

Select 78

Description:

Select 78 is a self-shielded, carbon steel, flux cored electrode. It is intended for the welding without a shielding gas of carbon and certain low alloy steels where excellent low temperature toughness is required. A fast freezing slag facilitates welding in all positions. It has a smooth globular transfer, excellent bead shape and easily removed slag. **Select 78** is designed for structural applications such as bridge fabrication, ship and barge construction, as well as other general fabrication.

Classification & Approvals:

- E71T-8-H8, E71T-8-JH8 per AWS A5.20, ASME SFA 5.20
- E71T8-A2-CS3-H8 per AWS A5.36, ASME SFA 5.36
- EN ISO 17632-B:2015 T 49 3 T8-1 No A-H15, T 55 3 T8-1 No A-H15
- T42 2 Y NO 2 H10 per EN ISO 17632-A
- DNV DNVGL-CP-0069 III YMS (H10), CWB CSA W48-18 E491T8-A3-CS3-H8 (E491T-8-H8), AWS D1.8

Applications:

- Select 78 is used in general fabrication and construction applications
- Used to weld most mild steel base metals such as ASTM A36, A285 and A516 as well as fine grained EN10025 parts 3 and 4 steel types S275, S355, S420 and S460

Advantages:

- Operates on straight polarity (DCEN) with no external shielding gas
- Fast freezing slag facilitates excellent weldability in all positions
- Exhibits a smooth globular transfer, minimal spatter and easily removed slag

Typical Mechanical Properties:

Ultimate Tensile Strength (MPa)	607
Yield Strength (MPa)	490
Percent Elongation	26
CVN (Joules) @ -7°C	73

Typical Deposit Composition (wt%):

<u>C</u>	<u>Mn</u>	<u>Si</u>	<u>P</u>	<u>S</u>	<u>Al</u>
0.18	1.0	0.14	0.004	0.005	0.32

Recommended Welding Parameters (DCEN):

Diameter	WFS (cm/min)	Amperage	Voltage	CTWD (mm)
1.6mm	305	165	17-18	16
	432	200	18-19	19
	559	235	20-21	25
	686	270	21-22	25
	889	310	23-24	25
1.9mm	318	185	18-19	16
	445	220	20-21	25
	508	245	21-23	25
	572	265	22-24	25
	635	275	22-24	25
2.0mm	152	140	16-17	16
	254	210	18-19	19
	381	255	21-22	25
	508	300	22-23	25
	635	330	23-24	25

*These parameters may be used in all positions. The ability to weld out of position at the higher current levels will depend on plate thickness and welder skill.

Rev (01/03/2019)

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.