

Supercored 81-K2

Type : Rutile

Supercored 81-K2



Conformances

AWS A5.29/ ASME SFA5.29 E81T1-K2C
 JIS Z3313 T55 6 T1-1 C A-N3 H5
 EN ISO 17632-A T46 6 1.5Ni P C 1 H5
 KR 4Y40SG(C1) H5 (-60°C ≥47 J)
 ABS 5Y400SA H5
 LR 5Y40S H5
 BV SA5Y40M HHH
 DNV VY40MS H5, NV2-4L,4-4L
 CWB AWS A5.29 E81T1-K2C-H4 (-46 Degree)

NK KSW54Y40G(C)H5
 (-60°C ≥47J, ≥34J (Butt))
 CCS 5Y40S H5
 RINA 5YS H10
 RS 5Y40S H5
 GL 6Y40 H5S
 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 (H5)

Welding Position



1G 2F 3G 4G
 (PA) (PB) (PF-PG) (PE)

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 Operating Procedures

Diameter, Polarity Shielding Gas	CTWD mm (in)	Wire Feed Speed m/min (in/min)	Voltage (volts)	Approx. Current (amps)	Deposition Rate kg/hr (lb/hr)	Efficiency (%)		
1.2mm (0.045 in) DC+								
All Position								
100% CO ₂	25 (1)	4.4 (175)	23-28	140	1.6 (3.5)	86-88		
		5.1 (200)	24-29	150	1.8 (4.0)			
		6.4 (250)	25-30	165	2.3 (5.0)			
		7.6 (300)	25-30	190	2.7 (6.0)			
		8.9 (350)	26-31	205	3.2 (7.0)			
		9.5 (375)	26-31	225	3.4 (7.5)			
		10.8 (425)	27-32	245	3.8 (8.5)			
		Flat & Horizontal						
		12.1 (475)	28-33	265	4.9 (10.8)			
		12.7 (500)	29-34	275	5.2 (11.4)			
1.4mm (0.052 in) DC+								
All Position								
100% CO ₂	25 (1)	3.8 (150)	23-28	150	1.8 (3.9)	86-88		
		4.7 (180)	24-29	165	2.2 (4.8)			
		5.7 (225)	24-29	190	2.7 (5.9)			
		6.4 (250)	25-30	215	2.9 (6.5)			
		6.9 (275)	25-30	235	3.2 (7.2)			
		7.6 (300)	26-31	255	3.5 (7.8)			
		Flat & Horizontal						
		8.5 (335)	26-31	275	4.0 (8.7)			
		9.5 (375)	27-32	295	4.4 (9.8)			
		10.2 (400)	27-34	310	4.7 (10.4)			
1.6mm (1/16 in) DC+								
All Position								
100% CO ₂	25 (1)	3.8 (150)	24-29	200	2.5 (5.5)	86-88		
		4.4 (175)	24-30	210	2.9 (6.4)			
		5.1 (200)	25-30	235	3.3 (7.3)			
		5.7 (225)	25-31	265	3.7 (8.2)			
		6.4 (250)	26-31	285	4.2 (9.2)			
		6.9 (275)	26-32	305	4.6 (10.1)			
		Flat & Horizontal						
		8.3 (325)	27-32	335	5.4 (11.9)			
		8.9 (350)	28-34	365	5.8 (12.8)			