

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: WP-PS-21A1

Joint Type: Groove

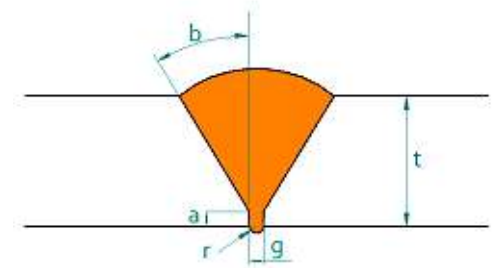
Joint Detail: V-Groove

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

Welding Method: Manual

Total Weld Length: 20 m

Joint Thickness: 10 mm



Joint Dimensions

Root Gap (g): 2.4 mm Root Face Height (a): 1.5 mm Groove Angle (b): 37.5 deg

Groove Angle (ø): deg Root Penetration (r): 1.6 mm Radius (r1): mm

Cap Height (h): 1.5 mm Branch Thickness (tb): mm Header Thick (th): mm

Thickness (t1): mm

Consumables:

			GTAW	SMAW
Consumable Group:	<u>Carbon & Low Alloy Steel</u>	Consumable Spec:	<u> </u>	<u> </u>
Gas Consumption:	<u>0.32</u> cu.m/100A.h	Deposition Efficiency:	<u>90</u> / <u>50</u> %	
Operator Factor:	<u>20</u> %	Deposition Rate:	<u>0.36</u> / <u>1.25</u> kg/hr	

Power Characteristics:

Cost per KWh	<u>0.16</u> USD	Welding Voltage:	<u>20</u> / <u>20</u> V
		Welding Current:	<u>200</u> / <u>140</u> A

Cost Input:

Consumable Cost Basis:	<u>Custom</u>	Consumable Cost:	<u> </u> / <u> </u> USD/kg
Flux Cost:	<u> </u> USD/kg	Labor Cost:	<u>30</u> / <u>40</u> USD/hr
Gas Cost:	<u>0.85</u> USD/cu.m	Trade Name:	<u> </u>

Estimated Expenditure

Welding Consumables to be purchased:	<u>0.7 kg / 27.28 kg</u>	Cost for Consumables	<u>216 USD</u>
Flux Required	<u>Not Applicable</u>	Cost for Flux	<u>Not Applicable</u>
Gas Consumption	<u>7 cu.m</u>	Cost for Gas	<u>6 USD</u>
Power Consumption	<u>37.3 kWh</u>	Cost for Power	<u>6 USD</u>
Arc time	<u>1.7 hrs / 10.9 hrs</u>	Cost for Labor	<u>1975 USD</u>
Manhours (Time to weld)	<u>8.5 hrs / 54.5 hrs</u>	Total Cost	<u>2203 USD</u>

Notes:

Calculation By: WeldPulse

Dated: 21/12/2025