VERTI-COR 91Ni2

GAS-SHIELDED FLUX-CORED WIRE
AWS E91T1-Ni2

040603 (Replaces 080199)

VERTI-COR 91Ni2 is alloyed with over 2% nickel to combine tensile strength in the 90,000/110,000 psi range with good impact values at –40°F. It is used for welding various steels, including ASTM A203, Grades A & B. It has excellent operator appeal; the smooth, stable arc and quick-freezing slag facilitate vertical and overhead welding. Flat and horizontal welds can also be readily deposited; welds are of excellent quality. It is used for single-and multiple-pass welding in all positions using 100% CO_2 shielding gas.

PRODUCT CHARACTERISTICS:

- Excellent operator appeal with quick freezing slag for out-of-position welding.
- Good low temperature impact.
- Used for welding 2% nickel and other high-strength steels.

SPECIFICATIONS:

E91T1-Ni2 per AWS A5.29, ASME SFA 5.29
ABS 3YSA

SHIELDING GAS:

100% CO_2, 35-50 C.F.H.

WELDING POSITION:

All Positions

STANDARD DIAMETERS:

.045”

WELD TEST PARAMETERS:

VERTI-COR 91Ni2 .045” diameter electrode was welded using 100% CO_2 shielding gas with flow rate of 40 cfh, 275 amps (440 IPM), DCEP, and 28 volts with 3/4” electrical stickout and 300º ± 25ºF interpass temperature. A total of six layers were welded, two passes each for Layers 1 through 6. The direction of travel was reversed for each layer.

TYPICAL UNDILUTED WELD METAL Chemistry*:

	C	Mn	Si	P	S	Ni
100% CO_2	0.04	1.08	0.61	0.016	0.009	2.58

TYPICAL MECHANICAL PROPERTIES*:

Tensile Strength	99,000 psi (683 MPa)
Yield Strength	84,000 psi (581 MPa)
Elongation	24%
CVN @ -40°F (-40°C):	31 ft•lbs (42 J)

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RECOMMENDED OPERATING PARAMETERS:

The information below was determined by welding performed with 100% CO_2 shielding gas at a flow rate of 35 cfh.

Diameter, Electrical Stickout (ES) Position	Arc Voltage (volts)	Current DCEP (+) (amps)	Approx. Wire Feed Speed (in/min)	Deposition Rate (lbs/hr)
.045"	20	115	120	2.7
1/2" to 3/4"	**28**	**275**	**440**	to
Flat and Horizontal	30	325	660	14.5
.045"	21	115	120	2.7
1/2" to 3/4"	**26**	**200**	**285**	to
Vertical and Overhead	28	250	425	8.8

Bold: Optimum parameters for welder appeal.

Notice:
Actual use of the product may produce varying results due to conditions and welding techniques over which Corex has no control, including, but not limited to, plate chemistry, weldment design, fabrication methods, electrode size, welding procedure, service requirements and environment. The purchaser is solely responsible for determining the suitability of Corex products for the purchaser's own use. Any prior representations shall not be binding. Corex disclaims any warranty of merchantability or fitness for any particular purpose with respect to its products.

Caution:
Consumers should be thoroughly familiar with the safety precautions shown on the Warning Label posted on each shipment in and in American National Standard Z49.1, "Safety in Welding and Cutting," published by the American Welding Society, 550 NW LeJeune Road, Miami, FL 33126, and OSHA Safety and Health Standards 29 CFR 1910, available from the U.S. Department of Labor, Washington, D.C. 20210.