

# WELDINGRODS.com

## PREMIUM MAINTENANCE ALLOYS

### Welding Rods

930

A versatile low alloy steel for all purposes. All position electrode, vertical up or down overhead, horizontal, ideal thick to thin work, for dirty and greasy steels, less splatter, self-releasing slag, boiler application. (Will not pick up moisture).  
**Tensile Strength/Hardness:** Up to 80,000 PSI -150 BH  
**Type of Current:** AC –DC  
**Welding Process:** ARC, MIG, TIG, TORCH  
*Most popular out-of-position mid steel.*

SIZE	AMP
1/16	25 - 50
5/64	40 - 60
3/32	50 - 80
1/8	80 - 120
5/32	120 - 160
3/16	160 - 245

909

High strength, all position, low amperage welding without slag chipping, run pass after pass over slag, solid weld, for light to heavy or poor fit. Excellent over dirt, rust, and oil. A very high penetrating mild steel.  
**Tensile Strength/Hardness:** Up to 80,000 PSI  
**Type of Current:** AC –DC  
**Welding Process:** ARC  
*Multipass electrode without chipping slag.*

3/32	25 - 75
1/8	40 - 130
5/32	60 - 170
3/16	90 - 200

B-90

All position electrode, easy slag removal, instant strike and restrrike, moisture proof coating, excellent bead appearance, porosity free welds, joining and rebuilding, and excellent machinability.  
**Tensile Strength/Hardness:** Up to 80,000 PSI -150 BH  
**Type of Current:** AC –DC  
**Welding Process:** ARC  
*Moisture proof coating.*

1/16	25 - 50
5/64	40 - 130
3/32	50 - 80
1/8	80 - 120
5/32	120 - 160
3/16	160 - 245

40FC

Joining cast iron, steels, copper brass, bronze base metals, galvanized steels, excellent for joining dissimilar combinations. Ideal body shop applications. All around general purpose. Excellent wetting action. Flux coated alloy. Procedure -clean area, free from rust and oil. Heavy sections should be beveled.  
**Tensile Strength/Hardness:** Up to 70,000 PSI  
**Temperature:** 1600° F.  
**Welding Process:** Torchcrease.  
*Good general purpose brazing.*

SIZE
3/32
1/8

45FC

For joining high carbon and alloy steels. Drill extensions, milling cutters, tools, carbiding tips, galvanized steels, tubular assemblies. Thin flowing, very high strength.  
**Tensile Strength/Hardness:** Up to 100,000 PSI  
**Temperature:** 1400° F, 1600° F  
**Welding Process:** Torch  
*High strength thin flowing.*

3/32
1/8

50FC

Building up broken gear teeth, valve seats, pistons, worn bearings, resurfacing under cut and worn shafts. Very machinable. Use on cast iron, steel, copper and nickel alloys. High fractional, wear resistant, work hardening.  
**Tensile Strength/Hardness:** Up to 85,000 PSI , 200 BH  
**Temperature:** 1400° F, 1600° F  
**Welding Process:** Torch  
*Excellent build up of worn parts.*

3/32
1/8

ALLOY STEEL

Extra low hydrogen electrode for high resistance welding, recommended for mild steel, low or medium carbon steels, low alloy and problem steels in high stressed construction such as heavy structures, bridges, machinery, truck bodies. Welding in all positions.  
**Tensile Strength/Hardness:** 75,000 to 85,000 PSI -170 BH  
**Type of Current:** AC –DC  
**Welding Process:** ARC, MIG, TIG  
*Great out-of-position choice.*

SIZE	AMP
1/16	25 - 40
3/32	40 - 90
1/8	110 - 130
5/32	140 - 170
3/16	150 - 220

990

Excellent choice for factory maintenance departments! Weld dissimilar alloys! For dissimilar alloy steels and highest tensile strength. For tools, dies, coil springs, leaf, spring steels, carbon steels, stainless steels, wear, impact, heat and corrosion resistant welds.  
**Tensile Strength/Hardness:** 120,000 PSI -500 BH  
**Type of Current:** AC - DC, TIG  
**Welding Process:** ARC, MIG  
*Most popular for dissimilar metals.*

1/16	25 - 40
3/32	40 - 90
1/8	70 - 125
5/32	80 - 150
3/16	150 - 245

32

Very high strength all position electrode for crack free welding of low, medium and high carbon steels, low alloy steels, manganese steels and cast steels. Completely dependable for repair frames, machinery parts, steel buckets, abrasive steels and any problem steels. Depending on the type of steel to be welded, a preheat is recommended. Medium carbon and alloyed steels: 500° F. High carbon steels: 650° F.  
**Tensile Strength/Hardness:** Up To 118,000 PSI -250 BH  
**Type of Current:** AC –DC **Welding Process:** ARC, MIG, TIG  
*Can still be flame cut.*

3/32	65 - 90
1/8	100 - 130
5/32	120 - 160
3/16	150 - 220

SPECIAL ALLOYS

Copper and copper alloys AC electrode for welding and rebuilding of all kinds of bronze, copper, some brass, cast iron steel copper alloys to ferrous metals. Applications: cast iron housings, bearing surfaces, pumps, valve seats, gears, pulleys. Spatter free, very smooth flowing alloy.  
**Tensile Strength/Hardness:** Up to 59,000 PSI, 115 BH  
**Type of Current:** AC DC  
**Welding Process:** MIG, TIG, ARC  
*The best electric brazing rod.*

SIZE	AMP
1/8	90 - 160
5/32	140 - 210

CHAMFER

Gouging out welds, removing unwanted metals, veeing out cracks in castings (steel, cast iron, etc.). Applications for ferrous or non-ferrous metals. Procedure when using DC straight polarity, hold electrode in the direction of the desired groove. Use shortest arc possible, hold electrode at a low angle to the work piece (10° to 15°).  
**Type of Current:** AC-DC  
**Welding Process:** ARC  
*Fast gouging.*

3/32	160 - 260
1/8	240 - 360
5/32	250 - 400
3/16	300 - 500

CUT ROD

Cutting electrode - cutting all metals.  
**Type of Current:** AC –DC  
**Welding Process:** ARC  
*Excellent build up of worn parts.*

3/32	160 - 260
1/8	240 - 360
5/32	250 - 400

HARDFACING

Joining manganese, nickel, chrome alloy. Welding dissimilar alloy steels, very high strength manganese to high carbon. Can be flame cut. Applications: stone crushers, shovels, buckets, railroad frogs, all types of construction equipment.  
**Tensile Strength/Hardness:** Up to 125,000 PSI  
**Type of Current:** AC –DC  
**Welding Process:** Torch, ARC, TIG  
*Best for cushion under hard face.*

SIZE	AMP
1/8	110 - 140
5/32	140 -160
3/16	180 - 230
1/4	220 - 280

9

Ball mill liner plates, trencher and ditcher teeth, brick augers and forces, scraper blades, feeders and conveyor screws, loader buckets, sand and gravel shutes, knives and choppers. For all items subject to severe abrasion, where impact load is not severe. Relief checking is normal. Limited two layers.  
**Tensile Strength/Hardness:** Not Applicable  
**Type of Current:** AC –DC  
**Welding Process:** Torch, ARC, TIG  
*Super hard tubular chrome carbide.*

1/4	60 -110
1/2	150 - 300

12

High efficiency (190%) basic type electrode for hardfacing, high percentage (40%) of chromium carbide particles inside austenitic steel, giving excellent abrasion and impact. All position except vertical down. Deposit one or two passes.  
**Tensile Strength/Hardness:** RC-58-60  
**Type of Current:** AC-DC  
**Welding Process:** Torch, ARC  
*Excellent conventional hardface.*

1/8	80 -120
5/32	120 - 160
3/16	160 - 245
1/4	180 - 260

ALUMINUM

Die cast rod zinc base, repair of all types zinc base die castings, aluminum, white metals.  
**Temperature:** 700° F  
**Tensile Strength/Hardness:** Up to 20,000 PSI  
**Welding Process:** Torch, Heliarc  
*Excellent for filling and sealing holes.*

SIZE	AMP
1/8	

3100

An extruded aluminum electrode. Moisture proof coating for welding most common aluminum alloys. High strength, joints, truck and trailer body, foundry patterns and castings, frame, pipe, buildup of missing section. Maintain a very short arc holding the electrode vertical. When working with heavier sections a slight preheat (200° to 300° F), will provide better performance of the electrode. For best results, wash in warm water after removal of flux.  
**Tensile Strength/Hardness:** Up to 35,000 PSI  
**Type of Current:** DC-R **Welding Process:** ARC, MIG  
*Smooth running aluminum electrode.*

3/32	50 - 80
1/8	80 - 125
3/16	125 - 150

SILVER SOLDER

High Silver Content Alloy, Cadmium Free for Low Temperature, Thin Flowing on Ferrous/Non-Ferrous Metals.  
**Tensile Strength/Hardness:** Up to 85,000 PSI  
**Temperature:** 1125° F  
**Welding Process:** Torch  
*Thin flowing on all alloys*

SIZE
1/16
5/64
3/32
1/8

43

Very high strength solder. Corrosion resistant, silver bearing alloy. Joining all metals except aluminum. Excellent on stainless.

1/16
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1400

Silver type copper base alloy - copper to copper, joints self fluxing. Also for brass, bronze applications.

.50
x 1/8

2000FC

High Silver Content Alloy, Cadmium Free, Flux Coated, Thin Flowing on Ferrous and Non-Ferrous Metals  
**Tensile Strength/Hardness:** Up to 85,000 PSI  
**Temperature:** 1125° F  
**Welding Process:** Torch  
*The pink flux coating*

SIZE
1/16
3/32
1/8

### Mig Wire

ALLOY STEEL

This operates over a wide range of current settings allowing for a greater variety of applications using just one wire. An excellent choice for single or multiple pass laps, fillet and butt welds on many grades of carbon steel. 127 is typically used in shipbuilding, railcar fabrication, pressure vessels, heavy gauge sheet metal, earth moving equipment and many ASTM specifications.

DIA.	WIRE SPEED	AMPS	VOLTS
.035	450-580-675	100-215-260	21-26-28
.045	150-410-575	100-245-300	24-28-30
1/16	260-345-430	225-355-410	27-29-33

990

Also called the "Super 990 Mig", The Ultra Strength Mig alloy. For welding dissimilar alloy steels, highest tensile strength, for tools, dies, coil springs, leaf springs, stainless steel, wear impact, heat and corrosion resistant welds.  
**Tensile strength:** 120,000 PSI - 500 BH.  
**Shielding Gas:** Should use a Tri-mix Argon / helium / CO2 gas mixture  
Spool WT: 33 lbs – 11 lbs – 2 lbs

DIA.
.045
.035
.030
.023

32

This is a high strength all position flux cored mig wire. Used primarily for heavy equipment buckets , truck dump bodies, frames, booms with varying amounts of vibration. WR 32 is also excellent for building up of wear surfaces for underneath our #12 Mig hardface. Our WR32 is excellent out of position because the welds fast freeze. Very easy slag removal  
Spool WT: 33 lbs – 10 lbs

DIA.
.035
.045
1/16

ALUMINUM

High strength, joints, truck and trailer body, foundry patterns and castings, frame, pipe, buildup of missing section. When working with heavier sections a slight preheat (200° to 300° F), will provide better performance of the mig wire.

3100
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HARDFACING

Joining manganese, nickel, chrome alloy. Welding dissimilar alloy steels, very high strength manganese to high carbon. Can be flame cut. Applications: stone crushers, shovels, buckets, railroad frogs, all types of construction equipment. Multiple pass build-up manganese acts as a cushion for top layer of hardface.  
Spool WT: 33 lb

DIA.
.035
.045
1/16

12

High efficiency basic type Flux Core Mig wire for hard facing, high giving excellent abrasion and impact. Excellent out of position. Deposit one or two passes. If build up is needed use weldingrods #6 build up.  
**Shielding Gas:** 75% Argon/ 25% Co2 or 100% Co2  
**Tensile Strength/Hardness:** RC-58-60  
**Welding Process:** Mig  
Spool WT: 33 lb

DIA.
.035
.045
1/16

MILD STEEL

A versatile low alloy steel for all purpose solid mig wire.Easy flowing solid mig wire ideal thick to thin work, for dirty and greasy steels, less splatter, boiler application.  
**Shielding Gas:** Use 75% argon 25% CO2  
**Tensile Strength:** Up to 80,000 PSI  
Spool WT: 33 lb - 11lb - 2lb

DIA.
.023
.030
.030
.045

STAINLESS

For welding austenitic low carbon CR-NI stainless steels, 340L, 308L, 321, 347. Chemical industry. Excellent for cryogenic applications, food, dairy, pipes and fittings. 140 is very smooth all positions. Procedure -clean weld area. 60° bevel should be used when butt welding parts. Do not preheat. Tack part to maintain alignment.  
Spool WT: 33 lb - 11lb - 2lb

DIA.
.023
.030
.035
.045

CAST IRON

For machinable welding of cast iron all positions, filling holes, fabricating to steel, motor blocks, housings, gears, pressure chambers, malleable fittings. Thin to heavy sections. Preheat is not usually required. Critical applications, heavy sections preheat to 450° F. Light peening is recommended. Cover and let cool slowly. DC use reverse polarity.  
**Tensile Strength/Hardness:** Up to 70,000 PSI, 185 BH  
**Type of Current:** AC –DC **Welding Process:** ARC, MIG, TIG  
*No preheat required.*

SIZE	AMP
3/32	40 - 80
1/8	60 - 120
5/32	90 - 140

725

Very good machinability, high resistance to impact, high ductility, high tensile strength. Universal use on cast iron. Its outstanding wetability on cast iron makes it ideal for filling, sealing, cladding and joining cast iron to steel.  
**Tensile Strength/Hardness:** Up to 75,000 PSI , RB 89-96  
**Type of Current:** AC –DC  
**Welding Process:** ARC, MIG, TIG  
*Excellent for welding cast to steel.*

3/32	40 - 80
1/8	60 - 120
5/32	90 - 140

700

Non-machinable, low-cost, high strength electrode for welding and building up of dirty, oil-soaked cast irons. Perfect color match for gray cast iron. The weld deposits rust for invisible repairs on castings of all types: foundry defects, machine bases, farm equipment, etc. Sealer electrode for oily and dirty cast. If a machine deposit is required, remove or gouge unwanted metal with chamfer. Maintain a short arc. Deposit a short bead 1" to 2". Do not overheat the work pieces. Allow to cool naturally or by covering with asbestos or lime. **Tensile Strength/Hardness:** Up to 60,000 PSI, 500 BH **Type of Current:** AC DC **Welding Process:** ARC, MIG, TIG  
*Low cost high strength cast iron.*

3/32	40 - 80
1/8	80 - 120
5/32	100 - 140

STAINLESS

For welding stainless steels, all types with unknown analysis. Very high strength with temperatures up to 1975 ° F. No splatter, applications -heat exchangers, high temperature, petroleum refining, paper making industries. Procedure: hold a short arc, deposit stringer beads, remove slag between passes. On DC use reverse polarity.  
**Tensile Strength/Hardness:** Up to 95,000 PSI  
**Type of Current:** AC –DC **Welding Process:** ARC, MIG, TIG  
*Ultimate stainless steel electrode.*

SIZE	AMP
1/16	30 - 45
3/32	40 - 75
1/8	60 - 100
5/32	85 - 140

140

For welding austenitic low carbon CR-NI stainless steels, 340L, 308L, 321, 347. Chemical industry. Excellent for cryogenic applications, food, dairy, pipes and fittings. Arc is very smooth all positions. Procedure: clean weld area. 60° bevel should be used when butt welding parts. Do not preheat. Tack part to maintain alignment. Remove slag between passes, allow to cool slowly.  
**Tensile Strength/Hardness:** Up to 97,000 PSI  
**Type of Current:** AC –DC **Welding Process:** ARC, MIG, TIG  
*Excellent general purpose stainless steel electrode. Multipass electrode without chipping slag.*

1/16	20 - 40
3/32	40 - 70
1/8	80 - 100
5/32	110 - 140

### Tig Wire

930T

An all purpose mild steel Tig alloy. The high silicon content increases the fluidity of the weld pool, creating a smoother bead appearance and resulting in minimal post-weld grinding. 930T is excellent where poor fit-ups or rusty and oily plates may be used.  
**Tensile Stength:** Up to 80,000 PSI

DIA.
.045 x 36
1/16 x 36
3/32 x 36
1/8 x 36

990T

Weld dissimilar alloys! The highest strength TIG alloy for dissimilar alloy steels and highest tensile strength. For tools, dies, coil springs, leaf, spring steels, carbon steels, stainless steels, wear, impact, heat and corrosion resistant welds.  
**Tensile Strength:** Up to 120,000 PSI

.045 x 36
1/16 x 36
3/32 x 36
1/8 x 36

130T

For TIG welding stainless steels, all types with unknown analysis. Very high strength with temperatures up to 1975° F. No splatter, applications, heat exchangers, high temperature, petroleum refining, paper making industries, Hospital Maintenance.

.045 x 36
1/16 x 36
3/32 x 36
1/8 x 36

140T

For TIG welding austenitic low carbon CR-NI stainless steels, 340L, 308L, 321, 347. Chemical industry. Excellent for cryogenic applications, food, dairy, pipes and fittings. Very smooth all positions. Procedure: clean weld area. 60° bevel should be used when butt welding parts. Do not preheat. Tack part to maintain alignment.  
**Tensile Strength/Hardness:** Up to 97,000 PSI

.045 x 36
1/16 x 36
3/32 x 36
1/8 x 36

3100T

Most common TIG aluminum alloys. High strength, joints, truck and trailer body, foundry patterns and castings, frame, pipe, buildup of missing section. When working with Tig aluminum always best to pre-heat application if possible (200 to 300° F). Excellent for Hospital repair maintenance, Aluminum truck bodies, aluminum angle and tubing.

.045 x 36
1/16 x 36
3/32 x 36
1/8 x 36

770T

For TIG welding of machinable cast iron. Filling holes, fabricating to steel, motor blocks, housings gears, pressure chambers, malleable fittings. Thin to heavy sections. Preheat is not usually required, critical applications, heavy sections preheat to 450° F. Light peening is recommended. Cover and let cool slowly.  
**Type of Current:** No Preheat Required  
**Tensile Strength/Hardness:** Up to 70,000 PSI, 185 BH

.045 x 36
1/16 x 36
3/32 x 36

### Maintenance and Repair Industries

