

TM-77

AWS A5.18 E70C-6M
EN ISO 17632-A-T 46 4 M M21 3 H5
JIS Z 3313 T 49 4 T15-0 M A-U

Characteristics and Applications:

TM-77 is a gas-shielded metal-cored wire that features smooth spray arc, slag-free welds, low spatter, low diffusible hydrogen low fume emission and excellent low temperature impact toughness down to -40°C. It welds with a wider penetration profile and higher deposition efficiency than solid wire.

Multi-layer welding can be performed without removing slag. It is suitable for steel structures, storage vessels and multi-layer welding on heavy plate thickness.

Notes on usage:

1. Use DC(+) polarity.
2. Ar-CO₂ mixture. 75%~80%Ar + 25%~20%CO₂.
3. Inter-pass temperature should be under 150°C while in multiple-pass welding.
4. Keep the product dry, while it is stored or delivered.

Typical chemical composition of weld metal (wt%):

	C	Mn	Si	P	S
AWS	≤ 0.12	≤ 1.75	≤ 0.90	≤ 0.03	≤ 0.03
EN ISO	-	≤ 2.0	-	-	-
Typical value	0.04	1.45	0.54	0.010	0.008

Typical mechanical properties of weld metal:

	Yield strength MPa(ksi)	Tensile strength MPa(ksi)	Elongation %	Charpy V-Notch J (ft-lbf) -40°C(-40°F)
AWS	≥ 390(58)	490-670(70-95)	≥ 22	≥ 27(20)
EN ISO	≥ 460(67)	530-680(77-99)	≥ 20	≥ 47(35)
Typical value	560(81)	615(89)	26	80(59)

Welding position:



Sizes and recommended parameter range (DC<+>):

Stick out: 15-25 (mm) , flow rate: 20-25 (l/min)

Diameter (mm)	1.2	1.4	1.6
Position			
F, HF	240A-320A/26V-34V	260A-340A/27V-34V	270A-360A/ 28V-35V

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