

TECHALLOY 316LHS

I. **DESCRIPTION:** Techalloy 316L HiSil is similar to 316L, with higher silicon content for optimum ease in welding and smooth bead appearance. Higher productivity could be realized in MIG welding.

II. **APPROVALS:** Manufactured under Quality System approved by ASME, ISO9001. Meets AWS 5.9 Class ER316LSi. Approved by Canadian Welding Bureau.

III. **CHEMICAL COMPOSITION**

Carbon	.022
Manganese	1.80
Silicon	.85
Chromium	19.25
Nickel	12.60
Molybdenum	2.45
Sulfur	.004
Phosphorus	.013
Nitrogen	.05

MECHANICAL PROPERTIES

Tensile Strength	
86,500 PSI	600 MPA
Yield Strength	
58,500 PSI	400 MPA
Elongation	
36%	

IV. **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 50CFH
Voltage 29 to 33
Amperage 160/180 for .035" (0.9mm)
180/220 for .045" (1.14mm)
210/250 for .062" (1.6mm)
- b) **T.I.G. 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.

V. **STANDARD PACKAGES:**

MIG Wire -30# spools; **TIG Wire** -10# Tubes; **SAW**-60# coils