

MnMo

SOLID MnMo LOW ALLOYED WIRE FOR MIG WELDING OF WB36/P36 STEELS

PRODUCT DESCRIPTION

Solid MnMo low alloyed wire for MIG welding of WB36/P36 steels

CLASSIFICATIONS

AWS A5.28M	ER80S-D2, ER90S-D2
EN ISO 16834-B	4M31
EN ISO 14341-A	W 46 3 M G4Mo
EN ISO 14341	A 4Mo / B S4M31
440	[G4Mo]
APPROVALS	DNV

ASME IX QUALIFICATION

QW432	F-No 6
QW442	A-No 11

CHEMICAL COMPOSITION (WIRE WT %)

	C	Mn	Si	S	P	Ni	Mo	Cu
Min.	0.07	1.60	0.50	--	--	--	0.40	--
Max.	0.12	2.10	0.80	0.025	0.025	0.15	0.60	0.4
Typical	0.1	1.9	0.6	0.005	0.01	0.05	0.5	0.1

ALL-WELD MECHANICAL PROPERTIES

Properties after PWHT	Min.	Typical (590-620°C/1-2h)				
		Ar + 5%CO ₂	Ar + 20%CO ₂	250°C	350°C	450°C
Tensile strength (MPa)	550	>625	605	650	665	585
0.2% proof strength (MPa)	470	>525	490	525	490	460
Elongation (%) 4d	17	>25	25	24	27	25
Impact ISO-V(U) -30°C	47	>100	>100	--	--	--
Hardness (HV) cap/mid	--	235/220	220/205	--	--	--

* Minimum as-welded values are for AWS ER80S-D2. As shown welds using more oxidising shielding gas (higher CO₂ + O₂) have lower strength. The AWS classification for ER80S-D2 is based on 100%CO₂ which is seldom used; alternatively this wire can also be classified as ER90S-D2 using low CO₂ gas mixtures.

TYPICAL OPERATING PARAMETERS

Shielding gas	Current	Diameter (mm)	Parameters
Ar + 1-3%O ₂ or 5-20% CO ₂ *	DC+	1.2	280A, 26V

* Ar + 5%CO₂ provides the highest strength and best impact properties, see above. Other proprietary gas mixtures also suitable.

PACKAGING DATA

Diameter (mm)	Weight (kg)	Packaging	Item number
1.2	15	S300	MMNMO-12

FUME DATA (WT % TYPICAL)

Fe	Mn	Cr3	Ni	Mo	Cu	OES (mg/m ³)
55	10	<0.1	<0.1	<0.5	1.2	5