



Quality Management System
in accordance with
ISO 9001
Cert # 05-R0925

4140 Chrome-Moly Flux Cored Rod

U.S. ALLOY CO.
dba Washington Alloy
7010-G Reames Rd.
Charlotte, NC 28216
www.weldingwire.com



ALLOY DESCRIPTION AND APPLICATION;

4140 is a flux cored Chromium-molybdenum low alloy rod that will produce a dense, heat-treatable deposit. This alloy is used to weld AISI/SAE 4140 and other heat-treatable alloys or base metals needing flame hardening. Commonly used to build-up and repair of dies, forgings, shafts and many other types of casting having and needed similar chemistries or properties. Preheat and inter-pass 500-650°F recommended for 4140 base metals and may also need followed by post heat treating.

TYPICAL GTAW WELDING PROCEDURES; DCEN with EWTh-2 truncated conical tip

| Filler Wire Size | Tungsten | Amps | Volts | Gas Cup Size | Argon (cfh) | Base thickness |
|------------------|----------|---------|-------|--------------|-------------|----------------|
| 1/16" | 1/16" | 50-120 | 12 | 3/8" | 20 | 1/16-3/32" |
| 1/16-3/32" | 3/32" | 70-180 | 12 | 3/8" | 20 | 1/8- 3/16" |
| 1/8" | 1/8" | 150-250 | 12 | 1/2" | 25 | 1/4-1/2" |

Procedures may vary with change in position, base metals, filler metals, equipment and other changes.

TYPICAL WELD CHEMISTRY (%) & WELD METAL PROPERTIES; 100% Ar (GTAW)

| | | | | |
|------------|-------|----------------------------------|---------|---------|
| Carbon | 0.35 | PWHT: completely annealed | | |
| Manganese | 0.80 | welded post weld re-heat treated | | |
| Silicon | 0.50 | oil quenched at 1600°F then | | |
| Phosphorus | 0.012 | Tensile Strength (psi) | 1150° F | 950° F |
| Sulfur | 0.014 | Yield Strength (psi) | 157,000 | 220,000 |
| Chromium | 0.75 | | 157,000 | 195,000 |
| Molybdenum | 0.33 | | | |

AVAILABLE SIZES: TU 4140 = Rods of 1/16, 3/32, 1/8
Other sizes may be available – please inquire

SPECIFICATIONS; AISI/SAE 4140

| EAST COAST | GULF COAST | WEST COAST |
|---------------------|-------------------------|----------------------------|
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