316L

DESCRIPTION: Weldcote Metals 316L has the same analysis as ER316, except that the carbon content is limited to a maximum of 0.03% in order to reduce the possibility of formation of intergranular carbide precipitation. This filler metal is primarily used for welding low carbon molybdenum-bearing austenitic alloys. This low carbon alloy is not as strong at elevated temperatures as ER316H.

APPROVALS: Manufactured under Quality System approved by ASME, 1S09001. Meets AWS 5.9 Class ER316L. Approved by Canadian Welding Bureau.

CHEMICAL COMPOSITION

Carbon	0.030
Manganese	1.000-2.500
Silicon	0.300-0.650
Chromium	18.000-20.000
Nickel	11.000-14.000
Molybdenum	2.500-3.000
Sulfur	0.020
Phosphorus	0.030
Copper	0.300

MECHANICAL PROPERTIES

Tensile Strength
86,000 PSI 590 MPA

Yield Strength
58,000 PSI 400 MPA

Elongation 36%

WELDING PARAMETERS

a)	**MIG WELDING:**	Direct current; Electrode +Ve
	Shielding Gas	98/99% Argon + 2/1% Oxygen 97% Argon + 3% CO2
	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)	**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.