Flux Cored Wires (FCAW)

2

SOREX®
The Professional Quality

SFC-71

AWS A5.20 E71T-1C/1M
JIS Z3313 T 49J 2 T1-1 C/M A-U
EN ISO 17632-A T42 2 P C/M 1 H10

FLUX CORED WIRES FOR 490N/mm2 HIGH TENSILE STEEL

DESCRIPTION :

SFC-71 is an all-position rutile flux cored wire designed to be used with CO2 or Ar/CO2 gas mixture. It can be used on all-position welds with both single and multiple pass welds for mild steel and low alloy steels.

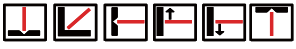
APPLICATIONS :

It is widely used for shipbuilding, storage vessels, structural fabrication, machinery and piping,etc.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Maintain a higher welding speed in order to get enough penetration in the down hand welding position.

WELDING POSITION:



TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) : (Shielding Gas: 100% CO2)

Weld Metal Analysis :	
Carbon (C)	0.051
Manganese (Mn)	1.36
Silicon (Si)	0.48
Phosphorus (P)	0.012
Sulphur (S)	0.009

TYPICAL MECHANICAL PROPERTIES OF WELD METAL: (Shielding Gas: 100% CO2)

YP N/mm2	474
TS N/mm2	573
EL%	28

TYPICAL IMPACT VALUES :

IV -20°C J	92

APPROVALS :

ABS, BV, CCS,CE,CR, DNV, GL, LR, NK

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm		1.4mm		1.6mm	
Welding Position	Flat	Vertical-up	Flat	Vertical-up	Flat	Vertical-up
Voltage (Volt)	28 ~ 36	25 ~ 26	28 ~ 38	25 ~ 28	30 ~ 40	26 ~ 30
Current (Amp)	150 ~ 300	150 ~ 220	180 ~ 350	150 ~ 230	200 ~ 400	160 ~ 250
Stickout (mm)	10 ~ 15		15 ~ 20		15 ~ 30	
Flow Rate (l / min)	15 ~ 25		15 ~ 25		15 ~ 25	

SFC-70C

AWS A5.20 E70T-1C
JIS Z3313 T 49J 2 T15-0 C A-U
EN ISO 17632-A T42 2 M C 3 H10

FLUX CORED WIRES FOR 490N/mm2 HIGH TENSILE STEEL

DESCRIPTION :

SFC-70C is a metal cored wire designed for high speed horizontal fillet welding with CO2 gas on primed plate (inorganic primer coated) with excellent pit resistance, stable arc, less spatter and smooth weld bead.

APPLICATIONS :

It is widely used for flat and horizontal fillet welding in shipbuilding, bridges, vehicle, machinery and structural fabrication etc.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Control the inter-pass temperature below 150°C for multi-layer welding

WELDING POSITION:

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) : (Shielding Gas: 100% CO2)

Weld Metal Analysis :	
Carbon (C)	0.047
Manganese (Mn)	1.25
Silicon (Si)	0.42
Phosphorus (P)	0.013
Sulphur (S)	0.009

TYPICAL MECHANICAL PROPERTIES OF WELD METAL: (Shielding Gas: 100% CO2)

YP N/mm2	467
TS N/mm2	554
EL%	27

TYPICAL IMPACT VALUES :

IV -20°C J	70

APPROVALS :

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SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm		1.6mm	
Welding Position	F	HF	F	HF
Voltage (Volt)	28 ~ 36	25 ~ 38	30 ~ 40	28 ~ 38
Current (Amp)	150 ~ 300	180 ~ 300	200 ~ 400	270 ~ 400
Stickout (mm)	15 ~ 25		20 ~ 30	
Flow Rate (l / min)	15 ~ 25		20 ~ 25	

SFC-71Ni

AWS A5.20 E71T-1C/M-J
JIS Z3313 T 49J 4 T1-1 C/M A-N1-U
EN ISO 17632-A T42 4 P C/M 1 H10

FLUX CORED WIRES FOR 490N/mm2 HIGH TENSILE STEEL

DESCRIPTION :

SFC-71Ni is an all-position rutile flux cored wire designed to be used with CO2 gas. It performs stable arc, low spatter level, good slag removal and excellent toughness at -40°C.

APPLICATIONS :

It is widely used for welding 490MPa steels in shipbuilding, off-shore platform, low temperature serving storage tanks, harbor equipment etc.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Maintain a higher welding speed in order to get enough penetration in the down hand welding position.

WELDING POSITION:

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) : (Shielding Gas: 100% CO2)

Weld Metal Analysis :	
Carbon (C)	0.048
Manganese (Mn)	1.35
Silicon (Si)	0.46
Phosphorus (P)	0.018
Sulphur (S)	0.009
Nickel (Ni)	0.37

TYPICAL MECHANICAL PROPERTIES OF WELD METAL: (Shielding Gas: 100% CO2)

YP N/mm2	492
TS N/mm2	550
EL%	28

TYPICAL IMPACT VALUES :

IV -40°CJ	74

APPROVALS :

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SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm	1.6mm
Welding Position	F	F
Voltage (Volt)	28 ~ 36	30 ~ 40
Current (Amp)	150 ~ 300	200 ~ 400
Stickout (mm)	15 ~ 25	20 ~ 30
Flow Rate (l / min)	15 ~ 25	20 ~ 25

SFC-71J

AWS A5.20 E71T-1C/M-J
JIS Z3313 T 49J 4 T1-1 C/M A-U
EN ISO 17632-A T42 4 P C/M 1 H5

FLUX CORED WIRES FOR 490N/mm2 HIGH TENSILE STEEL

DESCRIPTION :

SFC-71J is an all-position flux cored mild steel wire designed to produce superior mechanical properties that reach the impact value requirements under -40°C. SFC-71J has excellent welder appeal because its' smooth stable arc yields virtually spatterless weld deposits and generates very little fume.

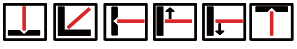
APPLICATIONS :

It is widely used for shipbuilding, storage vessels, structural fabrication, machinery and piping,etc.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Maintain a higher welding speed in order to get enough penetration in the down hand welding position.

WELDING POSITION:



TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) : (Shielding Gas: 100% CO2)

Weld Metal Analysis :

Carbon (C)	0.045
Manganese (Mn)	1.33
Silicon (Si)	0.42
Phosphorus (P)	0.015
Sulphur (S)	0.009

TYPICAL MECHANICAL PROPERTIES OF WELD METAL: (Shielding Gas: 100% CO2)

YP N/mm2	487
TS N/mm2	561
EL%	29

TYPICAL IMPACT VALUES :

IV -40°C J	79

APPROVALS :

ABS, LR

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm		1.4mm		1.6mm	
Welding Position	Flat	Vertical-up	Flat	Vertical-up	Flat	Vertical-up
Voltage (Volt)	28 ~ 36	25 ~ 26	28 ~ 38	25 ~ 28	30 ~ 40	26 ~ 30
Current (Amp)	150 ~ 300	150 ~ 220	180 ~ 350	150 ~ 230	200 ~ 400	160 ~ 250
Stickout (mm)	10 ~ 15		15 ~ 20		15 ~ 30	
Flow Rate (l / min)	15 ~ 25		15 ~ 25		15 ~ 25	

SFC-71M

AWS A5.18 E70C-3C/3M
JIS Z3313 T 49J 2 T15-0 C/M A-U
EN ISO 17632-A T42 2 M C/M 3 H10

FLUX CORED WIRES FOR 490N/mm2 HIGH TENSILE STEEL

DESCRIPTION :

SFC-71M is a metal cored wire designed for high speed horizontal fillet welding with CO2 gas or mix gas on primed plate (inorganic primer coated) with excellent pit resistance, stable arc, less spatter and smooth weld bead.

APPLICATIONS :

It is widely used for flat and horizontal fillet welding in shipbuilding, bridges, vehicle, machinery and structural fabrication etc.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Control the inter-pass temperature below 150°C for multi-layer welding

WELDING POSITION:

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) : (Shielding Gas: 100% CO2)

Weld Metal Analysis :	
Carbon (C)	0.051
Manganese (Mn)	1.43
Silicon (Si)	0.56
Phosphorus (P)	0.014
Sulphur (S)	0.012

TYPICAL MECHANICAL PROPERTIES OF WELD METAL: (Shielding Gas: 100% CO2)

YP N/mm2	510
TS N/mm2	578
EL%	26

TYPICAL IMPACT VALUES :

IV -20°C J	54

APPROVALS :

ABS,CE

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm	1.4mm	1.6mm
Welding Position	Flat	Flat	Flat
Voltage (Volt)	28 ~ 36	28 ~ 38	30 ~ 40
Current (Amp)	150 ~ 300	180 ~ 350	200 ~ 400
Stickout (mm)	10 ~ 15	15 ~ 20	15 ~ 30
Flow Rate (l / min)	15 ~ 25	15 ~ 25	15 ~ 25

SFC-75

AWS A5.20 E71T-5C/5M
JIS Z3313 T 49J 3 T5-1 C/M A-U
EN ISO 17632-A T42 3 B C/M 1 H5

FLUX CORED WIRES FOR 490N/mm2 HIGH TENSILE STEEL

DESCRIPTION :

SFC-75 is an all-position rutile flux cored wire designed to be used with CO2 or Ar/CO2 gas mixture. It can obtain better impact toughness than E71T-1 in low temperature.

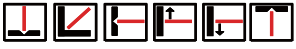
APPLICATIONS :

It is commonly used for shipbuilding, structural fabrication and machinery. piping,etc.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Maintain a higher welding speed in order to get enough penetration in the down hand welding position.

WELDING POSITION:



TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)

Weld Metal Analysis :	
Carbon (C)	0.045
Manganese (Mn)	1.30
Silicon (Si)	0.45
Phosphorus (P)	0.021
Sulphur (S)	0.013

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

YP N/mm2	495
TS N/mm2	570
EL%	28

TYPICAL IMPACT VALUES :

IV -30°C J	93

APPROVALS :

GL,LR

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm		1.4mm		1.6mm	
Welding Position	Flat	Vertical-up	Flat	Vertical-up	Flat	Vertical-up
Voltage (Volt)	28 ~ 36	25 ~ 26	28 ~ 38	25 ~ 28	30 ~ 40	26 ~ 30
Current (Amp)	150 ~ 300	150 ~ 220	180 ~ 350	150 ~ 230	200 ~ 400	160 ~ 250
Stickout (mm)	10 ~ 15		15 ~ 20		15 ~ 30	
Flow Rate (l / min)	15 ~ 25		15 ~ 25		15 ~ 25	

SFC-04

AWS A5.20 E70T-4
JIS Z3313 T 49J T4-0 N A
EN ISO 17632-A T42 Z W N 3

FLUX CORED WIRES FOR 490N/mm2 HIGH TENSILE STEEL

DESCRIPTION :

SFC-04 is a self-shielded flux cored wire designed for on site fabrications which welder could use it outdoor if at the applications with longer stick-out than normal fcaw if wind is not high. Excellent performance in desulfuration reduces porosity effectively.

APPLICATIONS :

It is designed flat, horizontal and downhill positions welding and suitable for steel structural constructions.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Keep the welding parts clean, out of moisture before welding.

WELDING POSITION:

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)

Weld Metal Analysis :

Carbon (C)	0.022
Manganese (Mn)	0.36
Silicon (Si)	0.35
Phosphorus (P)	0.023
Sulphur (S)	0.012
Aluminum (Al)	1.23

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

YP N/mm2	458
TS N/mm2	575
EL%	25

APPROVALS :

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SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	2.0mm	2.4mm
Voltage (Volt)	25 ~ 35	25 ~ 39
Current (Amp)	200 ~ 350	200 ~ 400
Stickout (mm)	30 ~ 50	30 ~ 50

SFC-07

AWS A5.20 E70T-7
JIS Z3313 T 49J T7-0 N A
EN ISO 17632-A T42 Z W N 3

FLUX CORED WIRES FOR 490N/mm2 HIGH TENSILE STEEL

DESCRIPTION :

SFC-07 is a self-shielded flux cored wire designed for on site fabrications which welder could use it outdoor for high deposition welding. Excellent performance in desulfuration reduces cracking in welding thick plates.

APPLICATIONS :

It is designed flat, horizontal and downhill positions welding and suitable for steel structural constructions for fillet weld and lap joint.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Keep the welding parts clean, out of moisture before welding.

WELDING POSITION:

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)

Weld Metal Analysis :	
Carbon (C)	0.23
Manganese (Mn)	0.38
Silicon (Si)	0.2
Phosphorus (P)	0.018
Sulphur (S)	0.015
Aluminum (Al)	1.42

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

YP N/mm2	486
TS N/mm2	582
EL%	26

APPROVALS :

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SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	2.0mm	2.4mm
Voltage (Volt)	25 ~ 35	25 ~ 39
Current (Amp)	200 ~ 350	200 ~ 400
Stickout (mm)	30 ~ 40	35 ~ 45

SFC-71G

AWS A5.20 E71T-G
JIS Z3313 T 49J TG-1 N A
EN ISO 17632-A T42 Z Y N 1

FLUX CORED WIRES FOR 490N/mm2 HIGH TENSILE STEEL (EGW)

DESCRIPTION :

SFC-71G is a self-shielded flux cored wire designed for the welding of thin-gauge galvanised and mild steels in all positions. Slag removal is easy with less spatter.

APPLICATIONS :

This wire is used for mild steel and 490N/mm2 high tensile steel.

NOTE ON USAGE :

1. Use DC - polarity.
2. Maintain a higher welding speed in order to get enough penetration in the down hand welding position.

WELDING POSITION:

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	0.140
Manganese (Mn)	1.35
Silicon (Si)	0.61
Phosphorus (P)	0.018
Sulphur (S)	0.006
Aluminium (Al)	1.14

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:

YP N/mm2	504
TS N/mm2	576
EL%	24

APPROVALS :

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SUGGESTED WELDING PARAMETERS (DC <->)

Parameters \ Diameter (mm)	1.2mm		1.6mm	
Welding Position	Flat	Vertical-up	Flat	Vertical-up
Voltage (Volt)	30 ~ 36	25 ~ 26	30 ~ 45	26 ~ 30
Current (Amp)	250 ~ 330	150 ~ 220	300 ~ 450	160 ~ 250
Stickout (mm)	10 ~ 15		15 ~ 30	
Flow Rate (l / min)	15 ~ 25		15 ~ 25	

SFC-721

AWS A5.26 EG72T-1
JIS Z3319 YFEG-21G
EN --

ELECTROGAS ARC WELDING FOR 490N/mm2 HIGH TENSILE STEEL (EGW)

DESCRIPTION :
SFC-721 is a self-shielded flux cored wire designed for vertical up, one pass welding with high deposition rate of consumable guide self-shielded electro-gas welding (EGW) process.

APPLICATIONS :
It is designed for one pass, vertical up welding of shipbuilding, heavy shop fabrication and structural welding, boxes.

NOTE ON USAGE :
1. Use DC (+) polarity.
2. Keep the welding parts clean, out of moisture before welding.
3. Pre-heat the workpiece and welding zone.
4. Consumable guide tube material chemistry close to deposit metal is recommended.
5. Recommended base metal thickness range 19-100mm.

WELDING POSITION:


TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :
Weld Metal Analysis :

Carbon (C)	0.08
Manganese (Mn)	1.32
Silicon (Si)	0.26
Phosphorus (P)	0.018
Sulphur (S)	0.010
Aluminum (Al)	0.12

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:

YP N/mm2	485
TS N/mm2	580
EL%	25

TYPICAL IMPACT VALUES :

IV -20°C J	56

APPROVALS :
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SUGGESTED WELDING PARAMETERS (DC <->)

Parameters \ Diameter (mm)	3.0mm			
Thickness (mm)	19	25	38	50
WFS (cm/min)	510	580	750	890
Voltage (volt)	34 ~ 37	38 ~ 41	41 ~ 43	43 ~ 45

SFC-101

AWS A5.29 E101T1-GC/GM
JIS --
EN --

FLUX CORED WIRES FOR ≧550N/mm2 HIGH TENSILE STEEL

DESCRIPTION :

SFC-101 is a gas-shielded high tensile strength flux cored wire designed for high tensile steel carries 690N/mm2, suitable for all-positional welding.

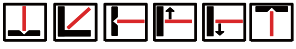
APPLICATIONS :

It is designed for petro chemical industry, oil refinery components, pipes.

NOTE ON USAGE :

1. Use DC (+) polarity. CO2 gas (min. 99.8%) G.F.R: 15~25 l/min
2. Keep the welding parts clean, out of moisture before welding.
3. Pre-heat the workpiece at temp. 220~350℃
4. Proper protection from wind during welding, reduce the H2 and N pick up.

WELDING POSITION:



TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)

Weld Metal Analysis :

Carbon (C)	0.06
Manganese (Mn)	1.2
Silicon (Si)	0.45
Phosphorus (P)	0.021
Sulphur (S)	0.012
Nickel (Ni)	0.63
Chromium (Cr)	0.35
Molybdenum (Mo)	0.41

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

YP N/mm2	660
TS N/mm2	721
EL%	22

APPROVALS :

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SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm	1.6mm
Voltage (Volt)	25 ~ 35	30 ~ 40
Current (Amp)	250 ~ 330	300 ~ 400

SFC-110

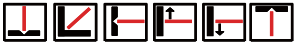
AWS A5.29 E111T1-GC/GM
JIS --
EN --

FLUX CORED WIRES FOR ≧550N/mm2 HIGH TENSILE STEEL

DESCRIPTION :
SFC-110 is a gas-shielded high tensile strength flux cored wire designed for high tensile steel carries 780N/mm2, suitable for all-positional welding.

APPLICATIONS :
It is designed for petro chemical industry, oil refinery components, pipes.

NOTE ON USAGE :
1. Use DC (+) polarity. CO2 gas (min. 99.8%) G.F.R: 15~25 l/min
2. Keep the welding parts clean, out of moisture before welding.
3. Pre-heat the workpiece at temp. 220~350℃
4. Proper protection from wind during welding, reduce the H2 and N pick up.

WELDING POSITION:


TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)
Weld Metal Analysis :

Carbon (C)	0.047
Manganese (Mn)	1.42
Silicon (Si)	0.32
Phosphorus (P)	0.014
Sulphur (S)	0.009
Nickel (Ni)	2.76
Molybdenum (Mo)	0.47

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

YP N/mm2	658
TS N/mm2	801
EL%	21

TYPICAL IMPACT VALUES :

IV -40°C J	42

APPROVALS :
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SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm	1.6mm
Voltage (Volt)	25 ~ 35	30 ~ 40
Current (Amp)	250 ~ 330	300 ~ 400

SFC-81A1

AWS A5.29 E81T1-A1
JIS Z3318 YFM-C
EN ISO 17634-A T Mo P C 1 H5

FLUX CORED WIRES FOR HEAT-RESISTANT LOW-ALLOY STEEL

DESCRIPTION :

SFC-81A1 is a 0.5% molybdenum alloyed rutile flux cored wire whose weld metal analysis is similar to an E7018-A1 low hydrogen electrode. In conjunction with 100%CO2 shielding gas, it performs good weldability in all position involved good bead appearance, less spatter and stable arc.

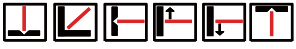
APPLICATIONS :

It is suitable for welding high-strength and matching creep-resisting steels.

NOTE ON USAGE :

1. Use 100%CO2.
2. Proper preheat at 100 ~ 200°C and PWHT at 620 ~ 680°C.

WELDING POSITION:



TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)

Weld Metal Analysis :	
Carbon (C)	0.051
Manganese (Mn)	1.05
Silicon (Si)	0.46
Phosphorus (P)	0.018
Sulphur (S)	0.009
Molybdenum (Mo)	0.55

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

YP N/mm2	596
TS N/mm2	643
EL%	24

HEAT TREATMENT :

620°C X 1hr

APPROVALS :

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SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm	1.6mm
Voltage (Volt)	25 ~ 35	30 ~ 40
Current (Amp)	250 ~ 330	300 ~ 400
Flow Rate (l / min)	15 ~ 25	15 ~ 25

SFC-81B2

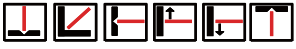
AWS A5.29 E81T1-B2
JIS Z3318 YF1CM-C
EN ISO 17634-A T CrMo1 P C 1 H5

FLUX CORED WIRES FOR HEAT-RESISTANT LOW-ALLOY STEEL

DESCRIPTION :
SFC-81B2 is a rutile flux cored wire designed for welding of 1~1.25%Cr-0.5%Mo low alloy steel. In conjunction with 100%CO2 shielding gas, it performs good weldability in all position involved good bead appearance, less spatter and stable arc.

APPLICATIONS :
It is suitable for welding Cr-Mo steel pipe and Cr-Mo steel with requirement of high creep resistance.

NOTE ON USAGE :
1. Use 100%CO2.
2. Proper preheat at 150 ~ 300°C and PWHT at 650 ~ 700°C.

WELDING POSITION:


TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)
Weld Metal Analysis :

Carbon (C)	0.055
Manganese (Mn)	0.92
Silicon (Si)	0.42
Phosphorus (P)	0.021
Sulphur (S)	0.010
Chromium (Cr)	1.12
Molybdenum (Mo)	0.61

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

YP N/mm2	552
TS N/mm2	628
EL%	21

HEAT TREATMENT :
690°C X 1hr

APPROVALS :
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SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm	1.6mm
Voltage (Volt)	25 ~ 35	30 ~ 40
Current (Amp)	250 ~ 330	300 ~ 400
Flow Rate (l / min)	15 ~ 25	15 ~ 25

SFC-91B3

AWS A5.29 E91T1-B3
JIS Z3318 YF2CM-C
EN ISO 17634-A T CrMo2 P C 1 H5

FLUX CORED WIRES FOR HEAT-RESISTANT LOW-ALLOY STEEL

DESCRIPTION :

SFC-91B3 is an all-positional flux cored wire designed for welding of 2~2.25%Cr-1%Mo low alloy steel. In conjunction with 100%CO2 shielding gas, it performs good weldability involved good bead appearance, less spatter and stable arc.

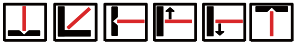
APPLICATIONS :

It is suitable for welding Cr-Mo steel pipe and Cr-Mo steel with requirement of high creep resistance.

NOTE ON USAGE :

1. Use 100%CO2.
2. Proper preheat at 200 ~ 350°C and PWHT at 680 ~ 730°C.

WELDING POSITION:



TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)

Weld Metal Analysis :	
Carbon (C)	0.06
Manganese (Mn)	0.950
Silicon (Si)	0.310
Phosphorus (P)	0.018
Sulphur (S)	0.090
Chromium (Cr)	2.360
Molybdenum (Mo)	1.110

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

YP N/mm2	635
TS N/mm2	699
EL%	20

HEAT TREATMENT :

690°C X 1hr

APPROVALS :

-

SUGGESTED WELDING PARAMETERS (DC <+>)

Diameter (mm) / Parameters	1.2mm	1.6mm
Voltage (Volt)	25 ~ 35	30 ~ 40
Current (Amp)	250 ~ 330	300 ~ 400
Flow Rate (l / min)	15 ~ 25	15 ~ 25

SFC-81Ni1

AWS A5.29 E81T1-Ni1
JIS Z3313 T 55 3 T1-1 C A-N2
EN ISO 17632-A T46 3 1Ni P C 1 H5

FLUX CORED WIRES FOR LOW TEMPERATURE-SERVICE LOW-ALLOY STEEL

DESCRIPTION :

SFC-81Ni1 is an all position flux cored wire designed for 100%CO2 shielding gas. It can provide excellent weldability involved good bead appearance, less spatter, stable arc and easy slag removal, but also qualified impact value down to -30°C.

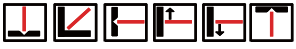
APPLICATIONS :

It is suitable for welding of 550N/mm2 high tensile strength steel on bridge structure, storage tanks and construction machinery.

NOTE ON USAGE :

1. Use 100%CO2.
2. Proper heat input can obtain required impact value

WELDING POSITION:



TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)

Weld Metal Analysis :

Carbon (C)	0.053
Manganese (Mn)	1.26
Silicon (Si)	0.45
Phosphorus (P)	0.018
Sulphur (S)	0.012
Nickel (Ni)	0.93

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

YP N/mm2	534
TS N/mm2	618
EL%	25

TYPICAL IMPACT VALUES :

IV -30°C J	85

APPROVALS :

-

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm	1.6mm
Voltage (Volt)	25 ~ 35	30 ~ 40
Current (Amp)	250 ~ 330	300 ~ 400
Flow Rate (l / min)	15 ~ 25	15 ~ 25

SFC-81Ni2

AWS A5.29 E81T1-Ni2
JIS Z3313 T 55 4 T1-1 C A-N5
EN ISO 17632-A T46 4 2Ni P C 1 H5

FLUX CORED WIRES FOR LOW TEMPERATURE-SERVICE LOW-ALLOY STEEL

DESCRIPTION :

SFC-81Ni2 is a flux cored wire whose weld metal contains 2.5%Ni for the welding of 590N/mm^2 high tensile steel with requirement of low temperature down -40°C. In conjunction with 100%CO2, it provides excellent weldability involved good bead appearance, less spatter, stable arc and easy slag removal.

APPLICATIONS :

It is suitable for welding of 550N/mm2 low temperature steel on bridge structure, storage tanks and construction machinery.

NOTE ON USAGE :

1. Use 100%CO2.
2. Proper heat input can obtain required impact value
3. Interpass temperature under 150°C being kept in multipass welding is good for machanical property

WELDING POSITION:

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)

Weld Metal Analysis :

Carbon (C)	0.052
Manganese (Mn)	1.15
Silicon (Si)	0.35
Phosphorus (P)	0.021
Sulphur (S)	0.012
Nickel (Ni)	2.34

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

YP N/mm2	523
TS N/mm2	631
EL%	25

TYPICAL IMPACT VALUES :

IV -40°C J	46

APPROVALS :

-

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm	1.6mm
Voltage (Volt)	25 ~ 35	30 ~ 40
Current (Amp)	250 ~ 330	300 ~ 400
Flow Rate (l / min)	15 ~ 25	15 ~ 25

SFC-91Ni2

AWS A5.29 E91T1-Ni2
JIS Z3313 T 62 4 T1-1 C A-N5
EN ISO 17632-A T50 4 2Ni P C 1 H5

FLUX CORED WIRES FOR LOW TEMPERATURE-SERVICE LOW-ALLOY STEEL

DESCRIPTION :

SFC-91Ni2 is an all-position rutile flux cored wire designed to be used with 100%CO2 gas. It performs good weldability with good bead appearance, less spatter, stable arc and good impact properties down to -40°C.

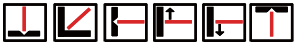
APPLICATIONS :

It is suitable for welding 2-3% Ni steel and 620N/mm2 high tensile steel used for storage tank, structural fabrication, machinery, bridges, shipbuilding, piping etc.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Control the heat input during welding to meet the required impact value.

WELDING POSITION:



TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)

Weld Metal Analysis :

Carbon (C)	0.054
Manganese (Mn)	1.21
Silicon (Si)	0.52
Phosphorus (P)	0.018
Sulphur (S)	0.015
Nickel (Ni)	2.39

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

YP N/mm2	588
TS N/mm2	692
EL%	21

TYPICAL IMPACT VALUES :

IV -40°C J	43

APPROVALS :

-

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm	1.6mm
Voltage (Volt)	25 ~ 35	30 ~ 40
Current (Amp)	250 ~ 330	300 ~ 400
Flow Rate (l / min)	15 ~ 25	15 ~ 25

SFC-81K2

AWS A5.29 E81T1-K2
JIS Z3313 T 55 6 T1-1 C A-N3
EN ISO 17632-A T46 6 1.5Ni P C 1 H5

FLUX CORED WIRES FOR LOW TEMPERATURE-SERVICE LOW-ALLOY STEEL

DESCRIPTION :

SFC-81K2 is an all position flux cored wire whose weld metal contains about 1.5%Ni to attain low temperature requirement down to -60°C. In conjunction with 100%CO2 shielding gas, it provides excellent mechanical property, good weldability of smooth arc and less spatter.

APPLICATIONS :

It is suitable for butt or fillet welding application for LNG and LPG carriers, storage tanks and low temperature service steels.

NOTE ON USAGE :

1. Use 100%CO2.
2. Proper heat input can otbain the required impact value.

WELDING POSITION:

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)

Weld Metal Analysis :

Carbon (C)	0.04
Manganese (Mn)	1.46
Silicon (Si)	0.43
Phosphorus (P)	0.021
Sulphur (S)	0.012
Nickel (Ni)	1.21

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

YP N/mm2	582
TS N/mm2	624
EL%	27

TYPICAL IMPACT VALUES :

IV -60°C J	51

APPROVALS :

-

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm	1.6mm
Voltage (Volt)	25 ~ 35	30 ~ 40
Current (Amp)	250 ~ 330	300 ~ 400
Flow Rate (l / min)	15 ~ 25	15 ~ 25

SFC-81W2

AWS A5.29 E81T1-W2
JIS Z3320 YFA-58W
EN --

FLUX CORED WIRES FOR ATMOSPHERIC CORRSION RESISTANT STEEL

DESCRIPTION :

SFC-81W2 is a flux cored wire designed for all position welding. In conjunction with 100%CO2 shielding gas, it provides excellent mechanical property, but also good weldability of stable arc less spatter and smooth bead appearance.

APPLICATIONS :

It is suitable for butt or fillet MAG welding application for ASTM A588、A242 without painting and 550N/mm2 weather-proof steel.

NOTE ON USAGE :

1. Use 100%CO2.
2. Proper heat input can obain the required impact value.
3. Preheat and interpass temperature between 50~150°C

WELDING POSITION:

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)

Weld Metal Analysis :

Carbon (C)	0.04
Manganese (Mn)	1.18
Silicon (Si)	0.55
Phosphorus (P)	0.018
Sulphur (S)	0.012
Nickel (Ni)	0.48
Chromium (Cr)	0.55
Copper (Cu)	0.41

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

YP N/mm2	594
TS N/mm2	658
EL%	25

TYPICAL IMPACT VALUES :

IV -30°C J	53

APPROVALS :

-

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm	1.6mm
Voltage (Volt)	25 ~ 35	30 ~ 40
Current (Amp)	250 ~ 330	300 ~ 400
Flow Rate (l / min)	15 ~ 25	15 ~ 25

SFC-308H

AWS A5.22 E308HLT1-1
JIS Z3323 TS308H-FB1
EN ISO 17633-A T 19 9 P C/M 2

FLUX CORED WIRES FOR STAINLESS STEEL

DESCRIPTION :

SFC-308H is a rutile flux cored tubular wire for all positional welding using pure CO2 or Argon CO2 mixed shielding gas. It performs with smooth arc transfer, self-releasing slag, low spatter level, fine ripple and good intergranular corrosion resistance.

APPLICATIONS :

Suitable for welding 18%Cr-8%Ni stainless steels. Typical applications include corrosion resistance overlay, joining of common austenitic stainless steel types 301, 302, 304 stabilised 321, CF-8 and CF-3.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Maintain a higher welding speed in order to get enough penetration in the down hand welding position.

WELDING POSITION:

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)

Weld Metal Analysis :	
Carbon (C)	0.049
Manganese (Mn)	0.87
Silicon (Si)	0.65
Phosphorus (P)	0.028
Sulphur (S)	0.013
Nickel (Ni)	9.62
Chromium (Cr)	19.61

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

TS N/mm2	573
EL%	40.0

APPROVALS :

-

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm		1.6mm	
Welding Position	F, HF	V-UP, OH	F, HF	V-UP, OH
Voltage (Volt)	23 ~ 33	25 ~ 30	27 ~ 32	--
Current (Amp)	130 ~ 220	120 ~ 200	200 ~ 300	--

SFC-308L

AWS A5.22 E308LT1-1
JIS Z3323 TS308L-FB1
EN ISO 17633-A T 19 9 L P C/M 2

FLUX CORED WIRES FOR STAINLESS STEEL

DESCRIPTION :

SFC-308L is a rutile flux cored tubular wire for all positional welding using pure CO2 or Argon CO2 mixed shielding gas. It performs with smooth arc transfer, self-releasing slag, low spatter level, fine ripple and good intergranular corrosion resistance.

APPLICATIONS :

Suitable for welding 18%Cr-8%Ni stainless steels. Typical applications include corrosion resistance overlay, joining of common austenitic stainless steel types 301, 302, 304, 304L, stabilised 321, CF-8 and CF-3.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Maintain a higher welding speed in order to get enough penetration in the down hand welding position.

WELDING POSITION:

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)

Weld Metal Analysis :	
Carbon (C)	0.031
Manganese (Mn)	1.55
Silicon (Si)	0.52
Phosphorus (P)	0.021
Sulphur (S)	0.013
Nickel (Ni)	9.83
Chromium (Cr)	19.72

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

TS N/mm2	562
EL%	42.0

TYPICAL IMPACT VALUES :

IV -196°C J	38

APPROVALS :

ABS,BV,CCS,CE,DNV,GL,LR

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm		1.6mm	
Welding Position	F, HF	V-UP, OH	F, HF	V-UP, OH
Voltage (Volt)	23 ~ 33	25 ~ 30	27 ~ 32	--
Current (Amp)	130 ~ 220	120 ~ 200	200 ~ 300	--

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SFC-309L

AWS A5.22 E309LT1-1
JIS Z3323 TS309L-FB1
EN ISO 17633-A T 23 12 L P C/M 2

FLUX CORED WIRES FOR STAINLESS STEEL

DESCRIPTION :

SFC-309L is a rutile flux cored tubular wire for all positional welding using pure CO2 or Argon CO2 mixed shielding gas. It performs with smooth arc transfer, low spatter level, fine ripple, fast freezing slag, easy control of weld pool and good hot crack resistance.

APPLICATIONS :

Suitable for welding dissimilar metals such as ferritic and austenitic stainless steels, as well as for joining ferritic martensitic steels. It is also used for buffer layers of clad steels.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Maintain a higher welding speed in order to get enough penetration in the down hand welding position.

WELDING POSITION:

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)

Weld Metal Analysis :	
Carbon (C)	0.031
Manganese (Mn)	1.56
Silicon (Si)	0.51
Phosphorus (P)	0.018
Sulphur (S)	0.013
Nickel (Ni)	12.62
Chromium (Cr)	23.62

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

TS N/mm2	572
EL%	40

TYPICAL IMPACT VALUES :

IV -60°C J	35

APPROVALS :

ABS,BV,CCS,CE,DB,DNV,GL,LR

SUGGESTED WELDING PARAMETERS (DC <+>)

Diameter (mm) / Parameters	1.2mm		1.6mm	
Welding Position	F, HF	V-UP, OH	F, HF	V-UP, OH
Voltage (Volt)	23 ~ 33	25 ~ 30	27 ~ 32	--
Current (Amp)	130 ~ 220	120 ~ 200	200 ~ 300	--

SFC-309MoL

AWS A5.22 E309LMoT1-1
JIS Z3323 TS309LMo-FB1
EN ISO 17633-A T 23 12 2 L P C/M 2

FLUX CORED WIRES FOR STAINLESS STEEL

DESCRIPTION :

SFC-309MoL is a rutile flux cored tubular wire for all positional welding using pure CO2 shielding gas. It performs with smooth arc transfer, low spatter level, fine ripple, fast freezing slag, easy control of weld pool, good heat and corrosion resistance.

APPLICATIONS :

Suitable for welding 22%Cr-12%Ni-2.5%Mo stainless steels and dissimilar metals such as ferritic and austenitic stainless steels, as well as for joining ferritic martensitic steels. It is also used for buffer layers of clad steels.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Maintain a higher welding speed in order to get enough penetration in the down hand welding position.

WELDING POSITION:

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)

Weld Metal Analysis :

Carbon (C)	0.030
Manganese (Mn)	0.89
Silicon (Si)	0.71
Phosphorus (P)	0.021
Sulphur (S)	0.012
Nickel (Ni)	13.60
Chromium (Cr)	23.4
Molybdenum (Mo)	2.43

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

TS N/mm2	585
EL%	37

APPROVALS :

ABS

SUGGESTED WELDING PARAMETERS (DC <+>)

Diameter (mm) / Parameters	1.2mm		1.6mm	
Welding Position	F, HF	V-UP, OH	F, HF	V-UP, OH
Voltage (Volt)	23 ~ 33	25 ~ 30	27 ~ 32	--
Current (Amp)	130 ~ 220	120 ~ 200	200 ~ 300	--

SFC-316L

AWS A5.22 E316LT1-1
JIS Z3323 TS316L-FB1
EN ISO 17633-A T 19 12 3 L P C/M 2

FLUX CORED WIRES FOR STAINLESS STEEL

DESCRIPTION :

SFC-316L is a rutile flux cored tubular wire for all positional welding using pure CO2 or Argon CO2 mixed shielding gas. It performs with smooth arc transfer, self-releasing slag, low spatter level, fine ripple and good intergranular corrosion resistance.

APPLICATIONS :

Suitable for welding 18%Cr-12%Ni-2% Mo stainless steels. Typical applications include corrosion resistance overlay, joining of type 316, 316L, CF-8M, and CF-3M stainless steels pipe and tube in chemical, oil and gas refineries.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Maintain a higher welding speed in order to get enough penetration in the down hand welding position.

WELDING POSITION:

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)

Weld Metal Analysis :	
Carbon (C)	0.028
Manganese (Mn)	1.56
Silicon (Si)	0.43
Phosphorus (P)	0.018
Sulphur (S)	0.012
Nickel (Ni)	12.03
Chromium (Cr)	17.83
Molybdenum (Mo)	2.59

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

TS N/mm2	572
EL%	40

TYPICAL IMPACT VALUES :

IV -196°C J	33

APPROVALS :

ABS,BV,CCS,CE,DNV,GL,LR

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm		1.6mm	
Welding Position	F, HF	V-UP, OH	F, HF	V-UP, OH
Voltage (Volt)	23 ~ 33	25 ~ 30	27 ~ 32	--
Current (Amp)	130 ~ 220	120 ~ 200	200 ~ 300	--

SFC-317L

AWS A5.22 E317T1-1
JIS Z3323 TS317L-FB1
EN ISO 17633-A T 19 13 4 L P C/M 2

FLUX CORED WIRES FOR STAINLESS STEEL

DESCRIPTION :

SFC-317L is a rutile flux cored tubular wire for all positional welding using pure CO2 or Argon CO2 mixed shielding gas. It performs with smooth arc transfer, self-releasing slag, low spatter level, fine ripple and good intergranular corrosion resistance.

APPLICATIONS :

Suitable for welding 18%Cr-12%Ni-2%Mo stainless steels. Typical applications include corrosion resistance overlay, joining of type 316, 316L, CF-8M, and CF-3M stainless steels pipe and tube in chemical, oil and gas refineries.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Maintain a higher welding speed in order to get enough penetration in the down hand welding position.

WELDING POSITION:

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)

Weld Metal Analysis :

Carbon (C)	0.030
Manganese (Mn)	0.85
Silicon (Si)	0.58
Phosphorus (P)	0.021
Sulphur (S)	0.014
Nickel (Ni)	13.11
Chromium (Cr)	18.94
Molybdenum (Mo)	3.61

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

TS N/mm2	580
EL%	35

TYPICAL IMPACT VALUES :

IV 0°C J	58

APPROVALS :

ABS

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm		1.6mm	
Welding Position	F, HF	V-UP, OH	F, HF	V-UP, OH
Voltage (Volt)	23 ~ 33	25 ~ 30	27 ~ 32	--
Current (Amp)	130 ~ 220	120 ~ 200	200 ~ 300	--

SFC-347L

AWS A5.22 E347T1-1
JIS Z3323 TS347-FB1
EN ISO 17633-A T 19 9 Nb P C/M 2

FLUX CORED WIRES FOR STAINLESS STEEL

DESCRIPTION :

SFC-347L is a rutile flux cored tubular wire for all positional welding using pure CO2 shielding gas. It performs with smooth arc transfer, self-releasing slag, low spatter level, fine ripple etc. It provides good corrosion resistance in service temperature up to 760°C.

APPLICATIONS :

Designed for welding stabilized stainless steels such as type 347 and 321, resistance overlay, joining of common austenitic stainless steel types 301, 302, 304, 304L and CF-8.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Maintain a higher welding speed in order to get enough penetration in the down hand welding position.

WELDING POSITION:

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)

Weld Metal Analysis :	
Carbon (C)	0.031
Manganese (Mn)	0.93
Silicon (Si)	0.54
Phosphorus (P)	0.019
Sulphur (S)	0.014
Nickel (Ni)	10.28
Chromium (Cr)	19.28
Niobium (Nb)	0.48

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

TS N/mm2	572
EL%	41

TYPICAL IMPACT VALUES :

IV 0°C J	48

APPROVALS :

ABS

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm		1.6mm	
Welding Position	F, HF	V-UP, OH	F, HF	V-UP, OH
Voltage (Volt)	23 ~ 33	25 ~ 30	27 ~ 32	--
Current (Amp)	130 ~ 220	120 ~ 200	200 ~ 300	--

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SFC-410

AWS A5.22 E410T1-1
JIS Z3323 TS410-FB1
EN ISO 17633-A T 13 P C/M 2

FLUX CORED WIRES FOR STAINLESS STEEL

DESCRIPTION :
SFC-410, which contains 12% chromium, is a flux cored wire for using pure CO2 shielding gas in all position welding. The weld deposit is air hardening and is normally heat-treated after welding.

APPLICATIONS :
SFC-410 is utilized to weld straight 410 stainless steel. It provides good corrosion and oxidation resistance at high temperature.

NOTE ON USAGE :
1. Use DC (+) polarity.
2. Proper preheat at 200 ~ 400°C and PWHT at 730 ~ 760°C.

WELDING POSITION:


TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)
Weld Metal Analysis :

Carbon (C)	0.061
Manganese (Mn)	0.41
Silicon (Si)	0.45
Phosphorus (P)	0.021
Sulphur (S)	0.012
Nickel (Ni)	0.21
Chromium (Cr)	11.43

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

TS N/mm2	564
EL%	26

HEAT TREATMENT :
750°C X 1hr

APPROVALS :
-

SUGGESTED WELDING PARAMETERS (DC <+>)

Diameter (mm) / Parameters	1.2mm		1.6mm	
Welding Position	F, HF	V-UP, OH	F, HF	V-UP, OH
Voltage (Volt)	23 ~ 33	25 ~ 30	27 ~ 32	--
Current (Amp)	130 ~ 220	120 ~ 200	200 ~ 300	--

SFC-410NM

AWS A5.22 E410NiMoT1-1
JIS Z3323 TS410NiMo-FB1
EN ISO 17633-A T 13 4 P C/M 2

FLUX CORED WIRES FOR STAINLESS STEEL

DESCRIPTION :

SFC-410NM is a flux cored wire for welding with pure CO2 shielding gas to produce the weld metal of 410 martensitic stainless steel with Ni and Mo. It performs with smooth arc transfer, low spatter level, fine ripple, easy control of weld pool, good heat and corrosion resistance.

APPLICATIONS :

The weld metal contains nickel to eliminate ferrite microstructure as ferrite has a deleterious effect on mechanical property. It is generally used for welding of ASTM CA6NM castings, materials, with similar composition, and turbines of hydro plant.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Weld with pure CO2 shielding gas and suitable gas flow is 20 ~25 l/min.
3. Proper preheat at 150 ~ 300°C and PWHT at 600 ~ 620°C.

WELDING POSITION:

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)

Weld Metal Analysis :

Carbon (C)	0.040
Manganese (Mn)	0.31
Silicon (Si)	0.43
Phosphorus (P)	0.014
Sulphur (S)	0.012
Nickel (Ni)	4.39
Chromium (Cr)	11.31
Molybdenum (Mo)	0.49

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

TS N/mm2	780
EL%	20

HEAT TREATMENT :

620°C X 1hr

TYPICAL IMPACT VALUES :

IV 0°C J	58

APPROVALS :

-

SUGGESTED WELDING PARAMETERS (DC <+>)

Diameter (mm) / Parameters	1.2mm		1.6mm	
Welding Position	F, HF	V-UP, OH	F, HF	V-UP, OH
Voltage (Volt)	23 ~ 33	25 ~ 30	27 ~ 32	--
Current (Amp)	130 ~ 220	120 ~ 200	200 ~ 300	--

SFC-2209

AWS A5.22 E2209T1-1
JIS Z3323 TS2209-FB1
EN ISO 17633-A T 22 9 3 N L P C/M 2

FLUX CORED WIRES FOR STAINLESS STEEL

DESCRIPTION :

SFC-2209 is designed to weld duplex stainless steels such as UNS S31803 (Alloy 2205) with excellent pitting corrosion resistance, stress corrosion resistance and crack resistance. The weld metal can be applied for operation temperature up to 250°C and is resistant in chloride containing media against pitting corrosion as well as crevice and stress corrosion.

APPLICATIONS :

Typical applications include pumps, vessels, heat exchanger, chemical equipments and pipes processing chloride containing solutions.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Maintain a higher welding speed in order to get enough penetration in the down hand welding position.

WELDING POSITION:

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)

Weld Metal Analysis :

Carbon (C)	0.031
Manganese (Mn)	0.85
Silicon (Si)	0.53
Phosphorus (P)	0.025
Sulphur (S)	0.015
Nickel (Ni)	8.75
Chromium (Cr)	22.25
Molybdenum (Mo)	3.25
Nitrogen (N)	0.11

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

TS N/mm2	786
EL%	27

APPROVALS :

ABS,BV,CCS,CE,DNV

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm		1.6mm	
Welding Position	F, HF	V-UP, OH	F, HF	V-UP, OH
Voltage (Volt)	23 ~ 33	25 ~ 30	27 ~ 32	--
Current (Amp)	130 ~ 220	120 ~ 200	200 ~ 300	--

SFC-2509

AWS --
JIS --
EN --

FLUX CORED WIRES FOR STAINLESS STEEL

DESCRIPTION :

SFC-2509 is designed to weld super duplex stainless steels contains austenite-ferrite duplex steel. 25%Cr-9%Ni-4%Mo-N with excellent pitting corrosion resistance, stress corrosion resistance and crack than 2209.

APPLICATIONS :

Typical applications for petro-chemical industry include pumps, vessels, heat exchanger, such as UNS S31803(Alloy 2505).

NOTE ON USAGE :

1. DC (+); CO2 gas (min. 99.8%) or (80% Ar + 20% CO2); G.F.R: 20-25l/min
2. Use stainless steel wire brush for cleaning of slags and make sure the surface is clean.
3. Follow the recommended welding parameters to achieve good sound welds

WELDING POSITION:

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :(Shielding Gas: 100% CO2)

Weld Metal Analysis :

Carbon (C)	0.033
Manganese (Mn)	0.87
Silicon (Si)	0.45
Phosphorus (P)	0.022
Sulphur (S)	0.015
Nickel (Ni)	8.51
Chromium (Cr)	23.91
Molybdenum (Mo)	4.11
Nitrogen (N)	0.15

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 100% CO2)

TS N/mm2	795
EL%	28

APPROVALS :

--

SUGGESTED WELDING PARAMETERS (DC <+>)

Diameter (mm) / Parameters	1.2mm		1.6mm	
Welding Position	F, HF	V-UP, OH	F, HF	V-UP, OH
Voltage (Volt)	23 ~ 33	25 ~ 30	27 ~ 32	--
Current (Amp)	130 ~ 220	120 ~ 200	200 ~ 300	--

SFC-409Ti

AWS A5.22 EC409
JIS Z3323 TS409-MM1
EN ISO 17633-A T 13 Ti M M 2

FLUX CORED WIRES FOR STAINLESS STEEL

DESCRIPTION :

SFC-409Ti is a flux cored wire for welding automotive exhaust systems and mufflers. While welded with mix gas (80%Ar+20%CO2) as a shielding gas, its welding performance can be obtained less spatter and few slag. In addition, it can have an excellent deposition rate and corrosion resistance.

APPLICATIONS :

SFC-409Ti is designed for flat and horizontal fillet welding of AISI 409 ferrite stainless steel.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Weld with mix gas shielding gas and suitable gas flow is 20~25 l/min.

WELDING POSITION:

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) : (Shielding Gas: 80%Ar + 20%CO2)

Weld Metal Analysis :

Carbon (C)	0.045
Manganese (Mn)	0.560
Silicon (Si)	0.720
Phosphorus (P)	0.011
Sulphur (S)	0.009
Chromium (Cr)	11.5
Titanium (Ti)	0.82

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 80%Ar + 20%CO2)

TS N/mm2	475
EL%	24

APPROVALS :-

-

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm
Welding Position	F, HF
Voltage (Volt)	28 ~ 32
Current (Amp)	200 ~ 240

SFC-409Cb

AWS A5.22 EC409Nb
JIS Z3323 TS409Nb-MM1
EN --

FLUX CORED WIRES FOR STAINLESS STEEL

DESCRIPTION :

SFC-409Cb is a metal cored flux cored wire with some electrolytic dissociation elements which will enhance the arc stability. High efficiency at fine plate welding and superior weldability and low spatter.

APPLICATIONS :

It is designed and suitable for Ferrite stainless steel AISI409 or similar alloy steel, especially good at exhaust pipe system welding.

NOTE ON USAGE :

1. DC (+); 80% Ar + 20% CO2; G.F.R: 15-20 l/min
2. Use stainless steel wire brush for cleaning of slags

WELDING POSITION:

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) : (Shielding Gas: 80%Ar + 20%CO2)

Carbon (C)	0.038
Manganese (Mn)	0.450
Silicon (Si)	0.40
Phosphorus (P)	0.015
Sulphur (S)	0.012
Chromium (Cr)	11.20
Niobium (Nb)	0.52

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 80%Ar + 20%CO2)

TS N/mm2	480
EL%	23

APPROVALS :-

-

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm
Welding Position	F, HF
Voltage (Volt)	28 ~ 32
Current (Amp)	200 ~ 240

SFC-439Ti

AWS A5.22 EC439
JIS --
EN --

FLUX CORED WIRES FOR STAINLESS STEEL

DESCRIPTION :

SFC-439Ti is a flux cored wire for welding automotive exhaust systems and mufflers. While welded with mix gas (80%Ar+20%CO2) as a shielding gas, its welding performance can be obtained less spatter and few slag. In addition, it can have an excellent deposition rate and corrosion resistance.

APPLICATIONS :

SFC-439Ti is designed for flat and horizontal fillet welding of AISI 439 ferrite stainless steel.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Weld with mix gas shielding gas and suitable gas flow is 20~25 l/min.

WELDING POSITION:

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :
(Shielding Gas: 80%Ar + 20%CO2)

Carbon (C)	0.033
Manganese (Mn)	0.420
Silicon (Si)	0.500
Phosphorus (P)	0.018
Sulphur (S)	0.012
Nickel (Ni)	0.150
Chromium (Cr)	18.20
Titanium (Ti)	0.650

TYPICAL MECHANICAL PROPERTIES OF WELD METAL:(Shielding Gas: 80%Ar + 20%CO2)

TS N/mm2	508
EL%	37

APPROVALS :-

-

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	1.2mm
Welding Position	F, HF
Voltage (Volt)	28 ~ 32
Current (Amp)	200 ~ 240

SFH-12S XSF80

AWS --
JIS --
EN --

SUBMERGED ARC WELDING FOR HARDFACING STEEL

DESCRIPTION :

SFH-12S is a submerged arc flux cored wire with low alloy steel composition. It is used for build-up on mild and low alloy steel components before final overlay, and as a final surface for metal-to-metal wear with moderate impact. The weld metal has compressive strength, making it an excellent base for surfacing.

APPLICATIONS :

It is used for work rollers, pinch rollers and surfaces subjected to the sliding metal to metal wear.

NOTE ON USAGE :

1. Use DC (+) polarity
2. The preheat temperatures for massive workpiece is recommended 200~250°C, and 300~400°C for interpass temperatures.
3. Recommended flux SF-80

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	0.23
Manganese (Mn)	1.94
Silicon (Si)	0.56
Chromium (Cr)	5.85
Molybdenum (Mo)	1.1
Vanadium (V)	0.23
Tungsten (W)	1.1

TYPICAL HARDNESS OF WELD METAL:

Layer	3rd layer	4th layer	5th layer
HRC	48	53	52

SUGGESTED WELDING PARAMETERS (DC <+>)

Diameter (mm) / Parameters	2.8mm
Voltage (Volt)	26 ~ 32
Current (Amp)	220 ~ 350
Stickout (mm)	25 ~ 35

SFH-17S XSF80

AWS --
JIS --
EN --

SUBMERGED ARC WELDING FOR HARDFACING STEEL

DESCRIPTION :

SFH-17S is a submerged arc flux cored wire with low alloy steel composition. It is used for build-up and hardsurfacing on mild and low alloy steel components before final overlay, and as a final surface for metal-to-metal wear with moderate impact. Good resistance to compression and cold work deformation with excellent impact resistance and crack susceptibility.

APPLICATIONS :

It is used for work rollers, idlers, carbon steel crane wheels, mine car wheels, and surfaces subjected to the sliding metal to metal wear. Weld deposition could be flame cut or machined.

NOTE ON USAGE :

1. Use DC (+) polarity
2. Application recommendations for high thickness, big angle curvature of workpiece surface to avoid cracks.
   *Preheat and interpass temperatures 200~400°C
   *Control low cooling speed.
   *Stress relieving temperatures less than 480°C
3. Recommended flux SF80

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	0.09
Manganese (Mn)	2.55
Silicon (Si)	0.57
Chromium (Cr)	2.45
Molybdenum (Mo)	0.56

TYPICAL HARDNESS OF WELD METAL:

Layer	1st layer	2nd layer	3rd layer
HRC	29	33	35

SUGGESTED WELDING PARAMETERS (DC <+>)

Diameter (mm) / Parameters	3.2mm
Voltage (Volt)	26 ~ 32
Current (Amp)	220 ~ 350
Stickout (mm)	25 ~ 35

SFH-31S XSF80

AWS --
JIS --
EN --

SUBMERGED ARC WELDING FOR HARDFACING STEEL

DESCRIPTION :

SFH-31S is a submerged arc flux cored wire with low alloy steel composition.
Weld metal hardness is low carbon, low alloy martensite structure with hardness HRC 31.
The weld deposit can be machined for build-up carbon steel and low alloy steel components.

APPLICATIONS :

It is used for root-pass on steel mill rollers, casting rollers, idlers before final hardsurfacing, or middle hardness workpieces like railroads, shafts as final surfacing.

NOTE ON USAGE :

1. Use DC (+) polarity
2. The preheat and interpass temperatures at 200~250°C.
3. Recommended flux SF-80

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	0.17
Manganese (Mn)	2.63
Silicon (Si)	0.62
Molybdenum (Mo)	0.68

TYPICAL HARDNESS OF WELD METAL:

Layer	1st layer	2nd layer	3rd layer
HRC	19	26	31

SUGGESTED WELDING PARAMETERS (DC <+>)

Diameter (mm) / Parameters	2.8mm
Voltage (Volt)	23 ~ 28
Current (Amp)	220 ~ 350
Stickout (mm)	25 ~ 30

SFH-42S XSF80

AWS --
JIS --
EN --

SUBMERGED ARC WELDING FOR HARDFACING STEEL

DESCRIPTION :

SFH-42S is a submerged arc flux cored wire with stainless steel martensite structure. It produces excellent crack resistance, and slag detachability is good, and suitable for multi layers build-up.

APPLICATIONS :

It is used for maintenance steel mill rollers, continuous casting rollers, printing rollers etc.

NOTE ON USAGE :

1. Use DC (+) polarity
2. The preheat and interpass temperatures at 300~400°C for base metal carbon content of 0.8% or low alloy steel carbon content more than 0.35%
3. Application recommendations for high thickness, big Angle curvature of workpiece surface to avoid cracks.
   *Preheat and interpass temperatures 200~400°C
   *Control low cooling speed.
4. Recommended flux SF-80

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	0.22
Manganese (Mn)	1.42
Silicon (Si)	0.53
Chromium (Cr)	12.7

TYPICAL HARDNESS OF WELD METAL:

Layer	1st layer	2nd layer	3rd layer
HRC	43	46	49

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	2.8mm
Voltage (Volt)	26 ~ 32
Current (Amp)	220 ~ 350
Stickout (mm)	25 ~ 30

SFH-52S XSF80

AWS --
JIS --
EN --

SUBMERGED ARC WELDING FOR HARDFACING STEEL

DESCRIPTION :

SFH-52S is a submerged arc flux cored wire contains Cr. Ni alloy elements provides excellent resistance to extreme abrasive wear and hardness even att high temperature.

APPLICATIONS :

It is used for build-up pinch rollers subjected to sliding metal to metal wear.

NOTE ON USAGE :

1. Use DC (+) polarity
2. Recommended preheat temperature: 200~250°C;
   Recommended interpass temperature: 300-400°C
3. Slow down the cooling speed after weld before post heat treatment.
4. PWHT temperature recommended 520°C x 6hr; heating speed 100°C/hr,
   cooling speed 50°C/hr down to 300°C from oven.
5. SW-M12K/SF-65 is recommended as buffer layer followed root-pass layer by SFH-31S/SF-80

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	0.19
Manganese (Mn)	1.97
Silicon (Si)	0.54
Nickel (Ni)	3.1
Chromium (Cr)	3.85
Molybdenum (Mo)	1.25
Vanadium (V)	0.35

TYPICAL HARDNESS OF WELD METAL:

Layer	3rd layer	4th layer	5th layer
HRC	52	49	51

SUGGESTED WELDING PARAMETERS (DC <+>)

Diameter (mm) / Parameters	2.8mm
Voltage (Volt)	26 ~ 32
Current (Amp)	220 ~ 350
Stickout (mm)	25 ~ 30

SFH-45G

AWS --
JIS --
EN --

FLUX CORED WIRES FOR HARDFACING STEEL

DESCRIPTION :

SFH-45G is a gas-shielded flux cored designed primarily for the build-up of steel parts or as a buttering layer prior to hardfacing. It can produce a low alloyed hardfacing deposit of about 450 HB. SFH-45G has low spatter levels and excellent slag removal.

APPLICATIONS :

SFH-45G has a wear resistant deposit with a hardness range of 35-45 HRC depending on material dilution and number of layers. It is aimed at the hardfacing of Cable rolls, rails, couplings, back up rolls of caterpillars crane wheel rims, shafts, tool-joints etc.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Proper preheat and interpass temperatures shall be kept over 300°C.
3. CO2 as a shielding gas and 15~25 l/min for gas flow
4. Welding parts is required to be clean from dust, oil and rusty

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	0.240
Manganese (Mn)	1.44
Silicon (Si)	0.13
Chromium (Cr)	3.78

TYPICAL HARDNESS OF WELD METAL:

Layer	2nd layer	3rd layer	4th layer
HRC	42	44	46

SUGGESTED WELDING PARAMETERS (DC <+>)

Diameter (mm) / Parameters	1.2mm	1.6mm
Voltage (Volt)	25 ~ 36	25 ~ 35
Current (Amp)	200 ~ 300	250 ~ 400
Stickout (mm)	15 ~ 25	15 ~ 25

SFH-58G

AWS --
JIS --
EN --

FLUX CORED WIRES FOR HARDFACING STEEL

DESCRIPTION :

SFH-58G is a gas-shielded flux cored wire with great performance of stable arc, resistant blow-hold and smooth welding bead. With usage of wide range of welding parameter, it can obtain the good resistance of weld metal for repair.

APPLICATIONS :

SFH-58G is aimed at the hardfacing of bunper threau, bucket lip, bulldozer blade, and the parts of impellers employed for soil abrasion.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Proper preheat and interpass temperatures shall be kept over 300°C.
3. CO2 as a shielding gas and 15~25 l/min for gas flow
4. Welding parts is required to be clean from dust, oil and rusty

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	0.51
Manganese (Mn)	1.18
Silicon (Si)	1.12
Chromium (Cr)	7.86
Molybdenum (Mo)	0.69

TYPICAL HARDNESS OF WELD METAL:

Layer	2nd layer	3rd layer	4th layer
HRC	55	56	58

SUGGESTED WELDING PARAMETERS (DC <+>)

Diameter (mm) / Parameters	1.2mm	1.6mm
Voltage (Volt)	25 ~ 36	25 ~ 35
Current (Amp)	200 ~ 300	250 ~ 400
Stickout (mm)	15 ~ 25	15 ~ 25

SFH-61G

AWS --
JIS --
EN --

FLUX CORED WIRES FOR HARDFACING STEEL

DESCRIPTION :

SFH-61G is a gas-shielded flux cored wire whose deposit hardness could reach around HRC60. Its weld metal contains carbide forming ingredients, such as Cr, Nb for providing great resistance to severe abrasion wear. Good bead appearance and stable arc could be obtained.

APPLICATIONS :

SFH-61G has a great resistant abrasion for repairing bucket, pulverizer rings and dipper teeth.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Proper preheat and interpass temperatures shall be kept over 300°C.
3. CO2 as a shielding gas and 15~25 l/min for gas flow
4. Welding parts is required to be clean from dust, oil and rusty

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	2.93
Manganese (Mn)	0.72
Silicon (Si)	1.12
Chromium (Cr)	25.13
Nickel (Ni)	0.14
Niobium (Nb)	0.19
Wolfram (W)	0.29
Boron (B)	0.15

TYPICAL HARDNESS OF WELD METAL:

Layer	1st layer	2nd layer	3rd layer
HRC	57	59	61

SUGGESTED WELDING PARAMETERS (DC <+>)

Diameter (mm) / Parameters	1.2mm	1.6mm
Voltage (Volt)	25 ~ 36	25 ~ 35
Current (Amp)	200 ~ 300	250 ~ 400
Stickout (mm)	15 ~ 25	15 ~ 25

SFH-35-O

AWS --
JIS --
EN --

FLUX CORED WIRES FOR HARDFACING STEEL

DESCRIPTION :

SFH-35-O is an open arc flux cored wire whose hardness of its weld metal is around HRC 35 suitable for the build-up or hardfacing of impaired or percussive workpieces. It can be processed by carbide tools.

APPLICATIONS :

It is used for the repair of gear, mine car wheel and tractor roll.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Proper preheat and interpass temperatures 200°C.

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	0.18
Manganese (Mn)	2.52
Silicon (Si)	0.55
Chromium (Cr)	1.25
Aluminum (Al)	1.7

TYPICAL HARDNESS OF WELD METAL:

Layer	1st layer	2nd layer	3rd layer
HRC	23 ~ 29	27 ~ 32	31 ~ 36

SUGGESTED WELDING PARAMETERS (DC <+>)

Diameter (mm) / Parameters	2.8mm
Voltage (Volt)	27 ~ 30
Current (Amp)	250 ~ 400
Stickout (mm)	50 ~ 70

SFH-41-O

AWS --
JIS --
EN --

FLUX CORED WIRES FOR HARDFACING STEEL

DESCRIPTION :

SFH-41-O is a self-shielded flux cored wire with low Cr alloy carrying medium hardness and high deposition rate and excellent application is a design for metal to metal abrasion.

APPLICATIONS :

It is designed for metal to metal abrasion, suitable for tractor rollers, mining car wheels, shaft, gear and workpiece build up and repair which requires medium hardness

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Dry the workpiece surface before welding to prevent from porosity caused by remnant moisture.
3. Preheat and interpass temperatures shall be kept at 150~250°C for the base metals are high carbon steel, alloy steel.
4. PWHT at about 450°C will help to release internal stress

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	0.28
Manganese (Mn)	2.12
Silicon (Si)	0.58
Chromium (Cr)	1.25
Molybdenum (Mo)	0.51

TYPICAL HARDNESS OF WELD METAL:

Layer	1st layer	2nd layer	3rd layer
HRC	28 ~ 34	33 ~ 40	38 ~ 42

SUGGESTED WELDING PARAMETERS (DC <+>)

Diameter (mm) / Parameters	2.8mm
Voltage (Volt)	27 ~ 30
Current (Amp)	250 ~ 400
Stickout (mm)	50 ~ 70

SFH-51-O

AWS --
JIS --
EN --

FLUX CORED WIRES FOR HARDFACING STEEL

DESCRIPTION :

SFH-51-O is a self-shielded flux cored wire deposit high carbon austenite steel giving excellent wear resistance and high hardness.

APPLICATIONS :

General purpose hardfacing electrode suitable for low carbon steel, medium carbon steel, low alloy steel, stainless steel, etc., including coal pulverizer, shovel and dragline Buckets and teeth, etc.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Preheat temperature be kept up to 200°C for the base metals are carbon steel, low alloy steel, or cast iron steel.
3. Only sand grinding wheel machine is recommended.

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	3.23
Manganese (Mn)	1.26
Silicon (Si)	1.57
Chromium (Cr)	13.18

TYPICAL HARDNESS OF WELD METAL:

Layer	1st layer	2nd layer	3rd layer
HRC	35 ~ 38	45 ~ 49	49 ~ 53

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	2.8mm
Voltage (Volt)	27 ~ 30
Current (Amp)	250 ~ 400
Stickout (mm)	50 ~ 70

SFH-56-O

AWS --
JIS --
EN --

FLUX CORED WIRES FOR HARDFACING STEEL

DESCRIPTION :

SFH-56-O is an open arc flux cored wire whose hardness of its weld metal is around HRC 56 providing excellent abrasion and resistance. It can rise HRC about three degree by work-hardened.

APPLICATIONS :

It is used for the repair of pulverizer rings, bucket and dipper teeth. Preheat shall be done while the deposition is over two layers.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Proper preheat and interpass temperatures between 150~250°C.

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	0.48
Manganese (Mn)	1.25
Silicon (Si)	0.68
Chromium (Cr)	6.23
Molybdenum (Mo)	0.85

TYPICAL HARDNESS OF WELD METAL:

HRC	52 ~ 60

SUGGESTED WELDING PARAMETERS (DC <+>)

Diameter (mm) / Parameters	2.8mm
Voltage (Volt)	27 ~ 30
Current (Amp)	250 ~ 400
Stickout (mm)	50 ~ 70

SFH-61-O

AWS --
JIS --
EN --

FLUX CORED WIRES FOR HARDFACING STEEL

DESCRIPTION :

SFH-61-O is a self-shielded flux cored wire whose deposition is primary carbide surface alloy contains high hardness and wear resistance to serve abrasion wear
Good bead appearance and stable arc could be obtained.

APPLICATIONS :

SFH-61-O has a great resistant abrasion for repairing coal pulverizer, bucket, and dipper teeth.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Proper preheat and interpass temperatures shall be kept over 200°C for the base metals are carbon steel, low alloy steel, and cast iron steel.
3. Only sand grinding wheel machine is recommended.
4. Build-up is recommended no more than 2 layers.

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	4.57
Manganese (Mn)	1.41
Silicon (Si)	0.83
Chromium (Cr)	25

TYPICAL HARDNESS OF WELD METAL:

Layer	1st layer	2nd layer
HRC	54~ 57	57 ~ 61

SUGGESTED WELDING PARAMETERS (DC <+>)

Diameter (mm) / Parameters	2.8mm
Voltage (Volt)	27 ~ 30
Current (Amp)	250 ~ 400
Stickout (mm)	50 ~ 70

SFH-65-O

AWS --
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FLUX CORED WIRES FOR HARDFACING STEEL

DESCRIPTION :

SFH-65-O is a self-shielded flux cored wire that deposits a primary chromium-carbide surfacing alloy.

APPLICATIONS :

It can be used on components subject to severe abrasion with low or moderate impact i.e. slag ladles conveyor, pipe bends ball, mill scoop lips, teeth, crushing mills

NOTE ON USAGE :

1. Use DC (+) polarity.
2. Remove the old surface build up layer of workpiece before welding
3. PWHT on weld metal is NOT recommended
4. Only sand grinding wheel machine is recommended.

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	4.86
Manganese (Mn)	0.57
Silicon (Si)	0.84
Chromium (Cr)	23.30
Molybdenum (Mo)	5.32
Tungsten (W)	1.12
Niobium (Nb)	5.23
Vanadium (V)	1.12

TYPICAL HARDNESS OF WELD METAL:

HRC	Room temp.	At 600°C
	62 ~ 65	52 ~ 56

SUGGESTED WELDING PARAMETERS (DC <+>)

Diameter (mm) / Parameters	2.8mm
Voltage (Volt)	27 ~ 32
Current (Amp)	250 ~ 400
Stickout (mm)	50 ~ 70

SFH-67-O

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FLUX CORED WIRES FOR HARDFACING STEEL

DESCRIPTION :

SFH-67-O is a self-shielded flux cored wire that contains ledeburite structure with a great amount of embedded chromium carbides

APPLICATIONS :

It is designed for the components subject to severe abrasion with low or moderate impact i.e. bucket teeth, coke oven screen, shovel, blast furnace bell.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. To use austenite stainless steel for build-up layer onto high carbon steel or low alloy steel.
3. It is recommended to apply bead of rib or waffle pattern in case of multi layer welding.

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	5.24
Manganese (Mn)	0.46
Silicon (Si)	0.67
Chromium (Cr)	36.74
Boron (B)	1.62

TYPICAL HARDNESS OF WELD METAL:

HRC	63 ~ 66

SUGGESTED WELDING PARAMETERS (DC <+>)

Diameter (mm) / Parameters	2.8mm
Voltage (Volt)	26 ~ 32
Current (Amp)	250 ~ 400

SFH-70-O

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FLUX CORED WIRES FOR HARDFACING STEEL

DESCRIPTION :

SFH-70-O is a self-shielded flux cored wire that contains ledeburite structure with a great amount of embedded chromium carbides

APPLICATIONS :

It is designed for the components subject to severe abrasion with low or moderate impact i.e. bucket teeth, coke oven screen, shovel, blast furnace bell.

NOTE ON USAGE :

1. Use DC (+) polarity.
2. To use austenite stainless steel for build-up layer onto high carbon steel or low alloy steel.
3. It is recommended to apply bead of rib or waffle pattern in case of multi layer welding.

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Weld Metal Analysis :

Carbon (C)	5.43
Manganese (Mn)	0.52
Silicon (Si)	0.75
Chromium (Cr)	38.35
Boron (B)	1.83

TYPICAL HARDNESS OF WELD METAL:

HRC	64 ~ 68

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Diameter (mm)	2.8mm
Voltage (Volt)	26 ~ 32
Current (Amp)	250 ~ 400