Fluxes / Wires (SAW)

4

SOREX®
The Professional Quality

SF-38 x SW-M12K

AWS A5.17 F7A2-EM12K
JIS Z3183 S502-H
EN --

SUBMERGED ARC WELDING WIRE AND FLUX FOR 490N/mm2 HIGH TENSILE STEEL

DESCRIPTION :

SF-38 is an active flux designed for butt or fillet welding on sheet metal with nice bead appearance, porosity resistance and good slag removal. It is recommended for single pass welding steel plate under 25mm thick.

APPLICATIONS :

Typical applications include pressure vessels, H beam, pipe-mill applications, shipbuilding and general steel structure.

NOTE ON USAGE :

1. Re-dry the flux at 350°C for 60 minutes prior to use.
2. Welding more than two passes is not recommended.

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Carbon (C)	0.09
Manganese (Mn)	1.33
Silicon (Si)	0.61
Phosphorus (P)	0.021
Sulphur (S)	0.015

TYPICAL MECHANICAL PROPERTIES OF WELD METAL :

YP N/mm2	415
TS N/mm2	525
EL%	31

TYPICAL IMPACT VALUES (with SW-M12K Wire) :

IV -30°C J	46

APPROVALS :

-

SF-65 x SW-M12K

AWS A5.17 F7A2-EM12K
JIS Z3183 S502-H
EN --

SUBMERGED ARC WELDING WIRE AND FLUX FOR 490N/mm2 HIGH TENSILE STEEL

DESCRIPTION :

SF-65 is a neutral flux designed for multi-pass groove welds with excellent bead appearance, easy slag removal good porosity resistance and in deep groove applications. It produces good impact property and minimum 500 N/mm2 tensile when used with SW-M12K wire.

APPLICATIONS :

Typical applications include pressure vessels, shipbuilding and steel structures.

NOTE ON USAGE :

1. Re-dry the flux at 350°C for 60 minutes prior to use.
2. Lower current is recommended for welding first pass.
3. It can be used for either single arc AC or DC welding or multiple arc DC lead, AC trail arc.

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Carbon (C)	0.08
Manganese (Mn)	1.61
Silicon (Si)	0.53
Phosphorus (P)	0.018
Sulphur (S)	0.015

TYPICAL MECHANICAL PROPERTIES OF WELD METAL :

YP N/mm2	460
TS N/mm2	560
EL%	29

TYPICAL IMPACT VALUES (with SW-M12K Wire) :

IV -30°C J	55

APPROVALS :

-

SF-65 x SW-H14

AWS A5.17 F7A2-EH14
JIS Z3183 S502-H
EN --

SUBMERGED ARC WELDING WIRE AND FLUX FOR 490N/mm2 HIGH TENSILE STEEL

DESCRIPTION :

SF-65 is a neutral flux for butt or fillet submerged arc welding in combination with SW-H14. It can provide nice bead appearance, easy slag removal and good porosity resistance.

APPLICATIONS :

Typical applications include pressure vessels, shipbuilding, boilers, bridges and steel structures.

NOTE ON USAGE :

1. Re-dry the flux at 350°C for 60 minutes prior to use.
2. Lower current is recommended for welding first pass.
3. It can be used for either single arc AC or DC welding or multiple arc DC lead, AC trail arc.

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Carbon (C)	0.08
Manganese (Mn)	1.72
Silicon (Si)	0.24
Phosphorus (P)	0.016
Sulphur (S)	0.012

TYPICAL MECHANICAL PROPERTIES OF WELD METAL :

YP N/mm2	490
TS N/mm2	585
EL%	30

TYPICAL IMPACT VALUES (with SW-M12K Wire) :

IV -40°C J	48

APPROVALS :

-

SF-68 x SW-60G

AWS A5.23 F8A2-EG-G
JIS Z3183 S584-H
EN --

SUBMERGED ARC WELDING WIRE AND FLUX FOR ≧550N/mm2 HIGH TENSILE STEEL

DESCRIPTION :

SF-68 is a high basic agglomerated flux for submerged arc welding of 550N/mm2 high tensile steel.It is suitable for multi-layers submerged arc welding of thick plates. While welded with SW-60G, SF-68 can provide easy slag removal, smooth bead appearance, high welding efficiency and excellent mechanical property.

APPLICATIONS :

It is used for the joint welding of 550N/mm2 high tensile steel and pressure vessel.

NOTE ON USAGE :

1. Use of low electric current during the welding of the bottom layer so as to avoid the crack
2. Rebake flux at 350°C for 1hours after opening use
3. Appropriate new flux is required to add with the recycling used flux for maintaining the welding quality

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Carbon (C)	0.07
Manganese (Mn)	1.63
Silicon (Si)	0.52
Phosphorus (P)	0.021
Sulphur (S)	0.008
Molybdenum (Mo)	0.21

TYPICAL MECHANICAL PROPERTIES OF WELD METAL :

YP N/mm2	578
TS N/mm2	638
EL%	29

TYPICAL IMPACT VALUES :

IV -30°C (J)	71

SF-30 x SW-308/308L

AWS A5.9 ER308/308L
JIS Z3324 S308/308L
EN ISO 14343-A S 19 9 L

SUBMERGED ARC WELDING WIRE AND FLUX FOR STAINLESS STEEL

DESCRIPTION :

SF-30 is an agglomerated flux adding proper contents of alloying element to maintain the stability of the contents of ferrite in weld metal. It is designed for welding with stainless steel 308/308L to gain characteristics of great crack and corrosion resistibility and mechanical property, but also good weldability involved excellent slag removal, stable arc, smooth bead appearance and welding efficiency.

APPLICATIONS :

It is applied in submerged arc welding with stainless steel 308/308L.

NOTE ON USAGE :

1. Use of low heat input to get the corrosion resistibility and mechanical properties on heat-affected zone.
2. Rebake flux at 350°C for 1hours after opening use

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Carbon (C)	0.03
Manganese (Mn)	1.58
Silicon (Si)	0.65
Phosphorus (P)	0.017
Sulphur (S)	0.009
Nickel (Ni)	9.21
Chromium (Cr)	19.23

TYPICAL MECHANICAL PROPERTIES OF WELD METAL :

TS N/mm2	570
EL%	40

SF-30 x SW-309/309L

AWS A5.9 ER309/309L
JIS Z3324 S309/309L
EN ISO 14343-A S 23 12 L

SUBMERGED ARC WELDING WIRE AND FLUX FOR STAINLESS STEEL

DESCRIPTION :

SF-30 is an agglomerated flux adding proper contents of alloying element to maintain the stability of the contents of ferrite in weld metal. It is designed for welding with stainless steel 309/309L to gain characteristics of great crack and corrosion resistibility and mechanical property, but also good weldability involved excellent slag removal, stable arc, smooth bead appearance and welding efficiency.

APPLICATIONS :

It is applied in submerged arc welding with stainless steel 309/309L.

NOTE ON USAGE :

1. Use of low heat input to get the corrosion resistibility and mechanical properties on heat-affected zone.
2. Rebake flux at 350°C for 1hours after opening use

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Carbon (C)	0.03
Manganese (Mn)	1.48
Silicon (Si)	0.62
Phosphorus (P)	0.021
Sulphur (S)	0.010
Nickel (Ni)	13.32
Chromium (Cr)	23.25

TYPICAL MECHANICAL PROPERTIES OF WELD METAL :

TS N/mm2	567
EL%	41

SF-30 x SW-316/316L

AWS A5.9 ER316/316L
JIS Z3324 S316/316L
EN ISO 14343-A S 19 12 3 L

SUBMERGED ARC WELDING WIRE AND FLUX FOR STAINLESS STEEL

DESCRIPTION :

SF-30 is an agglomerated flux adding proper contents of alloying element to maintain the stability of the contents of ferrite in weld metal. It is designed for welding with stainless steel 316/316L to gain characteristics of great crack and corrosion resistibility and mechanical property, but also good weldability involved excellent slag removal, stable arc, smooth bead appearance and welding efficiency.

APPLICATIONS :

It is applied in submerged arc welding with stainless steel 316/316L.

NOTE ON USAGE :

1. Use of low heat input to get the corrosion resistibility and mechanical properties on heat-affected zone.
2. Rebake flux at 350°C for 1hours after opening use

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Carbon (C)	0.03
Manganese (Mn)	1.71
Silicon (Si)	0.41
Phosphorus (P)	0.023
Sulphur (S)	0.012
Nickel (Ni)	11.21
Chromium (Cr)	19.11
Molybdenum (Mo)	2.13

TYPICAL MECHANICAL PROPERTIES OF WELD METAL :

TS N/mm2	550
EL%	42

TYPICAL IMPACT VALUES :

IV (J) -196°C	40

SF-33 x SW-2209

AWS A5.9 ER2209
JIS --
EN ISO 14343-A S 22 9 3 N L

SUBMERGED ARC WELDING WIRE AND FLUX FOR STAINLESS STEEL

DESCRIPTION :

SF-33 is a basic agglomerated flux for the submerged arc welding of high-alloyed CrNiMo steel such as duplex stainless steel. While welded with SW-2209, SF-33 can provide great corrosion resistance and crack resistance. Good bead appearance, easy slag removal and excellent mechnical property can be obtained.

APPLICATIONS :

It is applied in submerged arc welding with 22%Cr duplex stainless steels such as UNS S31803 / Alloy 2205.

NOTE ON USAGE :

1. Use of lower current during the first pass welding so as to avoid the cracking
2. Rebake flux at 350°C for 1hours after opening use
3. Appropriate new flux is required to add with the recycling used flux for maintaining the welding quality

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

Carbon (C)	0.03
Manganese (Mn)	1.27
Silicon (Si)	0.49
Phosphorus (P)	0.026
Sulphur (S)	0.010
Nickel (Ni)	8.94
Chromium (Cr)	22.04
Molybdenum (Mo)	2.85
Nitrogen (N)	0.14

TYPICAL MECHANICAL PROPERTIES OF WELD METAL :

TS N/mm2	815
EL%	25

SFB-S300 X SB-308L SB-309L SB-316L

AWS --
JIS --
EN --

SUBMERGED ARC WELDING WIRE AND FLUX FOR STAINLESS STEEL

DESCRIPTION :

SFB-S300 is an agglomerated flux designed for submerged arc welding with strips whose dimension consists of 0.5×30-0.5×90, 0.4×30-0.4×60. In combination with SB-308L, SB-309L and SB-316L, this flux can provide excellent weldability, easy slag removal, smooth bead appearance and low dilution.

APPLICATIONS :

This flux is used for surfacing service in combination with stainless steel strip SB-308L, SB-309L and SB-316L by submerged arc welding in petrochemical, urea and nuclear equipment.

NOTE ON USAGE :

1. Re-mix with new flux properly while recycling old flux so as to secure the smooth bead appearance.
2. Rebake flux at 350°C for 1hours after opening use
3. Thickness of build up layer between 4 ~ 5mm.

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

	With SB-308L Second Layer	With SB-309L First Layer	With SB-316L Second Layer
Carbon (C)	0.025	0.024	0.020
Manganese (Mn)	1.43	1.25	1.41
Silicon (Si)	0.65	0.53	0.53
Phosphorus (P)	0.022	0.021	0.021
Sulphur (S)	0.006	0.005	0.009
Nickel (Ni)	9.86	11.83	12.61
Chromium (Cr)	19.25	20.22	19.13
Molybdenum (Mo)	--	--	2.27

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Dia. (mm)	0.5 x 60	0.4 x 50
Voltage (Volt)	28 ~ 32	28 ~ 32
Current (Amp)	700 ~ 1000	550 ~ 800
W.F.S. (mm/min)	140 ~ 220	140 ~ 220
Stick out (mm)	30 ~ 40	30 ~ 40

SFB-E300 X SB-308L SB-309L SB-316L

AWS --
JIS --
EN --

ELECTROSLAG WELDING WIRE AND FLUX FOR STAINLESS STEEL

DESCRIPTION :

SFB-E300 is an agglomerated flux designed for electro slag welding (ESW) with strips whose dimension consists of 0.5×30-0.5×90, 0.4×30-0.4×60. In combination with SB-308L, SB-309L and SB-316L, this flux can provide excellent weldability, easy slag removal, smooth bead appearance and low dilution.

APPLICATIONS :

This flux is used for surfacing service in combination with stainless steel strip SB-308L, SB-309L and SB-316L by electroslag welding (ESW) in petrochemical, urea, offshore platform and nuclear equipment.

NOTE ON USAGE :

1. Re-mix with new flux properly while recycling old flux so as to secure the smooth bead appearance.
2. Rebake flux at 350°C for 1hours after opening use
3. Thickness of build up layer between 4 ~ 5mm.

TYPICAL CHEMICAL COMPOSITION OF WELD METAL (wt%) :

	With SB-308L Second Layer	With SB-309L First Layer	With SB-316L Second Layer
Carbon (C)	0.019	0.023	0.021
Manganese (Mn)	1.33	1.32	1.45
Silicon (Si)	0.42	0.45	0.42
Phosphorus (P)	0.021	0.019	0.020
Sulphur (S)	0.005	0.004	0.006
Nickel (Ni)	11.83	12.58	12.73
Chromium (Cr)	20.45	20.72	19.25
Molybdenum (Mo)	--	--	2.42

SUGGESTED WELDING PARAMETERS (DC <+>)

Parameters \ Dia. (mm)	0.5 x 60	0.4 x 50
Voltage (Volt)	24 ~ 30	24 ~ 30
Current (Amp)	700 ~ 1000	550 ~ 800
W.F.S. (mm/min)	140 ~ 220	140 ~ 220
Stick out (mm)	30 ~ 40	30 ~ 40
Flux height (mm)	20 ~ 30	15 ~ 25