

SM-70A1

AWS A 5.28: ER70S-A1

EN ISO 636-A: W 46 2 W2Mo



❖ Specifications

AWS A 5.28: ER70S-A1
EN ISO 636-A: W 46 2 W2Mo

❖ Alloy type

Low-alloy copper-coated tig rod with 0.5% Mo content for welding low-alloy steels with high tensile strength.

❖ Applications

Low-alloy copper-coated tig rod with 0.5% Mo content designed for welding low-alloy steels with high tensile strength and creep-resistant steels. Suitable for pipelines and pressure vessels with operating temperatures of about 500°C. Good impact strength at low temperatures.

❖ Materials to be welded

ASTM		EN	
A 335 Gr P1	A 204 Gr A	10028-2 P295 G H	10113-2 S420
A 487 Gr 2A	A 204 Gr B	10028-2 P355 G H	(DIN 15Mo3)
A 487 Gr 2B	A 204 Gr C	10028-2 16Mo2	(DIN 16Mo5)
A 487 Gr 2C	A 217 Gr WC1	10222-2 17Mo3	(DIN 10MnMo 4 5)
A 209 Gr T1	A 352 Gr LC1	10222-2 14Mo6	(DIN 11MnMo 4 5)
A 250 Gr T1		10113-2 S275	
A 336 Gr F1		10113-2 S355	

❖ Welding guidelines

Preheat and interpass temperature 150°C. Possible PWHT at 620°C for an hour

❖ Technical information

Gas: Argon 100% (EN ISO 14175)
Welding position: all positions



❖ Welding parameters

Current	DC - Straight polarity					
Diameter (mm)	1.2	1.6	2.0	2.4	3.2	4.0
Length (mm)	1000	1000	1000	1000	1000	1000
Carton	5/25KG	5/25kg	5/25kg	5/25kg	5/25kg	5/25kg

* tolerances according to EN ISO 544 specification.



❖ Typical chemical composition of wire

C %	Mn %	Si %	S %	P %	Cr %	Ni %	Mo %	Cu %
0.09	1.20	0.60	0.01	0.01	-	-	0.50	0.15

❖ Typical mechanical properties

GAS		Yield strength	Tensile strength	Elongation on % 5d
		Rs (Mpa)	Rm (Mpa)	A 5d %

I1	as welded	520	630	23
I1	After PWHT	500	610	25

Impact energy (Charpy V)				
+20°C (Joule)	0°C (Joule)	-20°C (Joule)	-40°C (Joule)	-60°C (Joule)
200	-	80	-	-
220	-	100	-	-