

# S-950S X M-12K [A-2, A-2TiB]

Type : Neutral

## Conformances

AWS A5.17/ ASME SFA5.17 F7A4(P8)-EM12K  
 AWS A5.23/ ASME SFA5.23 F8A(P)5-EA2-EA3  
 AWS A5.23/ ASME SFA5.23 F8TA(P)8-EA2  
 AWS A5.23/ ASME SFA5.23 F8TA(P)8-EA2TiB

## Applications

- Pipe line

## Features

- Good resistance to porosity on rust, scales and primers
- High speed welding (Longitudinal pipes)
- Good impact value at low temperature
- Density : 1.2g/cm<sup>3</sup>

## Current

AC, DC +

## Basicity Index

2.2

## Packages (Flux)

Tin Can 20kg(44lbs)  
 PE Bag 20kg(44lbs)

## Flux Composition

Consumable	Chemical Composition, wt%			
	SiO <sub>2</sub> + TiO <sub>2</sub>	CaO + MgO	Al <sub>2</sub> O <sub>3</sub> + MnO	CaF <sub>2</sub>
S-950S	15	35	30	20

## Diameter / Packaging

- M-12K : √
- A-2 : ○

Diameter	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)				√	√			√	√	√				

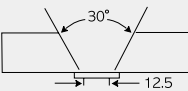
**Typical Chemical Composition of All-Weld Metal(%)**

Wire	C	Si	Mn	P	S	Mo	BM	Th.(mm)
M-12K	0.06	0.20	1.50	0.016	0.003	-	SS400	25
A-2	0.06	0.20	1.51	0.016	0.003	0.43	SM570	25

**Typical Mechanical Properties of All-Weld Metal**

Wire	YS MPa(lbs/in <sup>2</sup> )	TS MPa(lbs/in <sup>2</sup> )	EL (%)	Position of fracture	CVN-Impact Value J (ft.-lbs)			BM	Th. (mm)
					40°C (-40°F)	46°C (-50°F)	-60°C (-76°F)		
M-12K	470 (68,200)	540 (78,400)	30	-	-	-	150 (110)	SS400	25
A-2	570 (82,700)	640 (92,800)	28	-	-	70 (52)	-	SM570	25

**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

SWAW

SAW

GMAW

GTAW

FCAW

Non-FERROUS

APPENDIX