

Supercored 81MAG

Type : Rutile



Conformances

AWS A5.36/ ASME SFA5.36 E81T1-M21A8-Ni1 H4

E81T1-M21P5-Ni1 H4

(AWS A5.29/ ASME SFA5.29 E81T1-Ni1M H4)

EN ISO 17632-A-T 46 6 1Ni P M21 2 H5

ABS 5Y400SA H5

LR 5Y40S H5

BV SA5Y40M HHH

DNV-GL VY40MS H5

RINA 5Y40S H5

RS 5Y42SM H5

TÜV EN ISO 17632-A - T 46 6 1Ni P M 2 H5

DB DIN EN ISO 17632-A-T 46 6 1Ni P M 21 2 H5

CWB AWSA5.29E81T1-Ni1M-H4(-46 Degree)

CE

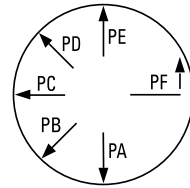
Applications

- Offshore structure
- Shipbuilding
- Mining
- Petrochemical industry

Features

- Good impact value at low temperature (as welded and PHWT)
- Low hydrogen level (H4)

Welding Position



Current

DC +

Shielding Gas

Ar + 20~25% CO₂

Diameter / Packaging

Diameter mm (in)	Spool			Pac		
	12.5kg (28lbs)	15kg (33lbs)	20kg (44lbs)	100kg (221lbs)	200kg (441lbs)	250kg (551lbs)
1.2 (0.045)	√	√	√			
1.4 (0.052)	√	√	√			
1.6 (1/16)	√	√	√			

Typical Chemical Composition of All-Weld Metal (%)

C	Si	Mn	P	S	Ni
0.05	0.28	1.20	0.008	0.012	0.93

Typical Mechanical Properties of All-Weld Metal

YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft-lbs)	
550 (79,900)	590 (85,700)	26.0	-60 (-76)	60 (44)	As welded
510 (74,100)	570 (82,800)	28.0	-46 (-50)	90 (66)	PWHT (620 @2hr)

Typical Welding Parameters

Diameter, Polarity Shielding Gas	CTWD mm (in)	Wire Feed Speed m/min (in/min)	Amp. (A)	Volt. (V)	Deposition Rate kg/hr (lb/hr)	Efficiency (%)	
1.2mm (0.045 in) DC+							
80% Ar + 20% CO ₂	25 (1)	All Position					86-88
		4.4 (175)	140	22-27	1.6 (3.5)		
		5.1 (200)	150	23-28	1.8 (4.0)		
		6.4 (250)	165	24-29	2.3 (5.0)		
		7.6 (300)	190	24-29	2.7 (6.0)		
		8.9 (350)	205	25-30	3.2 (7.0)		
		9.5 (375)	225	25-30	3.4 (7.5)		
		Flat & Horizontal					
		10.8 (425)	245	26-31	3.8 (8.5)		
		12.1 (475)	265	27-32	4.3 (9.5)		
		12.7 (500)	275	28-33	4.5 (10.0)		
		1.4mm (0.052 in) DC+					
80% Ar + 20% CO ₂	25 (1)	All Position					86-88
		3.8 (150)	150	22-27	1.8 (3.9)		
		4.7 (180)	165	23-28	2.2 (4.8)		
		5.7 (225)	190	23-28	2.7 (5.9)		
		6.4 (250)	215	24-29	2.9 (6.5)		
		6.9 (275)	235	24-29	3.2 (7.2)		
		7.6 (300)	255	25-30	3.5 (7.8)		
		Flat & Horizontal					
		8.5 (335)	275	25-31	4.0 (8.7)		
		9.5 (375)	295	26-32	4.4 (9.8)		
		10.2 (400)	310	26-33	4.7 (10.4)		
		1.6mm (1/16 in) DC+					
80% Ar + 20% CO ₂	25 (1)	All Position					86-88
		3.8 (150)	200	22-27	2.5 (5.5)		
		4.4 (175)	210	23-28	2.9 (6.4)		
		5.1 (200)	235	24-29	3.3 (7.3)		
		5.7 (225)	265	24-29	3.7 (8.2)		
		6.4 (250)	285	25-30	4.2 (9.2)		
		6.9 (275)	305	25-31	4.6 (10.1)		
		Flat & Horizontal					
		8.3 (325)	335	26-32	5.4 (11.9)		
		8.9 (350)	365	27-33	5.8 (12.8)		

SMAG

SAW

GMAW

GTAW

FCAW

Non-FERROUS

APPENDIX