

Supercored 81-K2

Type : Rutile



Conformances

AWS A5.36/ ASME SFA5.36 E81T1-C1A8-K2 H4
 (AWS A5.29/ ASME SFA5.29 E81T1-K2C H4)
 JIS Z3313 T55 6 T1-1 C A-N3 H5
 EN ISO 17632-A-T 46 6 1.5Ni P C 1 H5
 KR 5Y40SG(C) H5, L3SG(C) H5
 ABS 5Y400SA H5
 LR 5Y40S H5
 BV SA5Y40M HHH
 DNV-GL VY40MS H5, NV2-4L, 4-4L

NK KSWL3SG(C) H5
 KSW54Y40G(C)H5
 (-60°C ≥47J, ≥34J (Butt))
 CWB AWS A5.29 E81T1-K2C-H4 (-46 Degree)
 CCS 5Y40S H5
 RINA 5YS H10
 RS 5Y40SM H5
 CE

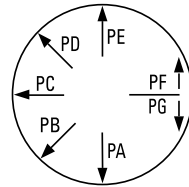
Applications

- Offshore
- Shipbuilding
- General fabrication

Features

- Good impact value at low temperature
- Smooth and stable arc with a fast freezing slag
- Low hydrogen level (H4)

Welding Position



Current

DC +

Shielding Gas

100% 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
0.04	0.35	1.35	0.012	0.011	1.50

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)
540 (78,400)	620 (90,000)	28.0	-30 (-22) -60 (-76)	110 (81) 60 (44)

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+							
100% CO ₂	25 (1)	All Position					86-88
		4.4 (175)	140	23-28	1.6 (3.5)		
		5.1 (200)	150	24-29	1.8 (4.0)		
		6.4 (250)	165	25-30	2.3 (5.0)		
		7.6 (300)	190	25-30	2.7 (6.0)		
		8.9 (350)	205	26-31	3.2 (7.0)		
		9.5 (375)	225	26-31	3.4 (7.5)		
		10.8 (425)	245	27-32	3.8 (8.5)		
		Flat & Horizontal					
		12.1 (475)	265	28-33	4.9 (10.8)		
12.7 (500)	275	29-34	5.2 (11.4)				
1.4mm (0.052 in) DC+							
100% CO ₂	25 (1)	All Position					86-88
		3.8 (150)	150	23-28	1.8 (3.9)		
		4.7 (180)	165	24-29	2.2 (4.8)		
		5.7 (225)	190	24-29	2.7 (5.9)		
		6.4 (250)	215	25-30	2.9 (6.5)		
		6.9 (275)	235	25-30	3.2 (7.2)		
		7.6 (300)	255	26-31	3.5 (7.8)		
		Flat & Horizontal					
		8.5 (335)	275	26-31	4.0 (8.7)		
		9.5 (375)	295	27-32	4.4 (9.8)		
10.2 (400)	310	27-34	4.7 (10.4)				
1.6mm (1/16 in) DC+							
100% CO ₂	25 (1)	All Position					86-88
		3.8 (150)	200	24-29	2.5 (5.5)		
		4.4 (175)	210	24-30	2.9 (6.4)		
		5.1 (200)	235	25-30	3.3 (7.3)		
		5.7 (225)	265	25-31	3.7 (8.2)		
		6.4 (250)	285	26-31	4.2 (9.2)		
		6.9 (275)	305	26-32	4.6 (10.1)		
		Flat & Horizontal					
		8.3 (325)	335	27-32	5.4 (11.9)		
		8.9 (350)	365	28-34	5.8 (12.8)		

SWAW
SAW
GMAW
GTAW
FCAW
Non-FERROUS
APPENDIX