

## DWA-55ESR

Flux-cored wire



is a titania type flux cored wire which is used in all position welding of mild steel. DWA-55ESR has been designed to provide good welding characteristics while retaining excellent impact values at low temperatures even after stress relieving.

### Code Data

**AWS/ASME A5.20 E71T-12MJ**

### Outstanding Features

- Meets AWS 5.20 E71T12MJ CODE. The “J” designator guarantees an impact value of >20ft/lbs at -40 °F. DWA-55ESR exceeds this minimum even after stress relieving.
- Produces weld metal with less than 0.5%Ni. This Ni composition allows this wire to conform to the A-1 composition in QW-440, section IX in the ASME standard.
- All position welding can be achieved with excellent flat bead appearance, negligible spatter, and easy slag removal.

### Applicable and usage

- Used in welding tank and pressure vessels where stress relieving is necessary. This wire is especially useful in welding nozzle necks of carbon steel pressure vessels and where low temperature service is required.

#### Typical chemistry of all weld metal

	C	Si	Mn	P	S	Ni
As welded *	0.05	0.47	1.36	0.014	0.008	0.41
Stress relieved * (1150°F × 3hrs)	0.05	0.49	1.41	0.014	0.008	0.40
Stress relieved ** (1150°F × 8hrs)	0.04	0.48	1.28	0.017	0.009	0.44

#### Typical mechanical properties of all weld metal

	P.S (psi)	T.S (psi)	Elongation (%)	Impact value (ft-lbs)	
				-40 °F	-50 °F
As welded *	75,850	85,450	29	103	-
Stress relieved * (1150°F × 3hrs)	68,300	81,215	31	71	-
Stress relieved ** (1150°F × 8hrs)	60,600	73,900	30	102	50

\* Welding parameters: 280A-30V, 80%Ar-20%CO<sub>2</sub>

\*\*Welding parameters:210A-27V, 75%Ar-25%CO<sub>2</sub>

## DWA-55ESR

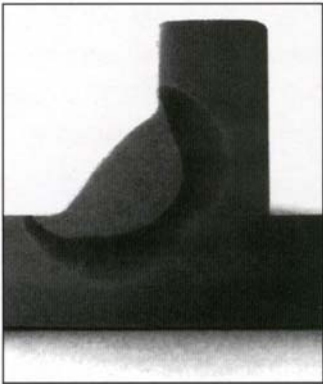
Flux-Cored Wire

### Code Data

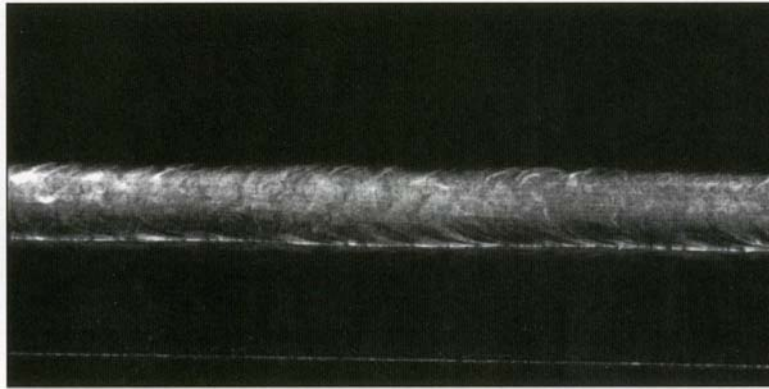
AWS A5.20

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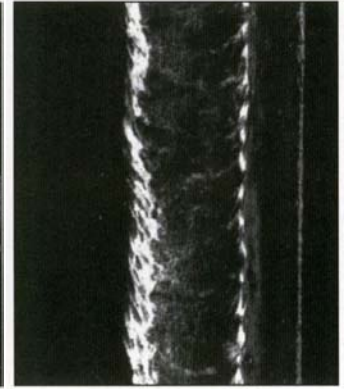
Type of current: DC(+) Packing: One 44lbs spool per carton. 2,640lbs on one pallet.  
Bead appearance and macro cross-section. Wire diameter: 0.045"



Cross-section



Horizontal fillet welding: 250 amp



Vertical upward

#### Recommended procedure ranges

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

\*Gas flow is measured at gas cup (Orifice) with wire in position.

#### Recommended welding condition and deposition rate

Wire size (in.)	Wire feeding speed (in./min)	Current (A)	Voltage (V)	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
	520	280	29-31	13.0
	560	300	29-32	15.0

Tables shown are approximate values that will vary with changes in welding conditions.

\*DC-Electrode positive

\*\*Arc voltage is measured at wire feeder.

Voltages shown are for 100%CO<sub>2</sub> shielding gas.

For 75%Ar-25%CO<sub>2</sub> use 2 volts less than shown.