Cor-Match™

THE WEATHERING STEEL WIRE & ELECTRODE

Cor-Match™ 80C-W
(Flat and Horizontal Welds)

Cor-Match™ 810-W
(All Position)

Description

Cor-Match™ 80C-W and 810-W are low alloy steel electrodes for single and multiple pass welding of Self-Weathering type steels per ASTM A588, A606-4, A242, A709-50W, and A847 where color match and corrosion resistance are required.

Cor-Match™ 80C-W is a composite, metal cored electrode for Flat & Horizontal welding of weathering steels. 80C-W welds in a pure spray transfer, using 75-80% argon-balance carbon dioxide resulting in a spatter emission that is nearly non-existent.

Cor-Match™ 810-W is a gas-shielded, flux cored electrode for ALL POSITION welding of Weathering Steels. Welder appeal is excellent with a spray transfer, thin slag which removes easily and cleanly and provides a smooth bead profile.

Classifications & Approvals

Cor-Match™ 80C-W

- E80C-W2 per AWS A5.28, SFA 5.28
- CWB E80C-W2-H8 (90% Ar/10% CO_2)

Cor-Match™ 810-W

- E81T1-W2C, E81T1-W2M per AWS A5.29, ASME SFA 5.29
- CWB E81T1-W2C-H8, E81T1-W2M-H8

Characteristics

Cor-Match™ 80C-W

Penetrating characteristics of this tubular electrode are better than solid electrodes, eliminating "cold-lap", or lack of fusion, on heavier plate or scaled areas. Cor-Match™ 80C-W generates less fume than flux cored electrodes, and is useful where slag removal and cleanup are problems. Faster travel speeds are achievable than with solid electrodes, thus increasing productivity, Modern proprietary manufacturing technology ensures the highest levels of quality, consistency, and welding performance in our industry.

Cor-Match™ 810-W

- Matches coloring and corrosion resistance of weathering steels.
- All position welding capability.
- Good mechanical properties.

Applications

Cor-Match™ 80C-W and Cor-Match™ 810-W contain alloy additions which match the alloys contained in Self-Weathering Steels. This provides weld metal which matches the corrosion resistance and the orange/brown patina coloring of the Self-Weathering Steels used in unpainted applications such as bridge construction, transmission pole fabrications, building facades, and other structural components used in a variety of other steel fabrication projects.

80C-W (Flat & Horizontal Positions)

Cor-Match™

FLAT & HORIZONTAL POSITION

Typical Mechanical Properties

	75% Ar/25% CO_2
Ultimate Tensile Strength (psi)	92,000
Yield Strength (psi)	78,100
Percent Elongation	24.7
CVN (ft • lb *f*) @-20F	43

Typical Deposit Composition

WT %	C	Mn	P	S	Si	Ni	Cr	Cu
75Ar/25CO2	.06	1.20	.010	.010	.40	.63	.58	.65

Recommended Welding Parameters*

	OPTIMUM			RANGE			
Diameter	Amperage	WFS	Voltage	Amperage	WFS	Voltage	CTWD
.035"	200	550	29-30	160-250	350-750	24-35	½" - ¾"
.045"	255	410	29-30	180-330	240-600	27-33	½" - 1"
.052"	300	350	29-30	220-460	220-620	25-35	½" - 1"
1/16"	360	300	29-30	240-520	175-500	26-37	1" - 1¼"

Shielding Gases	80C-W	100% CO_2, 75-80% Ar/Balance CO_2, 40-55 cfh

810-W (All Position)

Cor-Match™

ALL POSITION

Typical Mechanical Properties

	75% Ar/25% CO_2	CO_2
Ultimate Tensile Strength (psi)	91,300	86,500
Yield Strength (psi)	78,800	71,200
Percent Elongation	24	25
CVN (ft • lb *f*) @-20F	28	31

Typical Deposit Composition

WT %	C	Mn	P	S	Si	Cr	Ni	Cu
CO2	.06	.94	.010	.010	.41	.53	.66	.43
75Ar/25CO2	.06	1.05	.010	.010	.49	.57	.72	.46

Typical Welding Parameters*

		OPTIMUM			RANGE	
Diameter	Position	Amperage	WFS	Voltage	Amperage	Voltage
1/16"	Flat	350	350	29	150-400	22-34
	Overhead	225	180	26	150-310	22-28
	Vertical up	225	180	25	150-280	22-27
.052"	Flat	300	440	28	100-330	19-32
	Overhead	200	245	26	150-310	21-28
	Vertical up	200	245	25	150-280	21-27
.045"	Flat	250	450	28	100-300	21-32
	Overhead	190	305	26	150-280	21-29
	Vertical up	190	305	25	100-230	21-28

Shielding Gases	810-W	75-90% Ar/Balance CO_2, 40-55 cfh

* With CO2 shielding gas. For 75Ar/25CO_2 decrease voltage by 1 to 1.5 volts.

Notice: The results reported are based upon testing of the product under controlled laboratory conditions in accordance with American Welding Society Standards. Actual use of the product may produce different results due to varying conditions. An example of such conditions would be electrode size, plate chemistry, environment, weldment design, fabrication methods, welding procedure and service requirements. Thus the results are not guarantees for use in the field. The manufacturer disclaims any warranty of merchantability or fitness for any particular purpose with respect to its products.

For stick electrode welding on Corten, we recommend Cor-Match™ 8018W.
This product has great mechanical properties and offers very good color match.

Distributed Exclusively by

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