

VERTI-COR 81 Ni1

PRODUCT DATA SHEET



HIGHER STRENGTH LOW ALLOY, RUTILE SEAMLESS TYPE FLUX CORED WIRE



FLUX CORED ARC WELDING (FCAW) WIRES

VERTI-COR 81 Ni1

- Higher Strength Low Alloy, Rutile Type Flux Cored Wire.
- Formulated for Use with Argon + 18-25% CO₂ or equivalent.
- Versatile, All Positional Capabilities.
- Excellent Operator Appeal.
- Improved vertical performance.

CLASSIFICATIONS:

ISO AS/NZS 17632:	B T 55 4 T11 M A N2 U H10
AWS/ASME-SFA A5.29:	E81T1-Ni1MH8

TYPICAL DIFFUSIBLE HYDROGEN LEVELS TO AS3752:

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

*For "as manufactured" product using Argon + 18-25% CO₂ shielding gas.

TYPICAL ALL WELD METAL MECHANICAL PROPERTIES:

USING ARGON + 18-25% CO₂:

Yield Stress	520 MPa
Tensile Strength	600 MPa
Elongation	26%
CVN Impact Values	65 J av @ -40°C

TYPICAL ALL WELD METAL ANALYSIS:

USING ARGON + 18-25% CO₂ SHIELDING GAS:

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

DESCRIPTION AND APPLICATIONS:

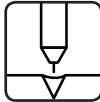
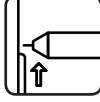
Verti-Cor 81 Ni1 is a microalloyed, rutile type flux cored wire suitable for the all positional welding (flat, horizontal-vertical, vertical-up and overhead etc) of medium to high strength steels. Formulated for use with Argon + 18-25% CO₂ shielding gas, Verti-Cor 81 Ni1 produces a low alloy (nominally 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 contact CIGWELD for welding procedure recommendations.

OPERATING DATA:

All welding conditions recommended below are for use with semi-automatic operation, DC electrode positive using Argon + 18-25% CO₂ shielding gas with a flow rate of 15-20 litres/min.

WIRE DIAMETER (MM)	CURRENT RANGE (AMPS)	VOLTAGE RANGE (VOLTS)	CTWD	WELDING POSITION	
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.

RECOMMENDED SHIELDING GAS:

AS 4882:

SG-AC-18, OR SG-AC-20
AR+CO₂ (18-25%)

ISO 14175 / AWS A5.32:

M21*- CERT SUPPLIED

PACKAGING DATA:

WIRE DIAMETER (MM)	TYPE	PACK WEIGHT	PACK PART NO.
1.2	Spool	15kg	720390
1.6	Spool	15kg	720391

