



316

DESCRIPTION: Weldcote Metals 316 is used to weld wrought and cast forms of similar composition. The presence of molybdenum increases its creep resistance at elevated temperatures. The lower ferrite level of this nominal composition reduces the rate of corrosion in certain media and is suitable for use at cryogenic temperatures.

APPROVALS: Manufactured under Quality System approved by ASME, IS09001. Meets AWS 5.9 Class ER316. Approved by Canadian Welding Bureau.

CHEMICAL COMPOSITION

Carbon	.05
Manganese	1.75
Silicon	.48
Chromium	19.4
Nickel	12.2
Molybdenum	2.30
Sulfur	.003
Phosphorus	.012
Nitrogen	.04

MECHANICAL PROPERTIES

Tensile Strength

88,500 PSI 610 MPA

Yield Strength

59,000 PSI 410 MPA

Elongation

35%

WELDING PARAMETERS

- | | | |
|----|--------------------------------|---|
| a) | <u>MIG WELDING:</u> | Direct current; Electrode +Ve |
| | Shielding Gas | 98/99% Argon + 2/1% Oxygen
97% Argon + 3% CO ₂ |
| | Gas Flow | 30 to 50 CFH |
| | Voltage | 29 to 33 |
| | Amperage | 160/180 for .035" (0.9mm)
180/220 for .045" (1.14mm)
210/250 for .062" (1.6mm) |
| b) | <u>TIG WELDING:</u> | Direct Current; Electrode —Ve |
| | Shielding Gas | 100% Argon |
| c) | <u>SUB-ARC WELDING:</u> | Direct Current; Electrode + Ve |
| | Voltage | 29 to 32 |
| | Amperage | 300 to 350 for 3/32" (2.5mm)
400 to 550 for 1/8" (3.14mm)
500 to 650 for 5/32 (4.0mm) |
| | Speed of Welding | 20 to 30 IPM (500 to 750mm)/min. |

Weldcote Metals believes this data to be accurate and to reflect qualified expert opinion regarding current research. However, Weldcote Metals can not make any expressed or implied warranty as to this information.