

# TECHALLOY 309LHS

I. **DESCRIPTION:** Techalloy 309L HiSil is of the same chemical composition as 309L, with higher silicon content to improve the bead appearance and increase welding ease. The weld beads are exceptionally smooth due to good wetting.

II. **APPROVALS:** Manufactured under Quality System approved by ASME, ISO9001. Meets AWS 5.9 Class ER309LSi. Approved by Canadian Welding Bureau.

<b><u>CHEMICAL COMPOSITION</u></b>		<b><u>MECHANICAL PROPERTIES</u></b>	
Carbon	.019	<b>Tensile Strength</b>	
Manganese	1.85	89,500 PSI	620 MPA
Silicon	.84	<b>Yield Strength</b>	
Chromium	23.50	60,500 PSI	420 MPA
Nickel	12.95	<b>Elongation</b>	
Molybdenum	.15	35%	
Sulfur	.004		
Phosphorus	.08		
Nitrogen	.06		

## IV. **WELDING PARAMETERS**

- a) **MIG WELDING:** Direct current; Electrode +Ve  
Shielding Gas 98/99% Argon + 2/1% Oxygen  
97% Argon + 3% CO<sub>2</sub>

O<sub>2</sub>

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