



FRONTIARC-711

Flux-Cored Wire

Code Data

AWS: A5.20-95 ASME SFA5.20
 E71T-1, E71T-1M, E71-T12, E71-T12M
 CWB to CSA W48.5: E480IT-9-CH
 ABS: 3SA, 3YSA



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A mild steel flux cored wire versatile enough to have four AWS classes: E71T-1, E71T-1M, E71-T12 and E71-T12M achieving I.V. more than 20 ft-lbs, at -20° F, and can be welded with 100% CO₂ or 75% Ar-25% CO₂.

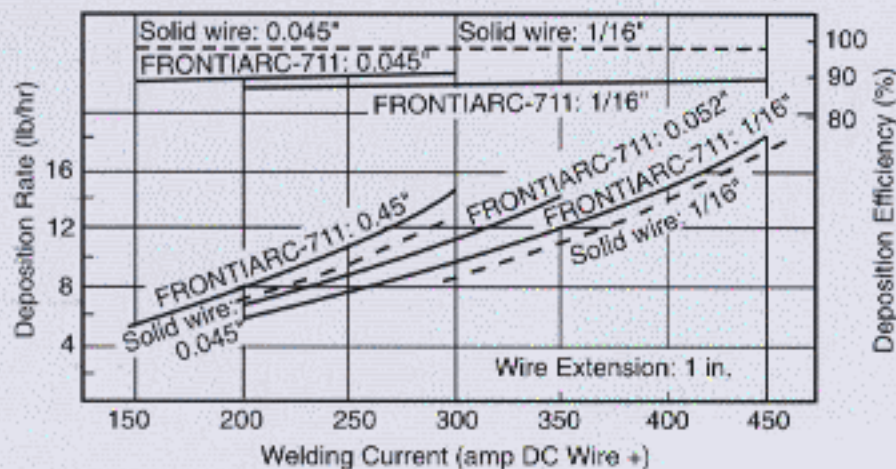
Outstanding Features

- High welding current (220–250 Amp.) can be used in vertical upward welding with a greatly improved efficiency.
- Welding of all-position can be done with same welding current setting.
- Welding current density is higher and deposition rate is also higher than those for the solid wire of same size.
- Less spattering and good slag removability shorten the time of bead grinding operation.
- May be used with Argon CO₂ gas mixture.
- Diffusible hydrogen content is as low as that of low hydrogen type electrode and crack and blow hole resistibility is excellent.
- Fume generation is lower than conventional flux-cored wire.

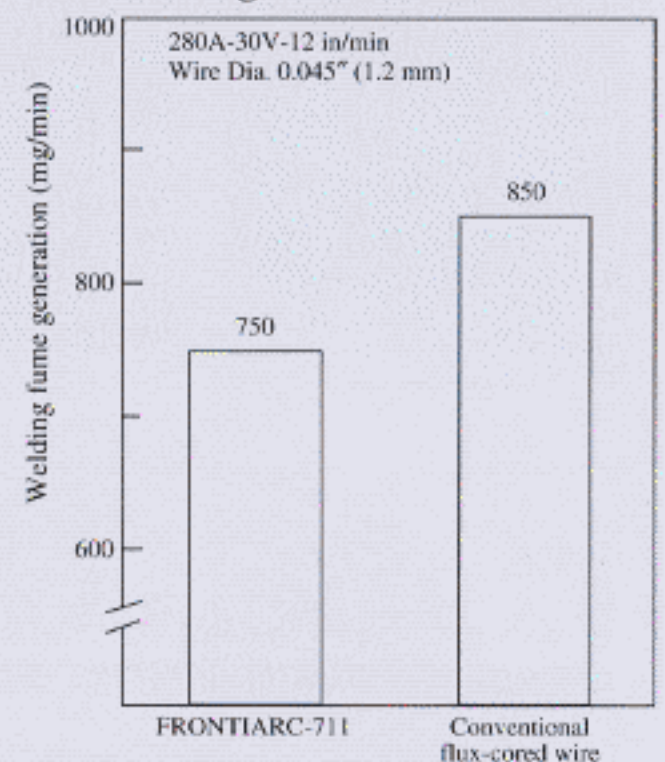
Application and usage

All position welding for ship hulls, vehicles, bridges, chemical plant machinery and other metal fabrication.

Welding Efficiency



Welding Fume Generation Rate



Typical Chemical Composition of Weld Metal and Diffusible Hydrogen Content

Data reflects use of 100% CO₂

C	Mn	Si	P	S	Diffusible hydrogen content (ml/100g)
0.05	1.28	0.50	0.013	0.009	≤5.0

*Testing method: Gas Chromatography method (AWS A 4-3-93)

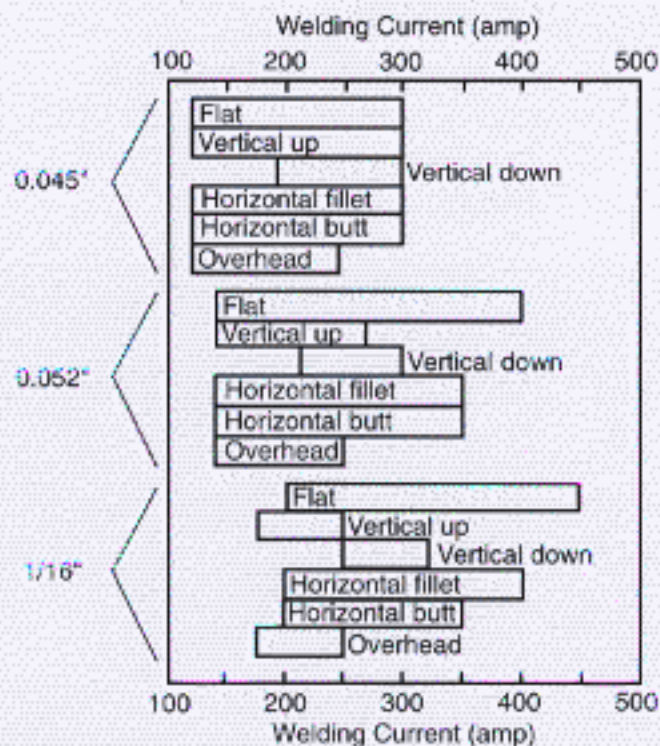
Typical Mechanical Properties of Weld Metal

Data reflects use of 100% CO₂

Yield Strength PSI	Tensile Strength PSI	Elongation (%)	Reduction of Area (%)	Impact Value (ft-lb)		
				32°F	0°F	-20°F
74,000	82,000	29	69	87	72	43

(Continued on opposite side)

Sizes available



Recommended Welding Conditions

Wire Size (in diam)	Wire Feed Speed (in/min)	Current DC-EP* (amp)	Arc Voltage** (volt)	Deposition Rate (lbs/hr)
0.045	180	140	24-27	5.0
	200	160	25-28	6.0
	245	180	26-29	7.0
	290	200	27-30	8.0
	330	220	27-30	9.0
	380	240	28-30	10.0
	440	260	29-31	11.5
0.052	520	280	29-31	13.0
	560	300	29-32	15.0
	130	150	24-27	4.0
	175	180	24-27	5.5
	215	210	25-28	7.0
	265	240	26-28	8.0
	315	270	27-29	10.0
1/16	395	300	29-31	11.0
	460	330	30-32	13.0
	525	360	30-33	15.0
	690	400	31-34	17.5
	120	200	25-28	5.5
	165	240	25-28	7.0
	190	260	26-29	8.0
215	280	28-30	9.0	
250	300	29-31	10.0	
300	340	30-32	11.5	
380	380	30-33	14.0	
450	420	31-35	16.5	
520	450	32-35	18.5	

Recommended Procedure Ranges and Deposition Rates

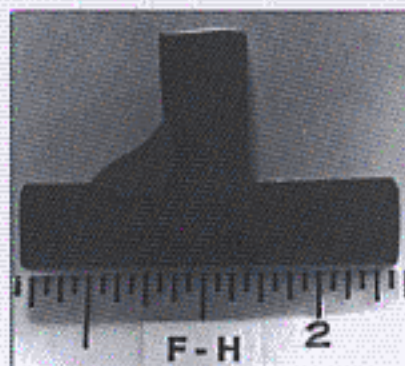
Wire Size (in)	Wire Extension from contact tip (in)	Cup Size (in)	Shielding Gas Flow Rate* (cubic ft/hr)
0.045	5/8-3/4	5/8	40-50
0.052	3/4-1	5/8**	40-50
1/16	3/4-1	5/8-3/4**	40-50

* Gas flow is measured at gas cup (Orifice) with wire in position.
** When utilizing amperage above 300 use 3/4 in. diam. or larger cup size.

Tables shown are approximate values that will vary with changes in welding conditions.
*DC-Electrode positive
**Arc voltage is measured at the wire feeder.
Voltages shown are for 100% CO₂ shielding gas. For 75% Argon + 25% CO₂ use two (2) volts less than shown.

Type of current: DC (+) Packing: One 44 lb spool per carton. 2,640 lbs on one pallet.

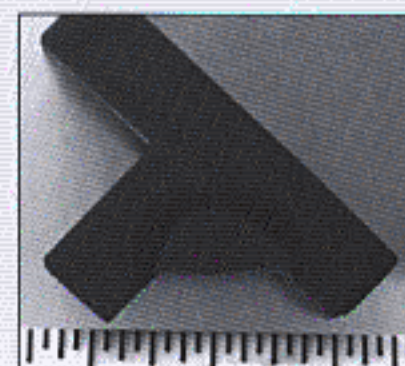
Bead appearance and macro cross-sections. Wire diameter: 0.045"



Horizontal fillet



Horizontal fillet welding: 250 amp



Vertical upward



Vertical upward welding: 220 amp