HYUNDAI WELDING

Rev. 00

SW-182

FLUX CORED ARC WELDING CONSUMABLES
FOR WELDING OF NICKEL-CHROMIUM ALLOYS
AND DISSIMILAR METAL WELDING

2021.02

HYUNDAI WELDING CO., LTD.

SW-182

❖ Specification

AWS A5.34 ENiCrFe3T1-1/4

❖ Applications

Cladding of reactor vessels , Welding of 3~7%Nickel steel for LNG Tanks
Dissimilar metal welding(9Cr-1Mo-V-Nb,stainless steel)
Welding of high molybdenum austenitic stainless steels
in scrubber fabrication

❖ Characteristics on Usage

Good Tensile strength in high temperature

Good impact value at cryogenic temperature

❖ Note on Usage

Use 100% CO2 Gas, Ar+20~25%CO2 gas

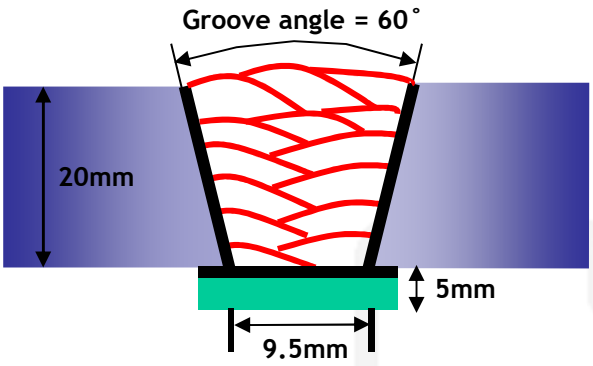
❖Packing

Dia.	1.2mm(0.045in)	
Spool(Kg)	12.5kg (28lbs)	15kg (33lbs)

Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions

Method by AWS Rules



[Joint Preparation & Layer Details]

Diameter(mm)	:	1.2mm
Shielding Gas	:	100% CO2
Flow Rate(ℓ /min.)	:	20~22
Amp./ Volt.	:	200 / 31
Stick-Out(mm)	:	20
Pre-Heat(℃)	:	R.T .
Polarity	:	DC(+)
Inter-passs temp.		≤150℃

❖ Mechanical Properties of the All weld metal

Consumables	Tensile Test Results		CVN Impact Value (Joules)
SW-182	TS(MPa/lbs/in²)	El.(%)	-196℃(-320°F)
	611	44	105
AWS A5.34 ENiCrFe3TX-X	≥560	≥25	Not Specified

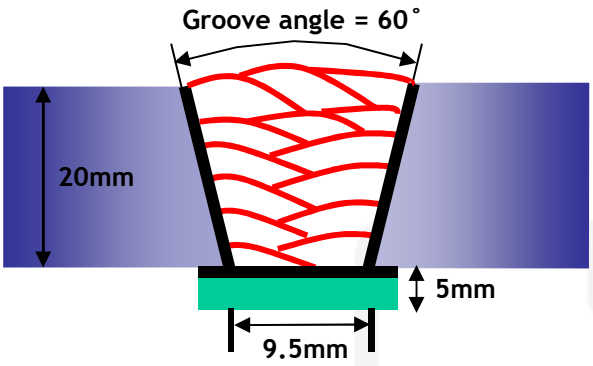
❖ Chemical Analysis of the All weld metal(wt%)

Consumables	C	Si	Mn	P	S	Ni	Cr	Nb	Ti	Fe
SW-182	0.05	0.3	6.7	0.001	0.010	64.78	16.5	1.96	0.2	8.9
AWS A5.34 ENiCrFe3TX-X	≤0.1	≤1.0	5.0~ 9.5	≤0.03	≤0.015	≥59.0	13.0~ 17.0	1.0~ 2.5	≤1.0	≤10.0

Mechanical Properties & Chemical Composition of All Weld Metal

❖ Welding Conditions

Method by AWS Rules



[Joint Preparation & Layer Details]

Diameter(mm)	:	1.2mm
Shielding Gas	:	Ar+20% CO2
Flow Rate(ℓ /min.)	:	20~22
Amp./ Volt.	:	200 / 29
Stick-Out(mm)	:	20
Pre-Heat(℃)	:	R.T .
Polarity	:	DC(+)
Inter-passs temp.		≤150℃

❖ Mechanical Properties of the All weld metal

Consumables	Tensile Test Results		CVN Impact Value (Joules)
SW-182	TS(MPa/lbs/in²)	El.(%)	-196℃(-320°F)
	640	37	100
AWS A5.34 ENiCrFe3TX-X	≥560	≥25	Not Specified

❖ Chemical Analysis of the All weld metal(wt%)

Consumables	C	Si	Mn	P	S	Ni	Cr	Nb	Ti	Fe
SW-182	0.05	0.3	6.3	0.001	0.010	66.22	16.2	1.9	0.2	8.6
AWS A5.34 ENiCrFe3TX-X	≤0.1	≤1.0	5.0~ 9.5	≤0.03	≤0.015	≥59.0	13.0~ 17.0	1.0~ 2.5	≤1.0	≤10.0

Mechanical Properties & Chemical Composition of All Weld Metal

❖ Bead Appearance

Horizontal Fillet(2F) , Base : ASTM A36

100% CO2(200A/31V)

Ar+20% CO2(200A/29V)

Fillet Vertcal up(3F)
Base : ASTM A36

100% CO2(160A/26V)

Ar+ 20% CO2(160A/25V