



## 309

**DESCRIPTION:** Weldcote Metals 309 is used for the welding of similar alloys in wrought or cast form. It is mostly used for welding dissimilar materials such as mild steel to stainless steel, as well as for a barrier layer in stainless overlays. For some applications, welding of straight chromium steels can be accomplished with this consumable.

**APPROVALS:** Manufactured under Quality System approved by ASME, IS09001. Meets AWS 5.9 Class ER309. Approved by Canadian Welding Bureau.

### CHEMICAL COMPOSITION

Carbon	.120
Manganese	1.000-2.500
Silicon	0.300-0.650
Chromium	23.000-24.000
Nickel	12.000-14.000
Molybdenum	.300
Sulfur	.020
Phosphorus	.030
Copper	.300

### MECHANICAL PROPERTIES

<b>Tensile Strength</b>	88,500 PSI	620 MPA
<b>Yield Strength</b>	59,500 PSI	420 MPA
<b>Elongation</b>		34%

### WELDING PARAMETERS

- |    |                                |  |
|----|--------------------------------|--|
| a) | <b><u>MIG WELDING:</u></b>     | Direct current; Electrode + Ve   |
|    | Shielding Gas                  | 98/99% Argon + 2/1% Oxygen<br>97% Argon + 3% CO <sub>2</sub>                                 |
|    | Gas Flow                       | 30 to 50 CFH   |
|    | Voltage                        | 29 to 33   |
|    | Amperage                       | 160/180 for .035" (0.9mm)<br>180/220 for .045" (1.14mm)<br>210/250 for .062" (1.6mm)         |
| b) | <b><u>T.I.G. WELDING:</u></b>  | Direct Current; Electrode —Ve  |
|    | Shielding Gas                  | 100% Argon   |
|    | Gas Flow                       | 30 to 40 CFH   |
| c) | <b><u>SUB-ARC WELDING:</u></b> | Direct Current; Electrode + Ve   |
|    | Voltage                        | 29 to 32   |
|    | Amperage                       | 300 to 350 for 3/32" (2.5mm)<br>400 to 550 for 1/8" (3.14mm)<br>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.