

S-900SP X M-12K [A-2]

Type : Neutral

Conformances

AWS A5.17/ ASME SFA5.17 F7A4(P2)-EM12K

AWS A5.23/ ASME SFA5.23 F9A2-EA2-G

JIS Z3352 SA CS1

EN ISO 14174-S A CS 1 / EN ISO 14171-A-S2Si [S2Mo]

ABS AWS A5.17 F7A(P)4-EM12K [M-12K]

AWS A5.23 F9A(P)2-EA2-G [A-2]

NAKS (S-900SPxA-2)

Applications

- Pipe line

Features

- Good resistance to porosity on rust, scales and primers
- High speed welding (Longitudinal pipes)
- Density : 1.2g/cm³

Current

AC, DC +

Basicity Index

1.5

Packages (Flux)

Tin Can 20kg(44lbs)

PE Bag 20kg(44lbs)

Flux Composition

Consumable	Chemical Composition, wt%			
	SiO ₂ + TiO ₂	CaO + MgO	Al ₂ O ₃ + MnO	CaF ₂
S-900SP	15	50	25	10

Diameter / Packaging

- M-12K : √
- A-2 : ○

Diameter mm (in)	Spool	Basket			Coil					Pac				
	20kg (44lbs)	25kg (55lbs)	100kg (220lbs)	25kg (55lbs)	100kg (220lbs)	200kg (440lbs)	250kg (551lbs)	300kg (661lbs)	500kg (1102lbs)	200kg (440lbs)	250kg (551lbs)	300kg (661lbs)	350kg (771lbs)	400kg (881lbs)
1.6 (1/16)	√○			√									√	
2.0 (5/64)	√	○		√○							√	○	√	√
2.4 (3/32)		√○	√	√○	√									√
3.2 (1/8)		√○	√	√○	√			○		√				√
4.0 (5/32)		√○	√	√○	√○	√○	○		√○	√	√○	√○	○	√○
4.8 (3/16)				√	√			√	√	√				

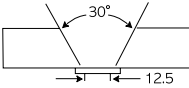
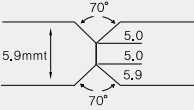
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	Mo	BM	Th.(mm)
M-12K	0.09	0.35	1.55	0.024	0.004	-	SS400	25
A-2	0.11	0.26	1.51	0.019	0.006	0.39	SM570	25
A-2	0.08	0.23	1.54	0.013	0.004	0.15	API 5L X70	15.9

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	Position of fracture	CVN-Impact Value J (ft-lbs)			BM	Th. (mm)
					-20°C (-4°F)	-30°C (-22°F)	-40°C (-40°F)		
M-12K	525 (76,100)	575 (83,400)	28	-	-	-	70 (52)	SS400	25
A-2	650 (94,300)	710 (103,000)	24	-	-	60 (44)	-	SM570	25
A-2	-	620 (89,900)	-	BM	60 (44)	-	-	API 5L X70	15.9

Typical Welding Parameters

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
M-12K (A-2)	4.0	25		1~13	570	30	40	AWS A5.17/ A5.23
A-2	L(DC+):4.0 T(AC):4.0	15.9		In side	1st	(L)980 (T)800	34 38	Both Side Single- pass (tandem)
				Out side	2nd	(L)1000 (T)780	39 40	