

COMMON ARC WELDING – MILD STEEL ELECTRODES



MILD & LOW ALY STEEL ELECTRODE INFORMATION

PROPERTIES MILD & LOW ALLOY STEEL ELECTRODES

USA 6010 AWS A5.1 Class E6010

| SIZE | PART No. | PART No. | PART No. | PRICE |
|------|------------|-------------|-------------|---------|
| 3/32 | 6010-332-1 | 6010-332-10 | 6010-332-60 | \$90.00 |
| 1/8 | 6010-18-1 | 6010-18-10 | 6010-18-60 | \$85.00 |
| 5/32 | 6010-532-1 | 6010-532-10 | 6010-532-60 | \$85.00 |
| 3/16 | 6010-316-1 | 6010-316-10 | 6010-316-60 | \$85.00 |

*A (60 lb.) Moisture Resistant Container, houses 6 resealable 10 lb plastic packages

**CALL FOR INFORMATION
ON LARGE DIAMETER
ELECTRODES**

USA 6011 AWS A5.1 Class E6011

| SIZE | PART No. | PART No. | PART No. | PRICE |
|------|------------|-------------|-------------|---------|
| 3/32 | 6011-332-1 | 6011-332-10 | 6011-332-60 | \$90.00 |
| 1/8 | 6011-18-1 | 6011-18-10 | 6011-18-60 | \$85.00 |
| 5/32 | 6011-532-1 | 6011-532-10 | 6011-532-60 | \$85.00 |
| 3/16 | 6011-316-1 | 6011-316-10 | 6011-316-60 | \$85.00 |

MESSER/EUTECTIC OUR ULTIMATE — MILD STEEL ELECTRODE

Bendable, Water Resistant, Higher Tensile & Yield Strength than E6011 or E6013 TOUCH STRIKE & EASY RESTRIKE, EVEN ON AC

P/N 80TAC332-5P — 3/32" Dia **\$19.25 Per Pk.**
AMPS 35-80

P/N 80TAC18-5P — 1/8" Dia **\$19.00 Per Pk.**
AMPS 65-125
Priced & Packed In 5 lb. Resealable Plastic Containers

USA 6013 AWS A5.1 Class E6013

| SIZE | PART No. | PART No. | PART No. | PRICE |
|------|-------------|-------------|-------------|---------|
| 1/16 | **See Below | | | |
| 3/32 | 6013-332-1 | 6013-332-10 | 6013-332-60 | \$90.00 |
| 1/8 | 6013-18-1 | 6013-18-10 | 6013-18-60 | \$85.00 |
| 5/32 | 6013-532-1 | 6013-532-10 | 6013-532-60 | \$85.00 |
| 3/16 | 6013-316-1 | 6013-316-10 | 6013-316-60 | \$85.00 |

**1/16 IS SOLD IN A 1 LB PACK ONLY
Part No. 6013-116-1 \$6.25 PER PACK

DESCRIPTION

USA 6010 is a high cellulose coated electrode designed to provide a smooth stable arc forceful enough to achieve deep penetration into the base metal. This electrode exhibits high deposition efficiency and low spatter loss. It produces a weld puddle that wets and spreads well, yet sets up fast enough to make this electrode ideal for vertical up or vertical down welding techniques. USA 6010 electrodes produce a flat weld bead with coarse ripples and a thin easily removable slag. USA 6010 electrodes may be used in the flat, horizontal, vertical or overhead welding positions.

TYPICAL APPLICATIONS

USA 6010 electrodes are most commonly used for out-of-position welding such as field construction, ship yards, water towers, pressure vessels, pressure pipes, steel castings, plain and galvanized steel storage tanks, etc.

TYPICAL WELD METAL CHEMISTRY(%)

| | |
|----|-------|
| C | 0.100 |
| Mn | 0.470 |
| Si | 0.200 |
| P | 0.014 |
| S | 0.012 |

TYPICAL MECHANICAL PROPERTIES OF WELD DEPOSIT (as welded)

| | |
|------------------------------------|--------|
| Yield point (psi) | 61,000 |
| Tensile strength (psi) | 70,000 |
| Elongation in 2" (%) | 30 |
| Charpy V-notch at -20°F (ft. lbs.) | 36 |
| Reduction in area (%) | 60 |

AVAILABLE SIZES AND RECOMMENDED CURRENTS (DC+)

| | | | | | | |
|-------------|-------|--------|---------|---------|---------|---------|
| Dia. (in.) | 3/32 | 1/8 | 5/32 | 3/16 | 7/32 | 1/4 |
| Lgth. (in.) | 14 | 14 | 14 | 14 | 14 | 14 |
| F | 60-85 | 80-120 | 110-160 | 150-200 | 160-210 | 190-240 |
| Amps V&O | 50-70 | 70-110 | 110-150 | 130-170 | 130-190 | |

DESCRIPTION

USA 6011 electrodes have the same characteristics as USA 6010; however unlike the USA 6010, this electrode may be used with small AC welders as well as DC types. USA 6011 high cellulose coated electrodes provide excellent arc stability, increased ductility, high deposition efficiency and low spatter. This electrode combines a strong arc force with fast solidification of weld metal, thereby permitting vertical or overhead as well as flat and horizontal welding positions. USA 6011 is especially suited for welding where poor groove fit-up and rusty or oily steel is present.

TYPICAL APPLICATIONS

USA 6011 is commonly used as an all purpose electrode for automobile body shops and mild steel farm equipment. Other uses would include shipbuilding, bridges, boilers, barges, railroad cars, pipes, truck frames, pressure vessels, storage tanks and galvanized steel.

TYPICAL WELD METAL CHEMISTRY(%)

| | |
|----|-------|
| C | 0.100 |
| Mn | 0.580 |
| Si | 0.370 |
| P | 0.015 |
| S | 0.013 |

TYPICAL MECHANICAL PROPERTIES OF WELD DEPOSIT (as welded)

| | |
|------------------------------------|--------|
| Yield point (psi) | 63,000 |
| Tensile strength (psi) | 72,000 |
| Elongation in 2" (%) | 29.2 |
| Charpy V-notch at -20°F (ft. lbs.) | 36 |
| Reduction in area (%) | 60 |

AVAILABLE SIZES AND RECOMMENDED CURRENTS (AC or DC+)

| | | | | | | |
|-------------|-------|--------|---------|---------|---------|---------|
| Dia. (in.) | 3/32 | 1/8 | 5/32 | 3/16 | 7/32 | 1/4 |
| Lgth. (in.) | 14 | 14 | 14 | 14 | 14 | 14 |
| F | 65-90 | 80-120 | 130-170 | 170-210 | 170-220 | 200-250 |
| Amps V&O | 50-75 | 70-110 | 110-150 | 130-170 | 140-200 | |

DESCRIPTION

USA 6013 high titania coated electrodes produce weld deposits which are much smoother and flatter than those produced by USA 6012. This electrode was primarily designed to provide good wetting and shallow penetration for thin sheet metal applications (using smaller diameter electrodes), but with sufficient penetration for welding medium gauge steel. As a result, USA 6013 is an all-purpose electrode that provides a soft steady arc which is easily regenerated, easy slag control for vertical-down welding, low spatter and a beautiful bead appearance. USA 6013 electrodes may be used in any position with AC or DC (straight or reverse polarity).

TYPICAL APPLICATIONS

USA 6013 is commonly used for automobile bodies, truck frames and bodies, ornamental iron, metal furniture, farm implements, machinery guards, storage tanks, or wherever appearance is important or desirable.

TYPICAL WELD METAL CHEMISTRY(%)

| | |
|----|-------|
| C | 0.070 |
| Mn | 0.450 |
| Si | 0.320 |
| P | 0.014 |
| S | 0.008 |

TYPICAL MECHANICAL PROPERTIES OF WELD DEPOSIT (as welded)

| | |
|-----------------------------------|--------|
| Yield point (psi) | 63,000 |
| Tensile strength (psi) | 70,000 |
| Elongation in 2" (%) | 29.7 |
| Charpy V-notch at 32°F (ft. lbs.) | 58 |
| Reduction in area (%) | 58 |

AVAILABLE SIZES AND RECOMMENDED CURRENTS (AC or DC±)

| | | | | | | |
|-------------|-------|--------|--------|---------|---------|---------|
| Dia. (in.) | 1/16 | 3/32 | 1/8 | 5/32 | 3/16 | 1/4 |
| Lgth. (in.) | 10 | 14 | 14 | 14 | 14 | 14 |
| F | 25-50 | 50-100 | 80-130 | 140-180 | 180-230 | 260-320 |
| Amps V&O | 25-50 | 50-90 | 60-110 | 110-160 | 120-160 | |