312

DESCRIPTION: Weldcote Metals 312 is used to weld cast alloys of similar composition and is used to weld dissimilar metals and weld overlays. This gives very high ferrite. When welding similar cast alloys, limit welding to two or three layers only.

APPROVALS: Manufactured under Quality System approved by ASME, IS09001. Meets AWS 5.9 Class ER312. Approved by Canadian Welding Bureau.

CHEMICAL COMPOSITION

Carbon	0.150
Manganese	1.000-2.500
Silicon	0.300-0.650
Chromium	28.000-32.000
Nickel	8.000-10.500
Molybdenum	0.300
Sulfur	0.020
Phosphorus	0.030
Copper	0.300

MECHANICAL PROPERTIES

Tensile Strength
109,500 PSI 760 MPA

Yield Strength
78,500 PSI 540 MPA

Elongation 25%

WELDING PARAMETERS

a)	**MIG WELDING:**	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" (I .14mm)
		210/250 for .062" (1.6mm)
b)	**TIG WELDING:**	Direct Current; Electrode –Ve
	Shielding Gas	100% Argon
	Gas Flow	30 to 40 CFH
c)	**SUB-ARC WELDING:**	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.