping tools, Pilot bits, Sand slinger cups and impeller tips, Mixer paddles and blades, Dragline chains, Screw conveyors, Bucket pin ends, Shredder knives, Ditcher teeth, Muller plows, Dredge bucket lips, Fan blades

Weld Deposit Properties

Average Hardness 64-68 Rc

Deposit Thickness 2 layers

Cannot be flame cut.

Relief checks readily to prevent stress build-up.

POSTALLOY® 250

Description

POSTALLOY 250, for gouging and grooving all metals, removes unwanted metal with standard AC or DC power sources. Unsurpassed For stainless steel or cast iron. Does not require supplementary gas, compressed air or special electrode holders. POSTALLOY 250 produces an intense, highly concentrated blowing action which virtually blasts molten metal and slag out of its path. Leaves a clean, scale-free, carbonfree surface which requires no additional preparation.

The coating constituents in POSTALLOY 250 are formulated to provide a conductive slag during fusion. This imparts self-starting characteristics to the electrode. This feature enables the welder to pre-place the rod in the exact spot where the metal is to be removed without instantaneous arcing.

Applications

Veeing out cracks prior to welding, Gouging out old or defective weld metal, Removing flash and risers, Removing unwanted metal before machining

Weld Deposit Properties

POSTALLOY® 301

Description

POSTALLOY 301 is a high strength, ductile, crack resistant welding alloy specifically designed for welding problem steels such as, low alloy, high carbon or crack sensitive tool steels. Ideal for welding dissimilar steels- low alloy, spring steels, carbon steels, tool steels.

EXCELLENT JOINING CHARACTERISTICS - With the combination of balanced alloy chemistry and high strength, crack resistant weld deposits, the capability to weld dissimilar problem steels is outstanding.

CARBON HAS NO ADVERSE AFFECTS - Carbon, the cause of most problems associated with weld cracking and hard spots, is rendered harmless.

ACTS AS A SHOCK ABSORBER DURING OPERATION - Since POSTALLOY 301 does not respond to heat-treatment and remains ductile, it has the ability to withstand heavy impact or shock loading

Applications

Shafts and keyways, gear tooth build-up, stamping and forging dies, shovel teeth and blades, wear plates, grousers, heat-treating parts, cracked steel casings, jigs and fixtures and chain links.

Weld Deposit Properties

Tensile Strength (up to) 120,000psi

Elongation 35%

Machinable with Carbide Tools

Cannot be flamecut

Data contained in this catalog are typical of the products described, but are not suitable for specifications.

POSTALLOY® 305

Description

POSTALLOY 305 is designed to weld low alloy, high strength steel such as T-1, Hy-90, Hy-100, SSS-100. An all-position electrode that provides crack-free welds under highly stressed conditions with outstanding elongation and ductility. Easy slag removal.

Applications

Used to fabricate tanks, containers, covers, and high strength pipe. Use for welding low alloy steels containing manganese, nickel, molybdenum, and chromium such as I-beams, angle iron, scaffolding and super structures. Weldments can be used as welded or stress relieved.

Weld Deposit Properties

Tensile Strength (up to)	113,000psi
Elongation	20%
Yield Strength up to	104,000psi

POSTALLOY® 344

Description

POSTALLOY 344 is an "all new" high strength mild steel electrode offering very smooth operation coupled with superior out-of-position weldability and penetration. It is ideal for welding thin, medium, heavy and dissimilar gauge steel. Easy "all position" weldability - Never before has an electrode been made that offers both smooth operating features with such as outstanding ability to weld out-of-position. Welding positions such as vertical up and down, flat or horizontal fillets, and overhead can be easily accomplished. Ideal for poor-fit work - With POSTALLOY 344 you won't have to spend time positioning the work to make a perfect joint. With its quick-freezing slag and steady arc, it will easily bridge or fill a gap. Best of all - POSTALLOY 344 won't burn you up. Good penetration does not mean that the sparks have to fly and this is especially true with POSTALLOY 344.

Applications

Ideal for contaminated, dirty steels where surface conditions are poor and surface preparation is impractical. The scavenging action of the coating floats contaminants to the surface creating a solid, porosity-free weld.

Weld Deposit Properties

Tensile Strength	84,000psi
Elongation	24%

POSTALLOY® 505

Description

Cast Iron electrode for welding and joining various types of cast iron and for welding cast iron to steel. Good for heavy sections. Conforms to AWS 5.15.90 Eni Fe-CI.

Applications

Joining various types of cast irons

Weld Deposit Properties

Hardness	200 BHN
Tensile Strength	65,000 psi

Data contained in this catalog are typical of the products described, but are not suitable for specifications.

POSTALLOY® 515

Description

A high nickel alloy with specially formulated coating produces a smooth arc for low temperature welding of cast iron. It is excellent for "cold welding" in all positions. Weld deposits are highly machinable. Conforms to AWS 5.15.90 ENI-CI.

Applications	
Cold welding of cast irons. Highly machinable.	

Weld Deposit Properties	
Hardness	170 BHN
Tensile Strength	55,000psi

WeldCor Aluminum

Description

WeldCor Aluminum is an all position 5% silicon aluminum arc welding electrode with exclusive self lifting slag. It is used for low temperature production and maintenance welding of cast and wrought aluminum sheets, plates, castings and extrusions. WeldCor Aluminum provides good color match and excellent corrosion resistance.

Applications	
Aluminum Tanks, pipes, appliances, refrigeration equipment, irrigation equipment, automobile parts and parts found in the chemical, food, and laundry industries.	

Weld Deposit Properties	
Tensile Strength	34,000 psi
Yield Strength	20,000 psi
Elongation	18%

WeldCor Cast Iron

Description

WeldCor Cast Iron is a machinable cast iron used for welding of cast irons to other cast irons as well as for joining cast irons to mild steels and stainless steels. It is also readily used for the repair of castings.

A preheat and inter-pass temperature of not less than 350°F on cast irons is required during welding to prevent cracking.

Applications	
Universal electrode for joining a wide variety of ductile, nodular and malleable cast irons. Ideally suited for the repair of meehanite dies.	

Weld Deposit Properties	
Tensile Strength	66,500 psi
Yield Strength	36,000 psi
Elongation	40%

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WeldCor Tuffweld 223

Description

A Premium high strength, all position extra low hydrogen moisture resistant steel electrode with exceptional welder appeal. For unalloyed construction steels. Extremely smooth - spatter and turbulence free arc transfer. Coating is totally non-conductive with unusually good AC welding characteristics. Easy re-strike.

Applications

Tuffweld 223 is suitable for joining and repair of a wide range of fine grained medium carbon and low alloy steels such as boiler plate, pipe steels, shipbuilding steels and cast steels. Excellent for weathering steels, such as Corten.

Weld Deposit Properties

Tensile Strength	84,000 psi
Yield Strength	69,000 psi
Elongation	32%
Impact Energy @ -22F	66 ft/lb

WeldCor Ultimate

Description

For welding all types of steels, without any danger of cracking or breakage. Recommended for repairing worn parts and as an underlay for hardfacing. As welded, WeldCor Ultimate has an "as welded" tensile strength of 128,000 psi but work hardens up to 186,000 psi.

Applications

Ideal for repairing tools, dies, spring steel and any dissimilar metal combinations, except for aluminum and copper alloys. The special "FERRITE BALANCED" chemistry also serves as a "STUD PULL" electrode.

Weld Deposit Properties

Tensile Strength as welded	128,000 psi
Yield Strength	90,000 psi
Elongation	36%
Impact Energy @ 68F	37ft/lb

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POSTALLOY® Durachrome-G

Description

A premium metal-cored, gas-shielded chromium carbide hardfacing alloy that has a high volume fraction of carbides dispersed in a hard matrix. Excellent out-of-position weldability. For applications involving high abrasion and mild or moderate impact. Deposit polish in service and are heat resistant to 1000°F(531°C). Use on carbon and low alloy steels.

When used with 100% CO₂ or 75/25 Argon/CO₂, it offers excellent weldability in flat, horizontal and vertical down positions, the arc is very stable at both high and low voltages settings, and the smoke level is very low.

Applications

Scrapper blades, Screw conveyors
Road ripper teeth, Mixer blades,
Bucket teeth bucket sides and
bottoms, Fan blades, Tillage tools,
Coal feeder screws, Auger flights

Weld Deposit Properties

Average Hardness 58 - 62 Rc

Deposit Thickness 1-2 layers

Deposits cannot be flame cut

Will check-crack to relieve stresses

POSTALLOY® SUPER-EDGE

Description

Postalloy Super-Edge is an abrasion resistant, gas shielded, high speed tool steel wire designed for applications where edge retention is a primary concern. Weld deposits are martensitic with micro-carbides evenly dispersed throughout the deposit. These properties create a fracture resistant cutting edge even under high compressive loads.

Postalloy Super-Edge is alloyed with molybdenum and tungsten for superior high temperature hot hardness. This property helps maintain a sharp edge under localized high heat conditions created by extreme friction. Super-Edge has very good build-up characteristics which is especially helpful when welding along edges.

Applications

Hot or cold trim dies, Shear blades,
Blanking dies, Cutting tools,
Shearing and piercing dies, Tire
recycling knives

Weld Deposit Properties

Average Hardness 60 - 65 Rc

Deposit Thickness 2-3 layers

Good Hot-hardness: up to 1150°F

Non-Machinable: must be ground

POSTALLOY® 30-SPL

Description

POSTALLOY 30-SPL is a high strength, crack resistant gas shielded solid wire welding alloy specifically designed for welding problem steels such as low alloy, high carbon or crack sensitive tool steels. Ideal for welding dissimilar steels - low alloy, spring steels, carbon steels, tool steels.

EXCELLENT JOINING CHARACTERISTICS - With a combination of balanced alloy chemistry, high strength and crack resistance, the capability to weld dissimilar problem steels is outstanding.

CARBON HAS NO ADVERSE AFFECTS - Brittle, carbon rich areas, the cause of most problems associated with welding higher carbon steels, are eliminated when using this alloy.

ACTS AS A SHOCK ABSORBER DURING OPERATION - Since POSTALLOY 30-SPL does not respond to heat-treatment and remains ductile, it has the ability to withstand heavy impact or shock loading.

Applications

Designed for welding problem steels such as low alloy, high carbon or crack sensitive tool steels. Ideal for welding dissimilar steels - low alloy, spring steels, carbon steels, tool steels.

Weld Deposit Properties

Tensile Strength 120,000 psi

Elongation 35%

Machinable with Carbide Tools

Deposits cannot be flamecut

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POSTALLOY® 30-FCG

Description

POSTALLOY 30-FCG is a high strength, crack resistant flux-cored, gas-shielded all-position welding alloy specifically designed for welding problem steels such as low alloy, high carbon or crack sensitive tool steels. Ideal for welding dissimilar steels - low alloy, spring steels, carbon steels, tool steels.

EXCELLENT JOINING CHARACTERISTICS - With a combination of balanced alloy chemistry, high strength and crack resistance, the capability to weld dissimilar problem steels is outstanding.

CARBON HAS NO ADVERSE EFFECTS - Brittle, carbon rich areas, the cause of most problems associated with welding higher carbon steels, are eliminated when using this alloy.

ACTS AS A SHOCK ABSORBER DURING OPERATION - Since POSTALLOY 30-FCG does not respond to heat-treatment and remains ductile, it has the ability to withstand heavy impact or shock loading.

Applications

Designed for welding problem steels such as low alloy, high carbon or crack sensitive tool steels. Ideal for welding dissimilar steels - low alloy, spring steels, carbon steels, tool steels.

Weld Deposit Properties

Tensile Strength	120,000 psi
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Elongation	35%
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Machinable with Carbide Tools	
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Deposits cannot be flamecut	
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POSTALLOY® 50-SPL

Description

POSTALLOY 50-SPL is a special high strength nickel iron, gas-shielded solid wire welding alloy designed for joining all grades of cast iron, such as gray, ductile, malleable, nodular and Ni-resist. Also for joining cast iron to steel.

The alloy components of POSTALLOY 50-SPL produce weld deposits with similar solidification and thermal contraction rates as cast iron. This minimizes residual stress build-up.

Applications

For joining all grades of cast iron, such as gray, ductile, malleable, nodular and Ni-resist. Also for joining cast iron to steel.

Weld Deposit Properties

Tensile Strength	100,000 psi
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Hardness	250BHN
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Machinable with carbide tools	
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POSTALLOY® 53-SPL

Description

POSTALLOY 53-SPL, a solid, gas-shielded welding wire, is designed for joining and build-up on various types of cast iron, such as ductile, nodular, gray, and Ni-resist. Also for welding cast iron and cast iron to steel or stainless steel.

The unique chemistry of POSTALLOY 53-SPL provides weld deposits that are fully machinable. Under normal circumstances, if dilution is kept to a minimum, there is no undercutting and weld deposits can be machined through the fusion zone, even with high speed steel tooling.

Applications

Designed for joining and build-up on various types of cast iron, such as ductile, nodular, gray, and Ni-resist. Also for welding cast iron and cast iron to steel or stainless steel.

Weld Deposit Properties

Tensile Strength	60,000 psi
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Hardness	100 -150BHN
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Machinability	Excellent
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Data contained in this catalog are typical of the products described, but are not suitable for specifications.

POSTALLOY® 54-FCG

Description

The deposits chemistry of POSTALLOY 54-FCG is similar to that of cast iron, and can be used for build-up or joining a variety of cast iron parts. The welded section is best described as a re-casting of the defective area. Weld repairs with POSTALLOY 54-FCG, when properly preheated, are fully machinable without hard spots.

These benefits combined with a nickel-free weld deposit make POSTALLOY 54-FCG a very sound, economical alternative to traditional welding methods and materials.

Applications

Ideal for repairing thermally cycled parts, such as engine components, furnace doors, and ingot molds. It has similar mechanical properties and will rust the same as cast iron, making it ideal for repairing parts that need a perfect color match.

Welding Parameters

Current <i>amps</i>	240-270
Voltage (DCRP) <i>volts</i>	28-31
Gas Flow <i>cfd (l/hr)</i>	100% CO ₂

POSTALLOY® 94-SPL

Description

POSTALLOY 94-SPL is a gas-shielded, high strength bronze welding wire offering outstanding joining properties when used on different base materials. Deposits are extremely tough. Base metals recommendations are bronze, carbon and alloy steels and cast iron.

Frictional Wear and Corrosion Resistance Deposits: work-harden in service and take on an exceptionally high polish providing excellent bearing properties. In addition the corrosion resistance is among the best of the copper alloys with good resistance to salt water and other chemicals.

Applications

Bearings, Valve bodies and seats, Bushings, Guides, Impellers, Gear teeth, Mixing arms, Pulleys, Paper mill rolls, Propellers, Ideal as a non-sparking alloy or for providing an anti-scratch surface.

Weld Deposit Properties

Tensile Strength	~90,000 psi
Elongation	~28%
Hardness (as deposited)	150 BHN
Hardness (work-hardens)	~225 BHN

POSTALLOY® 97-SPL

Description

POSTALLOY 97-SPL is a low heat input gas-shielded bronze welding wire. It may be used on steels, stainless steels, cast iron, copper, brass and bronze. Minimizes warpage and distortion - Ideal for joining thin sheet metal.

Especially good on galvanized surfaces - The low melting temperature reduces burning of the galvanized coating.

Bonds well to various grades of cast iron.

Ideal for joining dissimilar metals - brass or bronze to cast iron, steel to brass, stainless to Bronze, etc.

Weld deposits are highly machinable.

Applications

Ideal for joining thin sheet metal. Especially good on galvanized surfaces

Weld Deposit Properties

Tensile Strength	60,000 psi
Hardness	100 BHN

Data contained in this catalog are typical of the products described, but are not suitable for specifications.

POSTALLOY® 281-SPL

Description

POSTALLOY 281-SPL is a unique abrasion resistant chromium carbide open-arc overlay. It produces weld deposits that are fully machinable and crack-free, and is designed for applications requiring a heavy build-up. In addition, it offers extremely good heat, corrosion and metal-to-metal wear resistance.

Applications

Augers, Screws, Centrifugal pump casings, Dredge pump journals

Weld Deposit Properties

Average Hardness	38 - 42 Rc
Deposit Thickness	Unlimited
Deposits cannot be flame cut	
Excellent oxidation resistance up to 1100°F	

POSTALLOY® 284-SPL

Description

POSTALLOY 284-SPL is a multi-component open-arc hardfacing overlay containing a large volume of chromium carbides and extremely hard chromium borides uniformly dispersed throughout the deposit. It is recommended for applications involving severe abrasion, abrasion coupled with mild impact or when abrasion up to 1000°F(538°C) prevails.

Applications

Sinter breakers, Classifier flights, Cement chutes, Grizzly bars, Buckets and lips, Pug mill paddles, Augers and conveyor screws, Wear plates, Die rings, Exhaust fans, Bulldozer blades, Feeder blades, Coke pusher shoes, Coal feeder screws, Coke chutes, Exhaust fan blades, Ash conveyor elbow, Brick augers, Wet ash centrifugal pumps, Crusher rollers

Weld Deposit Properties

Average Hardness	62 - 65 Rc
Deposit Thickness	1 - 2 layers
Cannot be flame cut	
Surface checks readily to relieve stresses	

POSTALLOY® 285-SPL

Description

Postalloy 285-SPL is a high alloy austenitic manganese steel welding wire for joining, build-up or hardfacing. Produces high-strength, crack resistant deposits that are tough, ductile and work-harden rapidly. The high yield strength reduces mushrooming from impact. Unlike common manganese alloys, which should not be used for welding plain carbon steel, Postalloy 285-SPL can be used with full confidence to buildup or join manganese steels as well as manganese to carbon and low alloy steels.

Applications

Welding manganese steel to itself, Pulverizing hammers, Railroad crossovers and frogs, Clam shell buckets lips, Crusher jaws, Dragline and power shovel bucket lips and teeth, Cone and roll shells, Hammer mill hammers, Grizzly bars

Weld Deposit Properties

Tensile Strength	135,000 psi
Yield Strength	90,000 psi
Elongation	30%
Hardness as deposited	20 Rc

Data contained in this catalog are typical of the products described, but are not suitable for specifications.

POSTALLOY® 285-FCO

Description

Postalloy 285-FCO is a high alloy austenitic manganese steel welding wire for joining, build-up or hardfacing. Produces high-strength, crack resistant deposits that are tough, ductile and work-harden rapidly. The high yield strength reduces mushrooming from impact. Unlike common manganese alloys, which should not be used for welding plain carbon steel, POSTALLOY® 285-FCO can be used with full confidence to build up or join manganese steels as well as manganese to carbon and low alloy steels.

Applications

Welding manganese steel to itself, Hammer mill hammers, Pulverizing hammers, Railroad crossovers and frogs, Clam shell buckets lips, Crusher jaws, Dragline and power shovel bucket lips and teeth, Cone and roll shells, Sizing screens

Weld Deposit Properties

Tensile Strength	135,000 psi
Yield Strength	90,000psi
Elongation	30%
Hardness as deposited	20 Rc

POSTALLOY® 286-FCO

Description

Postalloy 286-FCO is an iron base high chromium, nickel, moly alloy designed for applications involving high, temperature wear, impact, metal-to-metal wear and thermal shock. Weld deposits work-harden in service and provide outstanding impact and wear resistance up to 1100°F (595°C), and are fully machinable. Applications include shear blades, tong bits, hot metal ladles, mill guides, hot-forming tools, extrusion dies.

Applications

Shear blades, Tong bits, Hot metal ladles, Sintering plant parts

Weld Deposit Properties

Hardness as deposited	20 Rc
Work-hardened	40-45 Rc
Heat Resistance up to	1100°F
Deposits cannot be flame-cut	

POSTALLOY® 299-SPL

Description

Postalloy 299-SPL is an open-arc hardfacing overlay that utilizes a specially formulated tungsten carbide to produce a "highly feathered" microstructure that is unusually hard and more abrasion resistant than standard tungsten carbide hardfacing wires. Operates at lower than normal currents to minimize dilution and help develop its high hardness and unique microstructure in the first layer..

Applications

For extreme earth abrasion resistance with little or no impact.

Weld Deposit Properties

Hardness (WC)	2300 HV
Deposit Thickness	2 layers max
Matrix Alloy	60-65 Rc
Deposits will readily relief check	

Data contained in this catalog are typical of the products described, but are not suitable for specifications.

POSTALLOY® 306-FCO

Description

POSTALLOY 306-FCO is a medium carbon, high strength flux-cored, open-arc wire designed for butt, fillet and lap welding of low carbon and low alloy steels. Recommended for single and multi-pass welding applications in all positions. Use on steel thicknesses from 16 gauge up to 3/4". When welding steels over 1/2" a preheat of 300OF(149OC) is recommended. It is a versatile, easy to use welding wire with excellent operator appeal. Without the need for shielding gas, POSTALLOY 306-FCO is ideal for welding applications in which the addition of gas is impractical, or where windy and other adverse conditions prevail.

Postalloy 306-FCO is not recommended for low temperature applications.

Applications

Used for fabricating structural shapes such as "I" and "H" beams, channels, plates and pipes. Installation of wear plates, maintenance of mining and construction equipment, fabrication of hoppers and tanks.

Weld Deposit Properties

Tensile Strength	100,000 psi
Elongation	22%
Smooth arc action and low spatter	
Ideal for high deposition requirements	

POSTALLOY® 505-SPL

Description

POSTALLOY 505-SPL is a special high strength nickel iron, metal-cored, gas-shielded welding wire designed for joining all grades of cast iron, such as gray, ductile, malleable, nodular and Ni-resist. Also for joining cast iron to steel.

Applications

For joining all grades of cast iron, such as gray, ductile, malleable, nodular and Ni-resist. Also for joining cast iron to steel.

Weld Deposit Properties

Tensile Strength	70,000 psi
Hardness	190BHN
Machinable with carbide tools	

POSTALLOY® 2225-FCG

Description

Postalloy 2225-FCG is an iron base alloy that produces a wear resistant nickel/chrome/moly weld deposit for build-up and repairing cracked or fractured steels with up to 140,000 psi tensile strength. Preferred for use on forging hammer bases, columns, rams, sow blocks, die shanks and die holders.

Applications

Forging hammer bases, columns, rams, sow blocks, die shanks and die holders.

Weld Deposit Properties

Hardness	25 - 30 Rc

Data contained in this catalog are typical of the products described, but are not suitable for specifications.

POSTALLOY® 2235-FCG

Description

Postalloy 2235-FCG is an iron base alloy that produces a wear resistant nickel/chrome/moly weld deposit. For weld repairing cracked or fractured steels with up to 180,000 psi tensile strength.

Applications

Excellent choice for forging applications where welding of rams, sow blocks, die shanks, die holders, and filling in complete impressions is required.

Weld Deposit Properties

Hardness	33 - 38 Rc

POSTALLOY® 2435-SPL

Description

Medium hardness, solid gas-shielded build-up wire with excellent compressive strength. Recommended for applications where weld deposits must provide good metal-to-metal wear resistance, but still be machinable "as welded". Ideal for use with bore-welding and other automated inside diameter build-up equipment. Use on carbon and low alloy steels.

Applications

Because of its hardness and wear resistance, this wire is primarily intended as a buildup and final overlay.

Weld Deposit Properties

Average Hardness	33 - 38 Rc
Deposit Thickness	Unlimited
Machinable with carbide tools	

POSTALLOY® 2742-FCG

Description

Postalloy 2742-FCG is an iron base, low-carbon chrome/moly/tungsten hot-work tool steel. It is machinable in the "as welded" condition. It has very good thermal fatigue resistance and excellent resistance to heatchecking when subjected to water quenching.

Applications

Uses include the repair of spalled or heat-checked areas on hydraulic press and drop hammer forging dies; filling in complete impressions that are to be re-cut to dimension; worn areas on ram and sow blocks.

Weld Deposit Properties

Hardness	38 - 43 Rc

Data contained in this catalog are typical of the products described, but are not suitable for specifications.

POSTALLOY® 2747-FCG

Description

Postalloy 2747-FCG is a tough iron base chrome/nickel/moly hot-working tool steel alloy. Alloy chemistry is balanced to provide weld metal with maximum wear resistance while still being machinable. Deposits reach maximum hardness as deposited and can be tempered to reduce stress. Weld deposits are shock-resistant and are highly resistant to heat-checking, oxidation and wear.

Applications

Excellent choice for repair of deformed, broken, spalled or heat checked areas of hydraulic presses and drop hammer forging dies. For filling medium deep impressions that are to be re-cut to dimensions.

Weld Deposit Properties

Hardness: 38 - 43 Rc as welded

Hardness: 44 - 47 Rc as tempered

POSTALLOY® 2755-FCG

Description

Postalloy 2755-FCG is an iron base chromium - molybdenum - tungsten - vanadium hot-work tool steel. It resists wear from shock, heat checking, scaling and erosion at temperatures up to 1100°F. It is heat-treatable and has very good dimensional stability.

In addition, when used for "cold" cutting, shearing and trimming applications, weld deposits have excellent resistance to chipping.

Applications

Forging Dies, Trimmers and Punches, Upsetter and Coining Dies, Shear Blades and Knives, Gripper and Header Dies, Extrusion Mandrels, Hot-forming Dies, Tong Bits

Weld Deposit Properties

Hardness 54 - 57 Rc

Heat Treatment H -12 Procedure

POSTALLOY® 2808-FCG

Description

Postalloy 2808-FCG is a flux-cored, gas-shielded nickel base alloy with an excellent combination of toughness, resistance to thermal shock, frictional metal-to-metal wear and heat resistance. Machinable deposits are especially resistant to deformation from repeated impact at high temperatures. Weld deposits work-harden and age-harden in service, providing good wear resistance and will not chip, crack or spall.

Applications

Overlaying forging dies, Hot metal handling equipment, Hot forming dies, Hot shear blades, Ingot tong bits

Weld Deposit Properties

Hardness (as deposited) 15 - 20 Rc

(Work-hardened) ~ 45 Rc

Heat Resistance up to 1500°F

Deposits are machinable

Data contained in this catalog are typical of the products described, but are not suitable for specifications.

POSTALLOY 2812-SPL

Description

METAL-CORED, GAS-SHIELDED NICKEL BASE OVERLAYS OFFERING ABRASION, CORROSION, HEAT AND METAL-TO-METAL WEAR RESISTANCE

Weld deposits of these alloys consists of borides and chromium carbides in a nickel matrix for excellent resistance to low stress abrasion and metal-to-metal wear. The high nickel and chromium content gives these weld deposits good heat and corrosion resistance. These alloys are metal-cored, gas-shielded wires designed for application by GMAW. Deposits are smooth with no slag to chip and no ripples. They may be applied to cast iron, carbon and alloy steels, stainless steel, and nickel alloys. Weld deposits of these alloys offer the same general properties with the essential difference being the hardness and wear resistance

Applications

Shafts, sleeves, pump parts, impellers, bushings, gauges, guides, cams, rocker arms, screw flights, seal rings, splines, roll guides, lathe centers, conveyor guides.

Weld Deposit Properties

Average Hardness 35-40 Rc

Heat resistance - deposits maintain hot-hardness up to 1000 F

Deposits are fully machinable

POSTALLOY 2813-SPL

Description

METAL-CORED, GAS-SHIELDED NICKEL BASE OVERLAYS OFFERING ABRASION, CORROSION, HEAT AND METAL-TO-METAL WEAR RESISTANCE

Weld deposits of these alloys consists of borides and chromium carbides in a nickel matrix for excellent resistance to low stress abrasion and metal-to-metal wear. The high nickel and chromium content gives these weld deposits good heat and corrosion resistance. These alloys are metal-cored, gas-shielded wires designed for application by GMAW. Deposits are smooth with no slag to chip and no ripples. They may be applied to cast iron, carbon and alloy steels, stainless steel, and nickel alloys. Weld deposits of these alloys offer the same general properties with the essential difference being the hardness and wear resistance

Applications

Shafts, sleeves, pump parts, impellers, bushings, gauges, guides, cams, rocker arms, screw flights, seal rings, splines, roll guides, lathe centers, conveyor guides. Best for applications involving abrasion with moderate impact. Deposits are best finished by grinding.

Weld Deposit Properties

Average Hardness 45-50Rc

Heat resistance - deposits maintain hot-hardness up to 1000 F

Deposits are fully machinable

POSTALLOY 2814-SPL

Description

METAL-CORED, GAS-SHIELDED NICKEL BASE OVERLAYS OFFERING ABRASION, CORROSION, HEAT AND METAL-TO-METAL WEAR RESISTANCE

Weld deposits of these alloys consists of borides and chromium carbides in a nickel matrix for excellent resistance to low stress abrasion and metal-to-metal wear. The high nickel and chromium content gives these weld deposits good heat and corrosion resistance. These alloys are metal-cored, gas-shielded wires designed for application by GMAW. Deposits are smooth with no slag to chip and no ripples. They may be applied to cast iron, carbon and alloy steels, stainless steel, and nickel alloys. Weld deposits of these alloys offer the same general properties with the essential difference being the hardness and wear resistance

Applications

Shafts, sleeves, pump parts, impellers, bushings, gauges, guides, cams, rocker arms, screw flights, seal rings, splines, roll guides, lathe centers, conveyor guides. Best for severe wear and abrasion, and applications involving metal-to-metal wear.

Weld Deposit Properties

Average Hardness 55 to 60Rc

Heat resistance - deposits maintain hot-hardness up to 1000 F

Deposits are fully machinable

Data contained in this catalog are typical of the products described, but are not suitable for specifications.

POSTALLOY® 2817-FCO

Description

Postalloy 2817-FCO provides a weld deposit of finely dispersed chromium carbides in a super tough austenitic matrix. Use for very high impact applications combined with abrasion resistance. Designed for carbon, low alloy and manganese steels. Postalloy 2817-FCO develops a light cross-checking pattern which allows it to be applied in multiple layers.

Applications

Crusher Rolls, Gyrotory Mantles,
Dredge Pump Shells, Conveyor
Screws

Weld Deposit Properties

Hardness(will work-harden)	40 - 45 Rc
Deposits are non-machinable	
Cannot be flame cut	
Will relief check readily	

POSTALLOY® 2820-SPL

Description

A chromium carbide hardfacing alloy that produces a controlled microstructure of specially sized carbides in a very tough matrix. For applications involving high impact combined with abrasion. Weld metal is tougher than conventional chromium carbide alloys with fewer stress relieving check-cracks.

Applications

Final overlay on crusher jaws, Impact
breaker bars, Cone and roll shells,
Pulverizing hammers, Hammer mill
hammers

Weld Deposit Properties

Average Hardness	47 - 52 Rc
Deposit Thickness	3-5 layers
Cannot be flame cut	

POSTALLOY® 2826 SPL

Description

A martensitic tool steel type alloy with numerous tightly packed carbides for excellent abrasion resistance under high impact. Deposits are smooth and free of any slag. One layer deposits exhibit wear characteristics that you would expect from chromium carbide hardfacing products.

Applications

An excellent choice for applications
requiring crack free deposits with
good wear characteristics.

Weld Deposit Properties

Average Hardness	55 - 58 Rc
Maximum Overlay:	
Unlimited with proper procedures	
Non-Machinable: Must be ground	

Data contained in this catalog are typical of the products described, but are not suitable for specifications.

POSTALLOY® 2828-FCO

Description

Postalloy 2828-FCO is a self shielded, flux cored wire that deposits a martensitic alloy with a high volume of finely dispersed Titanium Carbides (TiC). It has excellent abrasion resistance under low and high stress conditions and retains hardness at high temperatures. Crack free deposits are possible with proper procedures.

Applications	
Hot Shear Blades, Hammers, Implements,	Dozer Blades, Bucket Teeth, Farm Augers

Weld Deposit Properties	
Average Hardness	48 - 53 Rc
Good Hot-hardness up to 1100°F	
Non-Machinable: must be ground	
Cannot be flame cut	

POSTALLOY® 2829-SPL

Description

POSTALLOY 2829-SPL is an economical high hardness overlay well suited for applications involving general abrasion or abrasion combined with mild impact. Use on carbon and alloys steels, manganese steel and cast iron.

Applications	
General abrasion or abrasion combined with mild impact	

Weld Deposit Properties	
Maximum Thickness	2 layers
Good Hot-Hardness up to 1100°F	
Hardness: 60-65 Rc per ASTM E.18.0 & MIL 2-540.0	

POSTALLOY® 2832-SPL

Description

A premium chromium carbide alloy that has a high volume fraction of carbides dispersed in a hard matrix. For applications involving high abrasion and mild or moderate impact. Deposit polish in service and are hear resistant to 1000°F(531°C). Use on carbon and low alloy steels.

Applications	
Scrapper blades, Road ripper teeth, Bucket teeth, bottoms, Mixer blades, Fan blades	Auger flights, Screw conveyors, Bucket sides and Tillage tools,

Weld Deposit Properties	
Deposit Thickness	1-2 layers
Deposits cannot be flame cut	
Average Hardness: 58 - 62 Rc per ASTM E.18.0 & Mil 2540.0	

Data contained in this catalog are typical of the products described, but are not suitable for specifications.



POSTALLOY® 2834-SPL

Description

A high chromium hardfacing alloy that produces a high volume fraction of wear resistant chromium carbides in a tough alloy matrix that is designed for high abrasion or abrasion combined with moderate impact.

Applications

Tampers, Dredge bucket lips, Coal pulverizing hammers, Dredge pump side plates, Grizzly bars, Dredge cutter head & teeth, Bulldozer blades, Clamshell bucket lips, Dragline buckets, Crusher jaws, Crusher cones, Power shovel buckets and teeth, Gyrotor crusher mantles, Road rippers, Scraper blades, Muller tires

Weld Deposit Properties

Deposit Thickness 1-3 layers

Deposits cannot be flame cut

Average Hardness: 55 - 60 Rc per ASTM E.18.0 & Mil 2-540.0

POSTALLOY® 2836-SPL

Description

Postalloy 2836-SPL is a high hardness multi-carbide hardfacing alloy that resists severe abrasion, including high stress grinding, low stress scratching and gouging abrasion. It maintains its hardness and wear resistance up to 1400°F (760°C). The chemistry is highly tolerant of dilution. One layer will easily outwear two layers of ordinary chrome carbides and in some applications the wear is equal to tungsten carbide.

Applications

Blast furnace charging equipment, Agricultural implements, Sinter plant parts, Cement mill parts, Coke pusher shoes, Brick making equipment, Coke crusher segments, Cereal grinding equipment, Tong bits, Conveyor screws, Slag ladles, Mixer paddles, Ash fans, Wear bars, Solid waste shredder parts, Wear plates

Weld Deposit Properties

Average Hardness 63-37 Rc

Deposit Thickness 1-2 layers

Cannot be flame-cut

Deposit will readily relief check

POSTALLOY® 2839-SPL

Description

Postalloy® 2839-SPL is a gas shielded iron base high carbon tool steel cored wire that is capable of producing single and multiple layer weld deposits comprised of a large volume of extremely hard multi-Carbides surrounded by a Martensitic matrix. Deposits perform well under low and high stress abrasion and show dramatic improvements over traditional Chromium Carbide products. It may be used on carbon, low alloy, and manganese steels. Unlike Chromium Carbide Alloys, 2839-SPL deposits are heat treatable, allowing for tougher weld metal for applications that encounter moderate impact.

Applications

Mixer Paddles, Dies, Cutting Blades, Sizing Screens, Chutes & Liners, Concrete Pump Parts, Klinker Rolls, Farm Implements, Pipes & Elbows, Conveyor Screws, Wear Pads & Plates, Glass Recycling

Weld Deposit Properties

Average Hardness 58-61Rc

Deposit Thickness Unlimited

Poor Machinability- grinding only

Data contained in this catalog are typical of the products described, but are not suitable for specifications.

POSTALLOY® 2842-SPL

Description

A high performance chromium carbide alloy that has a high volume fraction of multi-component carbides dispersed in a tough matrix. For applications involving high abrasion and mild or moderate impact. Deposit polish in service and are heat resistant to 1000°F(531°C). Use on carbon and low alloy steels.

Applications

Scraper blades, Auger flights, Road ripper teeth, Screw conveyors, Bucket teeth bucket sides and bottoms, Mixer blades, Tillage tools, Fan blades

Weld Deposit Properties

Deposit Thickness 1-2 layers

Deposits cannot be flame cut

Average Hardness: 58 - 62 Rc per ASTM E.18.0 & Mil 2540.0

POSTALLOY® 2850-FCO

Description

Work-hardening austenitic manganese flux-cored wire, alloyed with chromium and nickel for improved weld deposit properties over standard manganese alloys. It is designed for build-up, hardfacing and fabricating of manganese steel. Deposits are very tough, and work-harden rapidly in-service as plastic deformation occurs during impact.

Applications

Crusher jaws, Hammer mill hammers, Cones and roll shells, Impact breaker bars, Gyrotory crusher mantels, Joining of manganese steel components

Weld Deposit Properties

Hardness (*as deposited*) 15-20 Rc

(*work hardened*) 50-55 Rc

Tensile Strength 120,000 psi

Yield Strength 75,000 psi

POSTALLOY® 2865-FCO

Description

Postalloy 2865-FCO is a flux-cored hardfacing wire that deposits fully austenitic chromium/manganese weld metal. It can be used equally well for joining and build-up/surfacing of carbon, low alloy and manganese steels. Weld deposits have an excellent combination of weld metal strength, ductility and hardness. Work-hardens rapidly under repeated impact. Deposits have very good frictional wear properties and are ideal for railroad applications requiring metal-to-metal wear resistance. Ideal as a cushioning or buffer layer on manganese steel parts that will be repeatedly rebuilt. Since it will not embrittle until 1000°F(538°C), it will act as an insulator to the manganese base metal in helping it keep below 500°F(260°C) during the welding operation.

Applications

Railroad crossovers and frogs, Pulverizing hammers, Gyrotory crusher mantels, Dragline and power shovel bucket lips and teeth, Crusher rolls and jaws, Sizing screens, Cone and roll shells, Grizzly bars, Hammer mill hammers, Steel mill wobblers.

Weld Deposit Properties

Hardness (*as deposited*) 20Rc

(*work hardened*) 50 - 55 Rc

Tensile Strength 122,000 psi

Yield Strength 80,000 psi

Data contained in this catalog are typical of the products described, but are not suitable for specifications.

POSTALLOY® 2866-FCO

Description

Postalloy 2866-FCO is a flux-cored, open-arc high chromium, nickel, moly alloy that produces deposits with excellent strength and elongation, combined with a high degree of toughness. Weld deposits work-harden in service and provide outstanding impact resistance. The austenitic structure of the weld deposit provides very good corrosion resistance. It's versatility allows it to be used for joining, as well as a cushion layer prior to hardfacing with a harder, more wear resistant alloy.

Applications

Use on carbon and alloy steels, stainless and manganese steels and joining dissimilar combinations.

Weld Deposit Properties

Hardness (<i>as deposited</i>)	100-150 Rc
(<i>work hardened</i>)	30-35 Rc
Tensile Strength	100,000 psi
Yield Strength	78,000 psi

POSTALLOY® 2871-SPL

Description

Tough, shock resistant tool steel composition with good resistance to corrosion, metal-to-metal wear, and abrasion. Deposits polish in service to reduce friction and minimize wear of mating parts. Excellent resistance to heat-checking. Multi-layer, check-free deposits can be obtained with proper procedures.

Applications

Steel mill rolls, Kiln trunnions, Cable sheaves, Ingot buggy car wheels, Dredge ladder rolls, Forging dies

Weld Deposit Properties

Average Hardness	46-50 Rc
Deposits are slag-free	

POSTALLOY® 2891-SPL

Description

Low alloy build-up wire with very good compressive strength and resistance to plastic deformation. An ideal base for subsequent overlay with a more wear resistant alloy. Also good when an easily machined "as welded" deposit is required. Use on carbon and low alloy steels.

Applications

An ideal base for subsequent overlay with a more wear resistant alloy.

Weld Deposit Properties

Average Hardness	21-25 Rc
Deposit Thickness	Unlimited
Deposits can be flame cut	
Deposits are fully machinable	

Data contained in this catalog are typical of the products described, but are not suitable for specifications.

POSTALLOY® 2892-SPL

Description

Medium hardness build-up wire with excellent compressive strength. Recommended for applications where weld deposits must provide good metal-to-metal wear resistance, but still be machinable "as welded". Use on carbon and low alloy steels.

Applications

Machine components, Gear teeth, Steel mill parts, Keyways, Undercarriage, Carbon steel railroad track components, Parts of earth moving and mining equipment

Weld Deposit Properties

Average Hardness	33 - 38 Rc
Deposit Thickness	Unlimited
Deposits can be flame cut	
Deposits are fully machinable	

POSTALLOY® 2892-FCO

Description

Postalloy 2892-FCO is a strong, tough, low alloy build-up wire. It can be applied to carbon and low alloy steels. Weld deposits are exceptionally sound and dense, and heavy build-ups are possible without danger of cracking.

Applications

Kiln trunnions, Ingot buggies, Shovel carrier, Dredge ladder rolls, Crane wheels, Driving sprockets, Carbon steel pump shells, Tractor undercarriage idlers and rollers, Driving tumblers, Dragline chains, Ladder role bearing box, Wobblers, Cable sheaves, Wheels on mine cars, Gears shafts and keyways, Miner bearing carrier, Slag ladle cars, Conveyor chain links, Hot metal cars, Power shovel transmission parts, etc

Weld Deposit Properties

Average Hardness	30 - 35 Rc
Deposit Thickness	Unlimited
Machinable with carbide tools	

POSTALLOY® 2893-SPL

Description

POSTALLOY 2893-SPL is a high hardness, machinable gas-shielded hardfacing wire. It provides high compressive strengths and the wear life will far exceed conventional build-up alloys and mild steel. Weld deposits are exceptionally sound and dense, and heavy build-ups are possible without danger of cracking(preheat may be necessary for certain low alloy, higher carbon steels). Use on carbon and alloy steels

Applications

Spindles, Tractor undercarriage idlers and rollers, Wobblers, Trencher drive segments and rollers, Work roll sprockets, Dredge bucket pins, Cable sheaves, Dredge driving tumblers, Gears and keyways, Ladder rolls, Ladle turnions, Lower tumblers, Conveyor chain links, Bulldozer trunnions, Shovel carrier rollers, Continuous miner bearing

Weld Deposit Properties

Average Hardness	40 - 45 Rc
Deposit Thickness	Unlimited
Preheat may be required	
Deposits can be flame cut	

Data contained in this catalog are typical of the products described, but are not suitable for specifications.

POSTALLOY® 2893-FCO

Description

POSTALLOY 2893-FCO is a high hardness, machinable flux-cored, open-arc hardfacing and build-up wire. It provides high compressive strengths and the wear life will far exceed conventional build-up alloys and mild steel. Weld deposits are exceptionally sound and dense, and heavy build-ups are possible

Applications

Spindles, Tractor undercarriage idlers and rollers, Wobblers, Trencher drive segments and rollers, Work roll sprockets, Dredge bucket pins, Cable sheaves, Dredge driving tumblers, Gears and keyways, Ladder rolls, Lacle turnnions, Lower tumblers, Conveyor chain links, Bulldozer trunnions, Shovel carrier rollers, Continuous miner bearing rollers, Drive sprockets

Weld Deposit Properties

Average Hardness	40-45 Rc
Deposit Thickness	Unlimited
Preheat may be required	
Deposits can be flame cut	

POSTALLOY® 2898-FCO

Description

Postalloy 2898-FCO is a general purpose flux-cored, open-arc hardfacing wire providing a good combination of abrasion resistance and toughness. Use to overlay carbon and low alloy steel, manganese steel, stainless steel and cast iron.

Applications

Tillage tools, Bulldozer blades and end bits, Conveyor screws, Dragline scrapers, Backhoe, Dragline chain idlers, Clamshell, Agitator bearings and shafts, Shovel and dragline bucket lips and teeth, Sprockets, Tractor grousers

Weld Deposit Properties

Hardness	55-59 Rc
Maximum overlay	2-3 layers
Non-machinable - must be ground	
This alloy may relief check	

POSTALLOY® 2898-SPL

Description

A general purpose self-hardening overlay with a good combination of resistance to abrasion and impact Postalloy 2898-SPL is very tough with excellent resistance to chipping and spalling. Deposits will retain their hardness and maintain a good cutting edge up to 1100OF(595OC).

Applications

Hot Shear Blades, Dozer Blades, Shearing and piercing dies, Bucket Teeth, Farm Implements, Augers

Weld Deposit Properties

Average Hardness	55 -59 Rc
Maximum overlay	2-3 layers
Good Hot-hardness: up to 1100° F	
Non-Machinable: must be ground	

Data contained in this catalog are typical of the products described, but are not suitable for specifications.

POSTALLOY® 2899-SPL

Description

A multi-purpose hard overlay with good abrasion resistance, excellent toughness and good metal to metal wear characteristics. Deposits are not brittle and will maintain a good cutting edge without chipping. Deposits retain their hardness up to 1100 F(595 C) .

Applications

Shear Blades, Trim Dies, Shearing and piercing dies, Cutting tools, Recycling knives

Weld Deposit Properties

Average Hardness	55 -59 Rc
Maximum overlay	2 - 3 layers
Good Hot-hardness: up to 1100° F	
Non-Machinable: must be ground	

POSTALLOY® 3044-FCG

Description

POSTALLOY 3044-FCG is a high strength, gas-shielded, flux-cored welding wire designed for "all position" welding of carbon and alloy steels, low alloy steels such as Jalloy, T-1, HY-90, SS-100, and 400, 500 and 600I wear plate. In addition to offering excellent physical properties, weld deposits of POSTALLOY 3044-FCG are highly crack resistant and can be use on weld joints that are under high restraint. Very good low temperature notch toughness. For some applications, preheating can be reduced or even eliminated.

Applications

POSTALLOY 3044-FCG should be used for fabricating structural shapes such as "I" and "H" beams, channels, plates and pipe. Ideal for fabricating wear plate. Excellent for use on construction and mining equipment such as dozer blades, buckets, crane and shovel booms

Weld Deposit Properties

Tensile Strength	106,000 psi
Yield Strength	89,000 psi
Elongation	23%
Charpy V Notch @ 0°F	55 ft. lbs.

POSTALLOY® PS 10

Description

POSTALLOY PS-10 is a tungsten carbide, nickel base hardfacing wire designed to resist severe abrasion but unlike traditional tungsten carbide wires, it absorbs more impact without fracturing. Because of the unique chemistry, Tungsten-Carbide-Nickel-Chromium-Silicon-Boron, it also has excellent resistance to erosive wear, frictional wear, corrosive wear, and maintains its hardness, even at temperatures of 1100°F (565°C). Weld deposits contain over 50% fully fused, pre-alloyed carbides.

The alloying elements in this wire produce a high hardness alloy that encapsulates and protects the carbide particles, reducing premature wear caused by erosion next to the carbide particles. Postalloy PS-10 has very good weldability and a very soft arc, this, in combination with the nickel matrix, reduces weld dilution and carbide dilution to produce a truly outstanding multi-wear wire.

Applications

Processing Equipment, mixer blades, feed screws, Oil and Gas Drilling, Down Hole Tools, stabilizers, Dredging Equipment, cutter heads, shredding, hammers, Wear Rings

Weld Deposit Properties

Deposit Thickness	2 layers max
Hardness (Matrix)	51 Rc
Hardness (WC)	70 Rc+

Data contained in this catalog are typical of the products described, but are not suitable for specifications.

POSTALLOY® PS-98

Description

Postalloy PS-98 is a metal cored, triple deoxidized Iron based wire, alloyed with Chromium and Tungsten. This product is primarily used as a matrix alloy for the Tungsten Carbide embedding process. Unlike soft mild steel welding wires, which are commonly used in the embedding process, the microstructure of PS-98 is designed to encapsulate and protect the Tungsten Carbide particles from premature erosion. Many of the common embedding wires are solid which require high voltage and amperage setting to achieve a fluid puddle. Postalloy PS-98 is metal cored and develops a spray transfer at very low current levels. This combined with it's unique alloy content forms a very fluid weld puddle. This promotes an even dispersion of Tungsten Carbide particles within the weld puddle. These unique properties make it an ideal choice when used with the Tungsten Carbide embedding process.

Applications

A Tungsten Carbide Matrix Wire
For Carbide Embedding

Weld Deposit Properties

Average Hardness	55-60 Rc

POSTALLOY® PS 133

Description

POSTALLOY® PS 133 is a large diameter, metal cored, self shielding, hardfacing wire for use in a wide range of applications where abrasion is severe, including overlay plate production, the rebuilding of coal & cement clinker pulverizer rolls and tables, mining and agricultural ground engaging equipment such as bucket teeth, rippers, subsoilers and injector knives. Deposits are ultra high in carbon and chromium, ensuring maximum carbide population and wear protection, even on the first layer. The large diameters are ideal for automated applications where maximum deposit rates are required.

Applications

Overlay plate, Crusher Rolls, Mining Equipment, Ag Equipment

Weld Deposit Properties

Average Hardness	58 to 62 Rc
Deposit Thickness	2 layers
Heat Resistant:	Excellent up to 1200°F
Weld deposits will relief check crack readily	

POSTALLOY® PS 164

Description

A martensitic tool steel type alloy with numerous tightly packed carbides for excellent abrasion resistance under high impact. Deposits are smooth and free of any slag. One layer deposits exhibit wear characteristics that you would expect from chromium carbide hardfacing products. An excellent choice for applications requiring crack free deposits with good wear characteristics. Also an excellent wire for MIG Carbide

Applications

Plow Shares, Dozer Blades, Subsoilers, Bucket Teeth, Farm Implements, Augers

Weld Deposit Properties

Average Hardness	57-61 Rc
Maximum Overlay	2-3 Layers
Good Hot-hardness up to	1100° F
Non-Machinable:	must be ground

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WeldCor "Gouge Wire"

Description

For the Hardbanding Industry:

WeldCor Gouge Wire was developed for operators to remove old hardbanding deposits from circumferential shaped parts including drill pipe tool joints to prepare for new welds, without the use of compressed air. The WeldCor Gouge Wire works best on round parts in the three o'clock or nine o'clock arc position where gravity pulls the molten puddle material off the part. WeldCor Gouge Wire offers very high metal removal rates and is an excellent choice for drilling tools, tool joints, and drill collars. Additional applications include using the WeldCor Gouge Wire to groove or reshape gyratory cones, and cement and coal rolls.

Applications

For the removal of metal on most metallic substances such as Carbon Steel, Stainless Steel, Nickel.

Weld Deposit Properties

Removal Thickness max	1/4"
Appearance	
Carbon Steel	Very clean
Hardfacing	Light soft scale

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