

Part 11 Welding

11.1 Electrodes & Rod

11.2 Solder & Chemicals

11.3 Accessories

11.1 ELECTRODES & ROD

VINCULUM
"The Connecting Medium"



Premium quality arc welding electrodes

**Researched and engineered to meet the maintenance welder's total needs
Precisely formulated, coated electrodes for the welding of virtually all metals**

**Cast iron
"Problem" steels
Aluminum
Hardfacing
Stainless steel
Dissimilar metals
Cutting electrodes**

**Vinculum™ means connecting
Standard "off the shelf" welding electrodes are massproduced for the limited
demands of production welding!
Production welding has been greatly simplified**

**The metals being used are clean.
Special jigs and fixtures are used for ease of application.
Production welding matches a single electrode to a metal of known analysis.
Day after day welding on the same job makes production welding easier.**

**Vinculum™ is formulated for the multiple problems of maintenance welding...
produces faster, easier, stronger, x-ray quality welds!
Maintenance welding is still extremely complex!**

1. Unlike production, the maintenance welder must often weld rusty, oily, or painted metals.
2. Many welds must be made in hard to reach places with poor fit-up
3. The exact chemistry of the metals being welded is seldom known.
4. The repair or maintenance welder must weld cast iron one day and stainless, tool, or alloy steels another day, with equal skill...every job is different and difficult

Vinculum™ is made only for maintenance welding!

11.1 ELECTRODES & ROD

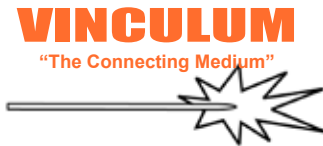
Vinculum™ Welding Products Comparison Chart



Vinculum	MG Name	MG#	Karalloy	Bowman	Eutectic	Lawson	Certainium	X-Ergon	Rockmont	MechChoice
EZ-ARC-80-MS	Gricon 33	500	-	885	Beautyweld	350	701	104	Tartan A	Torque II
EZ-ARC 123-DS Tensile 680CCS770	Grinox 29 1000	600 AA	Super	990	680	300	707	100	Brutus A	Torque IV
Groovy Cutting Gouge-Cut	Gricon 53	570	Grooving	920	Exotrode	100	100	161	Electa	Torque
Alum-alloy Alloy 2109	Grilumin 14 Aluminum	400	Aluminum Alloy	980	2101	450	608	141	Neptune A	Torque
Braze-alloy Silver FC	Grisil 1 202/271	130	Nickel	914	16/185	400	70/87	201	Brutus G	-
Stainless 123	Grinos 2	650	-	895	Stain B	-	710	121	Gemini A	Torque XI
Fix-a-Cast	Gricast 89	289	-	880	2233	200	889	-	Jupiter A	Torque VI
Hi-abrasion	Gridur 18	770	Abrasion II	770	6006	-	247/250	716	Omega N	-
Low Hydro	Gricon 15	540	Posi-Weld	25160	66	-	703/704	103	Polaris A	-

11.1 ELECTRODES & ROD

4-Pack Vinculum MRO Assortment



Assortment No. 96804

A complete set of electrodes for the maintenance and repair welder. **4 different welding alloys** – 2 lbs. each for a total of 8 lbs. Packaged in our **Resealable Welding Boxes**

EZ-ARC-80-MS 1/8

Easy-to-use all-position electrode for mild steel

Technical Data

Tensile Strength: up to 80,000 psi
Yield Strength: up to 68,000 psi
Elongation: approximately 24%
Current: AC or DC +/-
Amperage: 60-125

FIX-A-CAST 1/8 NC

Maximum strength alloy for all cast irons

Technical Data

Tensile Strength: up to 75,000 psi
Hardness: Brinnell 210
Current: AC or DC
Reverse Polarity (Electrode +)
Amperage: 70-115

GROOVY 1/8

Excellent gouging and chamfering electrode for weld preparation

Technical Data

Current: AC or DC Straight Polarity
Amperage: 210-350

EZ-ARC-123-DS 1/8

Superior problem-solving electrode for all steels

Technical Data

Tensile Strength as welded: up to 120,000 psi
Tensile Strength work hardened: up to 180,000 psi
Yield Strength: up to 90,000 psi
Elongation: approximately 28%
Hardness (HB): approximately 300
Current: AC or DC
Reverse Polarity (Electrode +)
Amperage: 65-120

11.1 ELECTRODES & ROD

Maintenance Brazing & Soldering Kit

Assortment No. 96820

4 different brazing and soldering alloys packaged in a **Metal Tray**.

Weldtek 535 Aluminum Solder

(No. 46034)

Maximum strength, self-fluxing aluminum solder for joining, buildup and hardfacing without cleanup.

Technical Data:

Tensile Strength: up to 39,000 psi

Working Temp: 710°F (375°C)

Color Match: Aluminum

Elongation: 3%

Weldtek Quick Silver Solder

No. 71430)

Highest strength, lowest melting point silver solder alloy for stainless steel, dissimilar metals and chrome plating available in a coil.

Features

500% stronger than common solder. Superior corrosion resistance with bright, shiny deposits.

Silver Flux

(No. 71638)

Silver brazing flux. Use when brazing copper, brass, stainless steel, alloy steel and dissimilar combinations.

Active Range: 1,000°F - 1,700°F (538° - 927°C)

Alum-Alloy Aluminum Welding/Brazing Alloy

(No. 71545)

Premium aluminum electrode for arc welding or brazing of aluminum alloys.

Technical Data:

Tensile Strength: as welded up to 34,000 psi

Elongation: approximately 15-25%

Current: DC Reverse Polarity (Electrode +)

Weldtek 525 Quick Silver Brazing Alloy

(No. 71632)

The ultimate choice for joining ferrous and non-ferrous metals.

Technical Data:

Tensile Strength: 76,000 psi (524 N/mm²)

Working Temperature: approx. 1,200°F (660°C)

Elongation: approx. 22%

Electrical Conductivity: Good

Small S/S Scratch Brush

(No. 54608)

Stainless steel scratch brush.

Number of Rows: 3 x 7

Block Size: 7-1/2 x 1/2

Trim Length: 1/2

Handle Material: Plastic

11.1 ELECTRODES & ROD

EZ-ARC-80-MS

VINCULUM

"The Connecting Medium"



Premium General Purpose Alloy For Low Carbon Steels

AC or DC All Position (also available in 4-Pack Assortment 96804)

VINCULUM™ EZ-ARC-80-MS is designed to operate on all welding machines, even small AC type transformers when the open circuit voltage is very low. The specially formulated coating protects the deposit from adverse conditions normally encountered in maintenance welding. An ideal electrode for field repair work and out of position welding.

Features

- Low amperage electrode – controls distortion.
- Minimum spatter and easy slag removal – fast cleanup – saving time.

Applications

- Use for fabrication of thin, medium, heavy and dissimilar gauge mild steel
- Machine parts, sheets and angle iron, beams, filling holes, pipes, build up

Procedures

As much foreign material as practical should be removed from the weld area. Deep penetration can be accomplished by using DC reverse polarity (electrode +). Limited penetration and a flatter bead will result from using DC straight polarity (electrode -). Arc blow can be prevented by using AC. Maintain medium arc length with either stringer or weave beads. Slag can be easily removed with a light chipping hammer.

Technical Data

Tensile Strength: up to 80,000 psi

Yield Strength: up to 68,000 psi

Elongation %: approx. 24%

Current: AC or DC either polarity

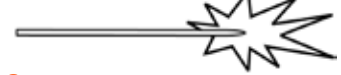
Color: Gold

No.	Diameter	Amperage	Qty
71530	3/32	35-80	5 ea
71532	1/8	65-125	5 lbs
71534	5/32	90-160	5 ea

Diverse-Alloy

VINCULUM

"The Connecting Medium"



Premium High Strength Electrode for Welding High Strength Low Alloy Steels and Abrasion Resisting Plate

AC or DC

Reverse Polarity (Electrode +)

This superior quality, low-hydrogen electrode is the welder's choice for high strength, machinability and affordability. DIVERSE-ALLOY is excellent for welding most high-strength low alloy steels. It is recommended for the repair of heavy equipment and joints subjected to high stresses because of its high strength.

The moisture resistant coating assures dense, crack-free deposits for outstanding impact resistance at all temperatures, and X-ray quality welds. This makes DIVERSE-ALLOY the ideal electrode for wear plate, steel fabrication and pipe welding. Engineered flux provides the flexibility of all position welding. DIVERSE-ALL deposits are easily cut with a torch and machinable for machine parts repairs.

These features combine to offer reduced failure and labor costs plus maximum use of your valuable maintenance dollar.

Features

- 100,000 PSI
- Rapid deposition
- High impact resistance
- All position
- Machineable
- 30% elongation
- Torch cuttable
- Crack-free X-ray quality deposits

No.	Diameter	Amperage	mm	Qty
71562	3/32	60-100	2.5	5 ea
71564	1/8	100-150	3.25	5 lbs
71566	5/32	140-200	4.0	5 ea

Applications

- Use for welding high strength low alloy (HSLA) steels and AR plates to themselves and in dissimilar combinations where good ductility is desired even at low temperatures.
- Use on any carbon or HSLA steel application where high tensile strength and ductility are required.
- Excellent for steel fabrication and pipe welding

Procedures

Prepare weld by removing any fatigued metal. Bevel or chamfer heavy sections to a 90° vee. Short arc gap should be maintained. Use weave technique working from bottom up for vertical welding. Use stringer beads or slight weave on flat and horizontal fillets, but avoid whipping. Remove all slag between passes

Technical Data

Tensile Strength: up to 93,000 psi (70 kg/mm²)

Elongation: approximately 32%

Current: AC or DC reverse polarity
(Electrode +)

Vinculum EZ-ARC-123-DS Welding Rod

VINCULUM

"The Connecting Medium"



If broken bolts, taps, drills or E-Z Outs are a problem...

Assortment No. 96803

3 different welding alloys - 1 lb. each

Packaged in a **Resealable Welding Box**

Includes 5/64, 3/32 and 1/8 alloys



Flush with surface...



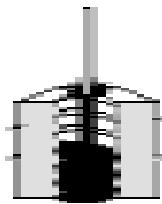
Deep down in hole...



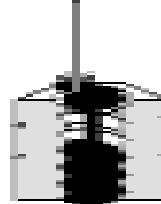
or complicated by broken drill bits, E-Z outs or taps



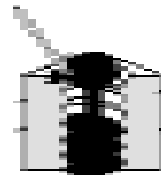
- Place Hi-Alloy rod in center of hole. Strike an arc.



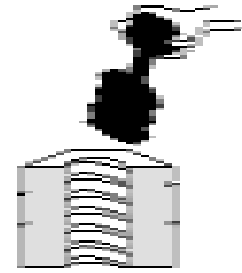
- Keep rod tip in weld puddle
- Fill hole with weld deposit.



- Weld washer to build-up at surface of housing.



- Weld a nut to the washer.
- Allow to cool.



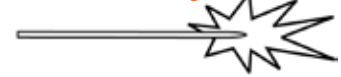
- Use a wrench to remove the broken bolt.

11.1 ELECTRODES & ROD

EZ-ARC-123-DS Welding Rod

VINCULUM

"The Connecting Medium"



A Superior Super Strength Electrode for Welding Alloy and Dissimilar Steels

AC or DC Reverse Polarity
All Position

The perfect choice for removing broken bolts, studs, taps & E-Z outs!
Also available in 4-Pack Assortment 96804

VINCULUM™ EZ-ARC-123-DS is designed to weld low, medium and high alloy steels where super strength and high quality welds are desirable. Welds stainless steel to carbon steel.

Features

- Used for broken stud removal.
- Joins any stainless to carbon steels.
- Replaces large size E-Z outs.
- Less errors and guess work.

Welds

- Any combination of weldable steel
- Spring steel
- Stainless steel
- Cast steels
- Carbon steel
- Tool and die steel
- Manganese.

Applications

- Camshafts.
- Scraper teeth and arms.
- Excellent underlayment prior to hardfacing.
- Drive Shafts.
- Crane booms
- Shovel buckets
- Gears
- Dies
- Rollers

Procedures

Remove all foreign material from joint area. Heavy sections should be beveled to form a 90° vee. High carbon steel should be preheated to 400° F (204°C). Maintain alignment by use of jigs, fixtures and tack welds. Use stringer beads to prevent overheating and maintain a short arc. Allow to cool prior to removing slag.

Technical Data

Tensile Strength as welded: up to 120,000 psi
Work hardened: up to 180,000 psi
Yield Strength: up to 90,000 psi
Elongation: approximately 28%
Hardness (HB): approximately 300
Current AC or DC Reverse Polarity
(Electrode +)

Color: Blue

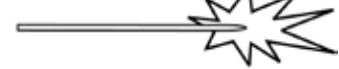
No.	Diameter	Amperage	Extracts Bolt	Qty
71536	5/64	25-55	5/16	5 ea
71538	3/32	40-80	3/8	5 lbs.
71540	1/8	65-120	1	5 lbs
71542	5/32	90-150	2-1/2	5 ea

11.1 ELECTRODES & ROD

Alum-Alloy

VINCULUM

"The Connecting Medium"



Premium Aluminum Electrode with Extruded Coating

DC Reverse Polarity

VINCULUM™ ALUM-ALLOY is a premium aluminum electrode for arc welding aluminum and aluminum alloys. Produces strong, dense porosity free welds on production or maintenance applications.

Features

- Low amp electrode for minimum spatter, burn through and fuming
- Can be used as oxy-acetylene brazing rod
- Reduces inventory – saving money

Applications

- Transmission cases
- Foundry castings repairs
- Foundry patterns
- Repair of machinery errors
- Extruded aluminum
- Pipes
- Shelves
- Ladders
- Tanks
- Cast aluminum

Procedures

Clean weld area. A bevel of 70° - 90° should be used on parts 1/8 or heavier. Preheat is not necessary on thin gauges but faster, flatter, smoother beads are produced on heavier sections when they are preheated to approximately 400°F. The electrode should be held vertical to the work piece; maintain a short arc and slag should be removed between passes. Restrike arc on existing weld deposits. Part should be allowed to cool slowly, slag should be chipped off before quenching. Complete slag removal is accomplished by using a wire brush with a 10% sulfuric acid and hot water solution. Rinse with clean hot water.

Technical Data

Tensile Strength as welded: up to 34,000 psi

Elongation: approximately 15-25%

Hardness (HB): 40 to 55

Current: DC Reverse Polarity

(Electrode +)

Color Match: Good (will darken if anodized)

Color White

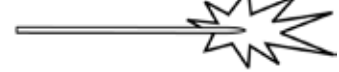
No.	Dia.	Amperage
71546	1/8	80-130
71545	3/32	50-80

Available in 1 Lb. and 5 Lb. packages

Braze-Alloy

VINCULUM

"The Connecting Medium"



High Strength Brazing Alloy Torch or Induction

VINCULUM™ BRAZE-ALLOY is a premium grade, flux coated, high strength alloy for general maintenance repair with a torch. It is an excellent choice for the build-up of parts subjected to high frictional wear and to repair gears with broken teeth. Also, at slightly higher temperatures its exceptional thin flow characteristics make it ideal for repairing broken bits, attaching carbide tips, etc.

Applications

- Low Temperature – Build up of
- Valve seats
- Wedge bars
- Steering knuckles
- Gear teeth
- Reamers
- Shafts
- Nearings
- High Temperature
- Tool steel
- Cast iron
- Alloy steels
- Brass-Copper
- Galvanized iron
- Thin sheet metal

No.	Diameter x Length	Qty
71548	3/32 x 1/8	1
71550	1/16 x 18	1
71552	1/8 x 18	1

Procedures

Clean joint area. This thin flowing alloy will have maximum strength with a joint clearance of .001" to .003" Using a neutral flame, heat the part uniformly until the flux is liquefied. Add sufficient alloy to fill the joint. Additional passes can be applied without the need to remove flux residue from previous passes. Allow the part to cool slowly. Remove the flux by chipping and wire brushing.

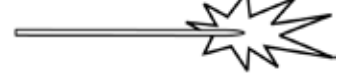
Technical Data

Tensile Strength as welded: up to 113,000 psi
Hardness (HB): 140 to 200
Working Temperature: 1400°F to 1750°F
Remelt Temperature: approximately 1800°F
Color: Red

Weldtek Silver Brazing Alloy

VINCULUM

"The Connecting Medium"



Superior, Flux-Coated, Ultra-Thin Flowing Silver Brazing Rods

Cadmium free, high silver content makes this the ultimate choice for joining ferrous and non-ferrous metals. Ideal for all industrial applications as well as the first choice for all food processing and pharmaceutical applications where FDA approvals are a requirement. Universal alloy for general maintenance and repair with reduced charring and increased flow.

Applications

- Joining and repairing stainless steel components, especially when color match is critical
- Manufacture and repair of all food, beverage and pharmaceutical equipment
- Ideal for tubing, instruments, switches, ornamental trim and laboratory equipment
- Perfect for thin flow joints on critical aircraft and aerospace application
- Also ideal for medical tools, instruments, hospital carts and medical equipment

Procedures

Prepare surfaces to be joined by mechanical or chemical cleaning. Fix parts to maintain alignment. Joint clearance should not exceed .003". Heat parts uniformly with a slight carburizing flame. Place the Weldtek Silver Brazing Rod directly on the heated joint. When the flux becomes clear and fluid, melt a small amount of alloy onto the joint and continue heating to uniformly spread the alloy through the entire joint area. DO NOT OVERHEAT THE BASE METAL. Allow the part to cool slowly, then remove flux residue with warm water.

Technical Data

Tensile Strength: 76,000 psi (524 N/mm²)

Working Temperature: approx. 1,220°F (660°C)

Corrosion Resistance: Good

Color Match: Good on stainless steel

Elongation: approx. 22%

Electrical Conductivity: Good

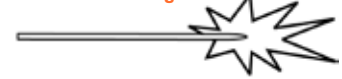
No.	Dia.	Qty
71632	1/16 x 18"	1 Ft
71630	3/32 x 18"	1 Ft

Must be sold in multiples of 3 feet

MRO Stainless

VINCULUM

"The Connecting Medium"



Universal Stainless Steel Electrode

**AC or DC Reverse Polarity
All Position**

VINCULUM™ STAINLESS is a premium high quality, low carbon, general purpose stainless steel electrode that has excellent welding characteristics.

Features

- A very smooth and easy to control arc in all positions.
- Outstanding strike and restrike features.
- Easy slag removal.
- Designed to prevent carbide precipitation.
- Welds 302, 304, 308, 316L and 347 stainless steels.

Applications

Normally used for the following fabrication and repair of tanks, household appliances, pipes, boilers, fittings, food, dairy and chemical equipment.

Procedures

All foreign material must be thoroughly cleaned from weld area. Parts thicker than 3/16: should be beveled to a 60° vee. Preheat is not recommended. Tack welds may be necessary to maintain alignment. Maintain a medium to short arc with electrode tilted 15° in the direction of travel. Excessive heat build-up must be prevented.

Technical Data:

Tensile Strength: up to 100,000 psi
Yield Strength: up to 62,000 psi
Elongation %: approximately 40%
Hardness (HB): approximately 180
Current: AC or DC Reverse Polarity
(Electrode +)
Corrosion Resistance: Good
Color: Gray

No.	Dia.	Amperage	Qty
71688	1/16	25-75	5 ea

Groovy

VINCULUM

"The Connecting Medium"



Premium High Speed Gouging and Chamfering Electrode

**AC or DC Straight Polarity
All Position**

Also available in 4-Pack Assortment 96804

VINCULUM™ GROOVY is designed to remove metal fast and efficiently without special skills or special equipment, expensive gases or compressed gas.

Features

- Special coating for a forceful arc blo
- Restrike capability is excellent.
- Cut is smooth and uniform from all positions.
- Eliminates need for compressed air or oxygen.
- Easy to use – time saver.
- No special skills required.
- Cuts cast iron, maganese, aluminum, bronze, stainless steel, carbon steel, copper & nicke.l

Applications

Can be used to remove unwanted or defective weld metal, to prepare parts prior to welding, to remove risers and reduce large area of metal prior to machining.

Procedures

Use DC straight polarity (electrode -) for clean, high speed cuts. The electrode should be held at a low angle to the work piece (10° - 15°). With the electrode pointed in the direction of desired groove, strike the arc and push the electrode as fast as the metal is removed.

A short arc should be maintained. The maximum depth of the groove should not be greater than the diameter of the core wire. For deeper grooves use multiple passes.

Technical Data

Current: AC or DC Straight Polarity
(Electrode -)

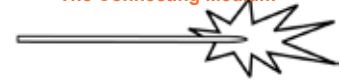
Color: Gray

No.	Dia.	Amperage	Qty
71543	3/32	100-170	5 lbs
71544	1/8	210-350	5 lbs

Hi-Abrasion

VINCULUM

"The Connecting Medium"



Premium Hard Surfacing Electrode for Severe Abrasion AC or DC Reverse Polarity

VINCULUM™ HI-ABRASION is designed for parts subjected to severe abrasion and light impact. Also for surfaces that must resist abrasion combined with scaling.

Features

- High deposition rate.
- Self releasing slag.
- Excessive dilution with base metal easily prevented.
- High chromium content to maintain abrasion resistance
- Smooth beads.
- Easily controlled arc.

Applications

- Equipment for processing coal, rock, soil, cement and ceramic matter.
- Grinding plates
- Conveying chains
- Open-hearth tools
- Earth augers
- Annealing furnaces
- Earth scrapers
- Rock crushers

Procedures

All unsound metal or foreign material should be removed from the surface to be welded. An elastic cushion layer should be applied before surfacing for best results.

On carbon and manganese steel use VINCULUM™ HI-ALLOY. When making the final surface, keep the electrode vertical to the work piece and maintain a short arc. Thin deposits never more than two layers thick should be used. Alternate welding area to prevent excessive local heat build-up. Allow part to cool slowly.

Technical Data

Hardness: RC 56 - 60

Current: AC or DC Reverse Polarity
(Electrode +)

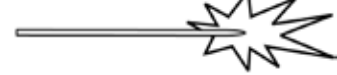
Color: Gray

No.	Dia.	Amperage	Qty
71558	1/8	80-125	5 ea
71560	5/32	100-160	5 ea

Fix-A-Cast NC

VINCULUM

"The Connecting Medium"



Premium Non-side Arcing Electrode for Welding Cast Iron Maximum Machinability

**AC or DC Reverse Polarity (Electrode +)
Also available in 4-Pack Assortment 96804**

VINCULUM™ FIX-A-CAST NC is the ideal electrode for welding in areas where the side of the electrode comes in contact with the part being welded and side arcing can't be tolerated. The specially coated electrode gives a deposit that is also easily machined.

Applications

- Joining of regular grades of gray cast iron to themselves or other iron alloys
- Designed for welding on light and medium sized castings, either joining or build-up, where maximum machinability is needed.
- Ideal for repair on thin sections of cast iron.

Procedures

Pre-heating or post-heating will not be necessary in most cases but in cold weather when special machining qualities are desired, the part should be preheated to 400°F (204°C). Stresses and cracks can be reduced by the use of stringer beads, intermittent welds or by peening while still hot. Allow part to cool slowly.

Technical Data

Tensile Strength: up to 50,000 psi (35 kg/mm²)

Hardness approximately 150

Current: AC or DC Reverse Polarity
(Electrode +)

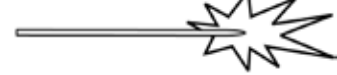
Color: Similar to Cast Iron

No.	Dia.	Amperage	Qty
71696	3/32	40-75	5 ea
71698	1/8	65-115	5 ea
71700	5/32	100-150	5 ea

All Position Stainless

VINCULUM

"The Connecting Medium"



Special Vertical Position Stainless Steel Electrode

Features

- Unique "Fast-Freeze" coating simplifies vertical down and up welding
- Ideal for poor fit-up joints in all positions
- Controlled weld puddle allows for filling holes on stainless steels

INTERNATIONAL SPECIFICATIONS	AWS/ASME IIC SFA 5.4 E 316L-16 DIN 8556 E19123L R 23 ISO 3581 E19.12.3L R 23 BS 2926 - 1984 19.12.3L R
------------------------------	---

Applications

Especially suited for vertical down and up welding of thin to medium gauge molybdenum bearing stainless steels.

Microstructure:

Austenite with 3-9% ferrite—typical ferrite number is 6.

All Weld Metal Analysis (Typical Weight %)

C	Mn	Si	S	P	Cr	Ni	Mo	Cu	Fe
.018	.9	.75	.01	.02	19	12	2.65	.1	bal

Welding Techniques

For vertical welding, set amperage at high end of the scale. Maintain a sharp angle with the electrode pointing upward. Whip the electrode quickly back and forth while moving up or down. Electrode may show a red color from the excess amperage which is normal.

Technical Data:

Tensile Strength: up to 80,000 psi

Yield Strength: up to 56,000 psi

Elongation %: 42%

Hardness: Rockwell B96, Brinnell 209

Current: DC Reverse (+) or AC

Welding Positions: Flat, Vertical Up, Vertical Down, Horizontal, Overhead

Color: Ivory

No.	Dia. x Length	Amperage	Qty
71690	5/64 x 12	35-55	5 ea
71692	3/32 x 12	60-80	5 ea
71794	1/8 x 14	90-110	5 ea

Weldtek Aluminum Solder 535



Premium Aluminum Solder Rods

Maximum strength, self fluxing aluminum solder for joining, buildup and hardfacing without cleanup.

Features

- High strength, self-fluxing aluminum solder.
- Post clean-up is eliminated.
- Low working temperature of 710°F (375°C) prevents warping and distortion of work.
- Good aluminum color match.
- Designed for joining, build-up and hardfacing of aluminum.

Applications

Ideal for joining aluminum extrusions used in the manufacture and repair of aluminum doors and windows. Also repairing ladders, gutters, siding, aluminum boats and instrument boxes. Most kirksite and zinc base die castings can be repaired with this alloy. May also be used as a wearfacing alloy on aluminum.

Procedures

Thoroughly clean joint area with a stainless steel brush. Bevel heavy sections. Use jogs or clamps to hold parts in alignment. With a carburizing flame, heat base metal to approx. 750°F (400°C), rub alloy in the joint. Do not heat rod with flame but let the heat from the part to be soldered melt the rod. Vigorous rubbing of the base metal surface allows the rod to break through the tough oxide and bond to the sound metal. Allow part to cool slowly. Do not cool with water.

Technical Data

Tensile Strength: to 35,000 psi (241 N/mm²)

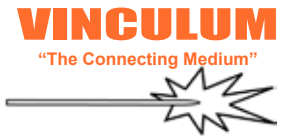
Working Temperature: 710°F (375°C)

Color Match: Very good on aluminum

Corrosion Resistance: Very good

No.	Description	Qty
46034	Aluminum Solder Rod	1 Lb

Weldtek 525 Silver Flux



General Purpose Silver Brazing Flux

Use when brazing copper, brass, stainless and alloy steels.

Features

Active Range: 1,000°F - 1,700°F (538°C - 927°C)

Procedure

Use ample flux when painting the surfaces to be joined and protected from oxidation. Remove flux residu with warm water.

No.	Description	Qty
71638	Weldtek 525 Flux 12 Oz.	1

Polar Heat Block Spray

Features

- Concentrated cooling gel absorbs heat to protect surfaces and components while soldering, brazing or welding.
- Stays where you spray it. Gels on contact for no-drip coverage.
- Odorless, skin-safe, non-toxic and easy clean-up.
- Convenient easy to use spray gel.

No.	Description	Qty
74165	Polar Heat Block Spray	1



Handi-Jig

Heat Resistant Material for Insulating and Positioning Parts for Welding

Handi-Jig is a new product specially designed to handle these types of problems and more. Handi-Jig easily holds or positions small and difficult to align parts for welding, brazing or soldering. It is an easy to mold compound that can be used as a heat dam and insulator to protect metal and other material from the effects of heat. The dough-like consistency of Handi-Jig makes it easy to mold around intricate parts. It will adhere to most surfaces making it ideal for use as a jiggling fixture or insulator for parts to be welded and it will not distort or shrink when heated.

Features

- Easy to use.
- Adheres to most surfaces.
- Withstands temperatures even above 3000°F.
- Maintains shape when heated.
- Asbestos-free and non-toxic.
- Reusable.
- Helps prevent heat distortion.
- Can be reconstituted using water.

Applications

- Can be used as a heat sink to absorb heat and avoid surface discoloration on heat sensitive parts.
- Can also be used as a heat dam to prevent heat from traveling to areas that can be damaged by heat, such as o-rings, gaskets, glass and paint.
- Will keep distortion down when welding on light gauge metals such as stainless steel.
- Ideal for positioning or holding difficult to align parts

Procedures

Using a thin layer of Handi-Jig, cover entire area to be protected. In the case of extreme heat, use a thicker covering. If moisture will be harmful to the part, a sheet of impervious plastic wrap should be put on first, then the Handi-Jig placed on top.

When used for positioning, treat each part individually. Place one part in a mound of Handi-Jig as the other part is placed in a separate mound of Handi-Jig. Position parts as desired.



No.	Description	Qty
71634	Handi-Jig 2 Lb.	1

11.2 SOLDER & CHEMICALS

Silver Bearing Solder

Low Temperature

The highest strength, lowest melting point silver solder alloy for stainless steel, dissimilar metals and chrome plating available in coil or syringe paste.

Features

- 500% stronger than common solders.
- Superior corrosion resistance with bright, shiny deposits.

Applications

- Stainless escalator parts.
- Chrome plating.
- Electrical connections.
- Air pressure tubing.
- Hospital equipment.
- Copper tubing.
- Gas lines.
- Stainless tables, pans, vats, vessels.
- Dissimilar metals.

No.	Description	Qty
71432	2 oz. Syringe	1
71430	9 ft. x 1/16 Coil	1



Solder Combos

One of our bestselling assortments just got better! Solder Combos available in any combination. Two of our Low Temperature Silver Bearing Solder in coil or one of each and includes the BIG BUDDY BUTANE TORCH!

Assortment No. 96805

No.	Description	Qty
71432	2 oz. Syringe	1
71430	9 ft. x 1/16 Coil	1
83723	Butane Torch	1

Assortment No. 96807

No.	Description	Qty
71430	9 ft. x 1/16 Coil	2
83723	Butane Torch	1



11.3 ACCESSORIES

Welding Rod Canisters



Features

- Holds up to 10 lbs. of electrodes.
- Available in 12-14" and 18" canisters.
- Certified chloride-free.
- Threaded cap has a long-lasting neoprene seal to keep electrodes airtight.
- Constructed of high-impact polyethylene.
- Color: Blue

No.	Description	Qty
82131	12-14" Sealed Rod Holder	1

Firefox™ Torch

Butane Refillable, compact (7oz., 4.5" tall), butane torch for general use, including as a table top lighter, thawing frozen locks, plumbing tasks, culinary tasks, in the laboratory, and in the shop for heating tasks like melting heat shrink adhesive.

Features

- Piezo electronic self-ignition system requires no electrical connection.
- Provides a 2,500°F, blue flame for precision.
- Wind-resistant, lightweight and portable.
- 20 minute burn time with full 6 Gr capacity fuel chamber.
- Child-resistant trigger mechanism for safety with lock that enables hands-free operation.

No.	Description
83728	Firefox Torch



11.3 ACCESSORIES

TIG Gloves

Features

- Excellent fit and feel for precision welding
- Soft kidskin offers good dexterity.
- 4.5 inch cowhide leather protective cuff.
- Padded DragPatch® side reinforcement.
- Stitched with flame-resistant Kevla®.



No.	Size	Qty
72520	Medium	1 Pair
72521	Large	1 Pair
72522	X-Large	1 Pair



Welding Gloves

Features

- Favorite among professional welders.
- CushionCore cushioned glove lining.
- Durable high-grade side split cowhide.
- Natural wing thumb design, welted seams, and palm and thumb area reinforcements.
- Stitched with flame-resistant Kevla®.

No.	Size	Qty
72524	Medium	1 Pair
72525	Large	1 Pair
72526	X-Large	1 Pair

Premium Welding Gloves

Features

- The ultimate in comfort and protection.
- Supple yet durable elkskin leather.
- Reversed grain palm for added dexterity.
- Flame-resistant Nomex lining on the back.
- Specially tanned cowhide rigid cuff.
- Stitched with flame-resistant Kevlar®



No.	Size	Qty
72528	Medium	1 Pair
72529	Large	1 Pair
72530	X-Large	1 Pair