

This module uses the method of calculating welding cost recommended by Welding Specialists. Values provided by form on certain inputs are taken from studies conducted by internationally acclaimed institutes.

Calculation No: A101-F1-16

Joint Type: Groove

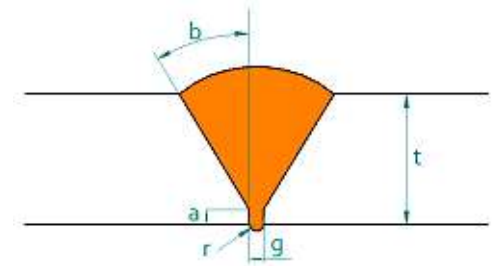
Joint Detail: V-Groove

Weld Process: GTAW (root/hot) + SMAW (fill/cap)

Welding Method: Manual

Total Weld Length: 34 ft

Joint Thickness: .5 in



Joint Dimensions

Root Gap (g): .06 in Root Face Height (a): .06 in Groove Angle (b): 37.5 deg

Groove Angle (ø): deg Root Penetration (r): .08 in Radius (r1): in

Cap Height (h): .08 in Branch Thickness (tb): in Header Thick (th): in

Thickness (t1): in

Consumables:

			┌ GTAW ┐	┌ SMAW ┐
Consumable Group:	<u>Carbon & Low Alloy Steel</u>	Consumable Spec:	<u>ER70S-3</u>	<u>E7018</u>
Gas Consumption:	<u>11.3</u> cu.ft/100A.h	Deposition Efficiency:	<u>90</u> / <u>50</u> %	
Operator Factor:	<u>20</u> %	Deposition Rate:	<u>.79</u> / <u>2.76</u> lb/hr	

Power Characteristics:

Cost per KWh 0.15 USD Welding Voltage: 20 / 20 V

Welding Current: 200 / 140 A

Cost Input:

Consumable Cost Basis:	<u></u>	Consumable Cost:	<u>8.16</u> / <u>7.3</u> USD/lb
Flux Cost:	<u></u> USD/lb	Labor Cost:	<u>65</u> / <u>75</u> USD/hr
Gas Cost:	<u>0.02</u> USD/cu.ft	Trade Name:	

Estimated Expenditure

Welding Consumables to be purchased:	<u>1.28 lb / 47.01 lb</u>	Cost for Consumables	<u>354 USD</u>
Flux Required	<u>Not Applicable</u>	Cost for Flux	<u>Not Applicable</u>
Gas Consumption	<u>191 cu.ft</u>	Cost for Gas	<u>4 USD</u>
Power Consumption	<u>29.8 kWh</u>	Cost for Power	<u>4 USD</u>
Arc time	<u>1.5 hrs / 8.5 hrs</u>	Cost for Labor	<u>3325 USD</u>
Manhours (Time to weld)	<u>7.5 hrs / 42.5 hrs</u>	Total Cost	<u>3687 USD</u>

Notes:

Calculation By: PetroStreet

Dated: 8/16/2025