

VERTI-COR 81 Ni1



- ▲ Higher Strength Low Alloy, Rutile Type Flux Cored Wire
- ▲ Formulated for Use with Argon + 20-25% CO₂ or equivalent.
- ▲ Versatile, All Positional Capabilities.
- ▲ Excellent Operator Appeal.
- ▲ Improved vertical performance.

Classifications:

AS 2203.1: ETP-GMP-W554A. Ni1 H10.
AWS/ASME-SFA A5.29: E81T1-Ni1MH8

Description and Applications:

Verti-Cor 81 Ni1 is a microalloyed, rutile type flux cored wire suitable for the all positional welding (flat, horizontal-vertical, vertical-up and overhead etc) of medium to high strength steels. Formulated for use with Argon + 20-25% CO₂ shielding gas, Verti-Cor 81 Ni1 produces a low alloy (nominally 1.0% Nickel) steel weld deposit of the 550 MPa tensile class. Verti-Cor 81 Ni1 is easy-to-use in all positions and produces smooth arc transfer characteristics, low spatter levels, mitre fillet welds and a full covering easy releasing slag, similar to Verti-Cor 3XP.





Verti-Cor 81 Ni1 is suitable for the fillet and butt welding of a broad range of higher strength steels in all welding positions, except vertical-down. Typical applications include the under matching strength fillet welding of Bisalloy 60, 70 and 80 Quenched and Tempered steels.

Typical Weld Metal Mechanical Properties:

Actual weld metal mechanical properties achieved with Verti-Cor 81 Ni1 are influenced by many factors including, base metal analysis, welding parameters / heat input used, shielding gas selection, number of weld passes and run placement etc. Please consult your nearest CIGWELD branch for welding procedure recommendations.

Operating Data:

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive and Argon + 20-25% CO₂ shielding gas with a flow rate of 15–20 litres/min.

Wire Diameter (mm)	Current Range (amps)	Voltage Range (volts)	CTWD	Welding Positions
1.2	250-300	27-31	20-25	 Flat
1.6	350-400	27-31	25-30	
1.2	230-280	26-30	20-25	 HV Fillet
1.6	310-360	26-30	25–30	
1.2	170-220	24-28	15-20	 Vertical up
1.6	200-250	24-28	15-20	
1.2	160-210	24-28	15-20	 Overhead
1.6	190-240	24-28	15-20	

These machine settings are a guide only. Actual voltage, welding current and CTWD used will depend on machine characteristics, plate thickness, run size, shielding gas and operator technique etc.

TYPICAL ALL WELD METAL ANALYSIS*:

C: 0.06% Mn: 1.35% Si: 0.35%
Ni: 0.90% Ti: 0.035% B: 0.007%.

*Using Argon + 20-25% CO₂ shielding gas

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:

5.0–6.0 mls of hydrogen / 100gms of deposited weld metal*.

*for "as manufactured" product using Argon + 20-25% CO₂ shielding gas.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

Using Argon + 20-25% CO₂:
Yield Stress 520 MPa
Tensile Strength 600 MPa
Elongation 26%
CVN Impact Values 65J av @ -40°C

RECOMMENDED SHIELDING GAS:

- Argon + 20-25% CO₂ or equivalent ISO14175: M21

Packaging Data:

Wire Diameter (mm)	Type	Pack Weight	Pack Part No.
1.2	Spool	15kg	720390
1.6	Spool	15kg	720391