



Manufacturers of Custom Welding Lines for Resale
www.selectrode.com

SELECTRODE
1157
Green 312(29/9)

INTERNATIONAL CLASSIFICATIONS

AWS/ASME A 5.4 E 312-17*

EN 1600: E 29.9 R 32

DIN 8556: E 29.9 R 23

ISO 3581: E 29.9 R 32

NFA 81-343: EZ 29.9 R 23

***Proprietary Modification**

FEATURES & APPLICATIONS

Due to exceptional strength and crack resistance, it is ideal for repairing tools, dies, spring steel and any dissimilar metal combinations, except for the aluminum and copper alloys. It is also recommended for repairing worn parts and as an underlay for hardfacing.

The ultimate electrode for welding all types of steels, without any danger of cracking or breakage. Special "FERRITE BALANCED" Chemistry also serves as a "STUD PULL" electrode

- An engineered deposit chemistry that has the perfect ratio of metallics to offer crack resistance far superior to any other brand.
- All colors are usually kept in stock unmarked.
- Special flux formulation eliminates slag interference in horizontal fillets.
- Slag is designed to turn to powder making this electrode ideal for "STUD PULL" applications.
- Available in TIG form as product code 6007 and in MIG form as product code 7007

*** Special specification exceeding chemistry for extreme crack resistance.**

ALL WELD METAL ANALYSIS (TYPICAL WEIGHT %)

Microstructure: A duplex austenite/delta ferrite structure with a Shaefler ferrite value below 35%.

| Code | Color | 312-17* | 312-16 |
|------|--------|---------|--------|
| 1119 | Gold | X | |
| 1124 | White | X | |
| 1145 | Blue | | X |
| 1147 | Red | X | |
| 1149 | Maroon | | X |
| 1150 | Orange | | X |
| 1153 | Blue | X | |
| 1154 | White | | X |
| 1157 | Green | X | |
| 1187 | Green | | X |

Flux Color:

| Type | Cu | C | Mn | Cr | Si | S | Ni | P | Mo | Fe |
|---------|--|----|----|----|----|-----|----|-----|----|-----|
| 312-17* | Special Proprietary Non-Conforming Chemistry | | | | | | | | | |
| 312-16 | .06 | .1 | .8 | 29 | 1 | .01 | 9 | .02 | .7 | Bal |

TYPICAL MECHANICAL PROPERTIES

| Undiluted Weld Metal | Maximum Value Up to: |
|-----------------------------|-----------------------------|
| Tensile strength as welded | 128,000 psi (880 MPa) |
| work hardened | 186,000 psi (1280 MPa) |
| Yield strength | 90,000 psi (630 MPa) |
| Elongation | 32%, 36% 17 coatings |
| Reduction of area | 25% |
| Impact Energy | 50J: 68°F (20°C) |
| Hardness | Brinell 225 |

WELDING CURRENT & INSTRUCTIONS

Recommended Current: DC reverse polarity (Electrode +) or AC

| Diameter (mm) | 1/16 (1.6) | 5/64 (2.0) | 3/32 (2.5) | 1/8 (3.25) | 5/32 (4.0) | 3/16 (5.0) |
|------------------|---------------|------------|------------|------------|------------|------------|
| Minimum Amperage | 25 | 30 | 35 | 60 | 75 | 130 |
| Maximum Amperage | 35 | 55 | 70 | 110 | 140 | 200 |

Welding Techniques: The area in which the weld is to be made should be free of rust, grease, paint and other materials which cause weld contamination. A 90o vee joint should be used when joining heavy sections. Maintain a short arc length and use stringer beads.

Welding Positions: Flat, Horizontal, Vertical up, Overhead

Deposition Rates:

| Diameter (mm) | Length (mm) | Weldmetal/ Electrode | Electrodes per lb (kg) of Weldmetal | Arc Time of Deposition min/ lb (kg) | Amperage Settings | Recovery Rate |
|---------------|-------------|----------------------|-------------------------------------|-------------------------------------|-------------------|---------------|
| 1/16 (1.6) | 12" (300) | .13oz (4g) | 120 (264) | 59 (129) | 25 | 100% |
| 5/64 (2.0) | 12" (300) | .14oz (4g) | 114 (251) | 47 (103) | 40 | 100% |
| 3/32 (2.5) | 12" (300) | .38 oz. (11g) | 40 (88) | 37 (82) | 65 | 100% |
| 1/8 (3.25) | 14" (350) | .64oz (18g) | 25 (55) | 26 (58) | 100 | 100% |
| 5/32 (4.0) | 14" (350) | 1 oz (28g) | 16 (36) | 21 (46) | 130 | 100% |
| 3/16 (5.0) | 14" (350) | 1.6oz (45g) | 10 (23) | 14 (30) | 170 | 100% |

APPROXIMATE ELECTRODE PACKAGING & DIMENSIONS

| Diameter (mm) | 1/16 (1.6) | 5/64 (2.0) | 3/32 (2.5) | 1/8 (3.25) | 5/32 (4.0) | 3/16 (5.0) |
|-----------------|------------|------------|------------|------------|------------|------------|
| Length (mm) | 12" (300) | 12" (300) | 12" (300) | 14" (350) | 14" (350) | 14" (350) |
| Electrodes / lb | 54 | 42 | 26 | 14 | 9 | 7 |
| Electrodes / kg | 119 | 92 | 58 | 31 | 20 | 15 |