

S-777MX X H-14

Type : Neutral

Conformances

AWS A5.17/ ASME SFA5.17 F7A0-EH14
 JIS Z3183 S502-H
 EN ISO 14174 S A AR 1 / EN ISO 14171 S4
 KR 2M, 2YM
 ABS 2M, 2YM

LR 2M, 2YM
 BV A2M, A2YM
 DNV I1YM
 GL 2YM
 NK KAW2M, KAW52M

Applications

- LPG tanks
- Spiral pipes
- Agricultural implements

Features

- Easy to remove slag
- High speed welding
- Horizontal and flat fillet welding
- Density : 1.0g/cm³

Current

AC, DC +

Basicity Index

0.5

Packages (Flux)

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

Flux Composition

Consumable	Chemical Composition, wt%		
	Al ₂ O ₃ + TiO ₂	SiO ₂ + MnO	CaO + MgO
S-777MX	55	25	20

Diameter / Packaging

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)	✓			✓	✓			✓	✓					
6.4 (1/4)				✓	✓									

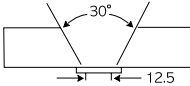
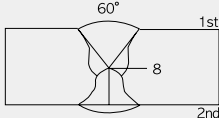
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	BM	Th.(mm)
H-14	0.08	0.53	0.94	0.021	0.014	SS400	25

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft-lbs)	BM	Th.(mm)
H-14	560 (81,000)	620 (90,000)	27	-18 (0)	48 (35)	SS400	25
	-	530 (76,900)	-	-5 (23)	72 (53)	SM490	20

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
H-14	4.0	25		1~13	570	30	40	AWS A5.17
H-14	4.8	20			800 850	36 37	25 45	Both Single pass

SWAW

SAW

GMAW

GTAW

FCAW

Non-FERROUS

APPENDIX

S-777MXT X H-14(M-12K)

Type : Neutral

Conformances

AWS A5.17/ ASME SFA5.17 F7A0-EH14
 AWS A5.17/ ASME SFA5.17 F7A(P)Z-EM12K
 EN ISO 14174 S A AR 1 / EN ISO 14171 S4[S2Si]

Applications

- LPG tanks
- Boiler(Fin tube)

Features

- Easy to remove slag
- High speed welding
- Density : 1.0g/cm³

Current

AC, DC +

Basicity Index

0.5

Packages (Flux)

Tin Can 20kg(44lbs)

PE Bag 20kg(44lbs)

Flux Composition

Consumable	Chemical Composition, wt%		
	Al ₂ O ₃ + Fe ₂ O ₃	TiO ₂ + MnO	SiO ₂ + CaO
S-777MXT	55	25	15

Diameter / Packaging

- H-14 : ✓
- M-12K : ○

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)	✓			✓○	✓○			✓○	✓○	○				
6.4 (1/4)				✓	✓									

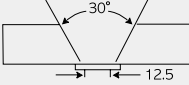
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	BM	Th.(mm)
H-14	0.09	0.52	1.18	0.023	0.013	SS400	25
M-12K	0.06	0.52	0.73	0.024	0.016	SS400	25

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	CVN-Impact Value J (ft-lbs)		BM	Th.(mm)
				0°C (32°F)	-18°C (0°F)		
H-14	550 (79,800)	600 (87,000)	29.8	65 (48)	41 (30)	SS400	25
M-12K	510 (74,000)	560 (81,200)	28.6	42 (31)	-	SS400	25

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
H-14 (M-12K)	4.0	25		1~13	570	30	40	AWS A5.17

SWAW

SAW

GM/AV

GTAW

FCAW

Non-FERROUS

APPENDIX

S-777MXT X A-2(B-2)

Type : Neutral

Conformances

AWS A5.23/ ASME SFA5.23 F8PZ-EA2-A2
 AWS A5.23/ ASME SFA5.23 F8PZ-EB2-B2
 EN ISO 14174 S A AR 1 / EN ISO 14171 S2Mo[S2CrMo1]

Applications

- Heat resistant steels
- Fin-tube

Features

- Easy to remove slag
- High speed welding
- Density : 1.0g/cm³

Current

AC, DC +

Basicity Index

0.5

Packages (Flux)

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

Flux Composition

Consumable	Chemical Composition, wt%		
	Al ₂ O ₃ + Fe ₂ O ₃	TiO ₂ + MnO	SiO ₂ + CaO
S-777MXT	55	25	15

Diameter / Packaging

- A-2 : ✓ • B-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)		✓		✓○	✓○	✓	✓		✓		✓	✓○	✓	✓

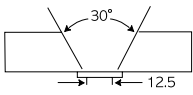
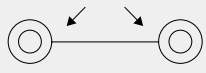
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	Cr	Mo	BM	Th.(mm)
A-2	0.05	0.68	0.75	0.020	0.010	-	0.46	SM570	25
B-2	0.05	0.68	0.75	0.020	0.010	1.06	0.44	A387-Gr11	25

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	PWHT	Temp °C(°F)	CVN-Impact Value J (ft.-lbs)	BM	Th.(mm)
A-2	580 (84,100)	640 (92,800)	28.0	As welded	-	-	SM570	25
B-2	630 (91,400)	720 (104,400)	20.8	As welded	0 (32)	32 (24)	A387-Gr.11	25
B-2	560 (81,200)	640 (92,800)	25.0	690°CX1hr	0 (32)	45 (33)	A387-Gr.11	25

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
A-2 (B-2)	4.0	25		1-13	570	30	40	AWS A5.23
B-2	2.4	12		1	400	28	100	Fin tube of boiler

SWAW

SAW

GM/AV

GTAW

FCAW

Non-FERROUS

APPENDIX

S-777MXH X H-14

Type : Neutral

Conformances

AWS A5.17/ ASME SFA5.17 F7A(P)2-EH14
 JIS Z3183 S502-H
 EN ISO 14174 S A AB 1 / EN ISO 14171 S4
 KR 2T, 2YT, 3M, 3YM
 ABS 2T, 2YT, 3M, 3YM
 LR 3M, 3YM, 2T, 2YT

BV A2T, A2YT, A3M, A3YM
 DNV I1YTH10, I1IYM H10
 GL 2YT, 3YM
 NK KAW3M, KAW53M
 KAW2T, KAW52T
 CWB CSA W48 F49A(P)3-EH14

Applications

- LPG tanks
- General fabrication
- Structural fabrication

Features

- Easy to remove slag
- High speed welding
- Horizontal and flat fillet welding
- Density : 1.2g/cm³

Current

AC, DC +

Basicity Index

0.9

Packages (Flux)

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

Flux Composition

Consumable	Chemical Composition, wt%		
	Al ₂ O ₃ + Fe ₂ O ₃	MgO + MnO	SiO ₂ + CaF ₂
S-777MXH	35	35	30

Diameter / Packaging

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)	✓			✓	✓			✓	✓					
6.4 (1/4)				✓	✓									

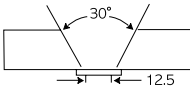
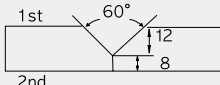
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	BM	Th.(mm)
H-14	0.07	0.30	1.37	0.028	0.021	SS400	25
	0.12	0.30	1.43	0.024	0.012	SM490	20

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft.-lbs)	BM	Th.(mm)
H-14	520 (75,500)	570 (87,700)	30	-29 (-20)	120 (88)	SS400	25
	-	560 (81,300)	-	0 (32)	70 (52)	SM490	20

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
H-14	4.0	25		1-13	570	30	40	AWS A5.17
H-14	4.8	20		1st 2nd	800 850	34 36	25 25	Both Side Single-pass

SAW

SAW

GMAW

GTAW

FCAW

Non-FERROUS

APPENDIX

S-777MXH X A-3

Type : Neutral

Conformances

AWS A5.23/ ASME SFA5.23 F8A4-EA3-A3

JIS Z3183 S584-H

EN ISO 14174 S A AB 1 / EN ISO 14171 S4Mo

Applications

- LPG tanks
- General fabrication
- Structural fabrication

Features

- Easy to remove slag
- High speed welding
- Horizontal and flat fillet welding
- Density : 1.2g/cm³

Current

AC, DC +

Basicity Index

0.9

Packages (Flux)

Tin Can 20kg(44lbs)

PE Bag 20kg(44lbs)

Flux Composition

Consumable	Chemical Composition, wt%		
	Al ₂ O ₃ + Fe ₂ O ₃	MgO + MnO	SiO ₂ + CaF ₂
S-777MXH	35	35	30

Diameter / Packaging

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)				✓	✓			✓						

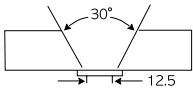
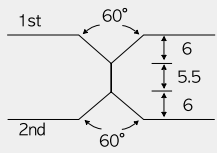
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	Mo	BM	Th.(mm)
A-3	0.04	0.28	1.30	0.025	0.015	0.50	SM570	25

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft-lbs)	BM	Th.(mm)
A-3	630 (91,500)	660 (95,900)	26	-40 (-40)	40 (30)	SM570	25
	-	640 (93,000)	-	-20 (-4)	70 (52)	API5Lx65	17.5

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
A-3	4.0	25		1~13	570	30	40	AWS A5.23
A-3	L(DC+):4.0	17.5		1st	(L)770 (T)640	32 40	110	Both Side Single-pass (tandem)
	T(AC):4.0			2nd	(L)1050 (T)750	32 42		

SWAW

SAW

GMAW

GTAW

FCAW

Non-FERROUS

APPENDIX

S-727 X L-8(L-12)

Type : Active

Conformances

AWS A5.17/ ASME SFA5.17 F7A2-EL8(EL12)

JIS Z3183 S502-H

EN ISO 14174 S A AB 1 / EN ISO 14171 S1

KR 2TM, 2YTM

ABS 2TM, 2YTM

2TM, 2YTM(Two-run tech : Max 5.0mm) (L-12)

LR 2TM, 2YTM

2YMH5 (L-12)

BV A2TM, A2YTM

DNV IIYTM

GL 2YTM

NK KAW2TM, KAW52TM

Applications

- Steel industry
- General fabrications

Features

- Good resistance to porosity on rust, scales and primers
- Fillet welding of thin and medium plates
- Density : 1.2g/cm³

Current

AC, DC +

Basicity Index

1.1

Packages (Flux)

Tin Can 20kg(44lbs)

PE Bag 20kg(44lbs)

Flux Composition

Consumable	Chemical Composition, wt%			
	MgO + MnO	CaF ₂ + CaO	Al ₂ O ₃ + SiO ₂	TiO ₂ + FeO
S-727	20	10	50	15

Diameter / Packaging

- L-8 : ✓
- L-12 : ○

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)				✓	✓					✓	✓			
6.4 (1/4)										✓	✓			

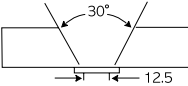
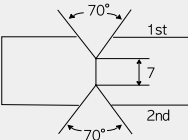
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	BM	Th.(mm)
L-8	0.08	0.35	1.45	0.030	0.020	SS400	25

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft-lbs)	BM	Th.(mm)
L-8	480 (69,400)	560 (81,000)	30	-29 (-20)	50 (30)	SS400	25
	-	550 (79,900)	-	0 (32)	50 (30)	SM490A	28

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
L-8	4.0	25		1~14	570	30	40	AWS A5.17
L-8	4.8	20		1st 2nd	880 970	34 35	28 33	Both side Single pass

SWAW

SAW

GMAW

GTAW

FCAW

Non-FERROUS

APPENDIX

S-707 X L-8

Type : Active

Conformances

AWS A5.17/ ASME SFA5.17 F7A4-EL8

JIS Z3183 S502-H

EN ISO 14174 S A AB 1 / EN ISO 14171 S1

KR 3TM, 3YTM

ABS 3TM, 3YTM

LR 3TM, 3YTM

BV A3TM, A3YTM

DNV IIIYTM

GL 3YTM

NK KAW3TM, KAW53TM

RS 3YTM

Applications

- Shipbuilding

Features

- Both side single-layer welding
- Low consumption of flux
- Density : 1.1g/cm³

Current

AC, DC +

Basicity Index

1.6

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-707	15	30	40	15

Diameter / Packaging

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)				✓	✓					✓	✓			
6.4 (1/4)										✓	✓			

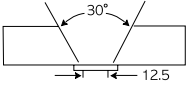
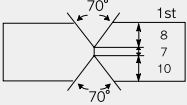
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	BM	Th.(mm)
L-8	0.07	0.40	1.40	0.028	0.015	SS400	25
	0.08	0.32	1.29	0.015	0.014	AH36	25

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft.-lbs)	BM	Th.(mm)
L-8	490 (71,000)	560 (81,000)	31	-40 (-40)	70 (52)	SS400	25
	-	570 (82,800)	-	-20 (-4)	40 (30)	AH36	25

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
L-8	4.0	25		1-13	570	30	40	AWS A5.17
L-8	4.8	25		1st 2nd	950 1100	34 37	40 30	Both side Single pass

SWAW

SAW

GM/AV

GTAW

FCAW

Non-FERROUS

APPENDIX

S-737 X H-14

Type : Neutral

Conformances

AWS A5.17/ ASME SFA5.17 F7A(P)4-EH14
 JIS Z3183 S502-H
 EN ISO 14174 S A AB 1 / EN ISO 14171 S4
 KR 3M, 3YM

ABS 3M, 3YM
 LR 3M, 3YM
 DNV IIIYM
 GL 3YM

Applications

- Storage tanks
- Pressure vessels
- Shipbuilding

Features

- Good performance and bead appearance
- Easy to remove slag
- Density : 1.1g/cm³

Current

AC, DC +

Basicity Index

1.6

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

Diameter / Packaging

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)	✓			✓	✓			✓	✓					
6.4 (1/4)				✓	✓									

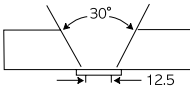
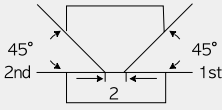
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	BM	Th.(mm)
H-14	0.08	0.31	1.60	0.025	0.019	SS400	25
	0.07	0.40	1.53	0.020	0.013	SM490	28

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft.-lbs)	BM	Th.(mm)
H-14	510 (74,000)	570 (82,800)	31	-40 (-40)	110 (81)	SS400	25
	-	540 (78,400)	-	-20 (-4)	60 (44)	SM490	28

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
H-14	4.0	25		1-13	570	30	40	AW A5.17
H-14	3.2	28		1	450	28	35	1st
				2-4	500	26	50	
				5	450	28	35	Horizontal ML
				6-8	500	26	50	

SWAW

SAW

GM/AV

GTAW

FCAW

Non-FERROUS

APPENDIX

S-717 X M-12K

Type : Neutral



Conformances

AWS A5.17/ ASME SFA5.17 F7A(P)6-EM12K

JIS Z3183 S502-H

EN ISO 14174 S A AB 1 / EN ISO 14171 S2Si

KR 3M, 3YM

ABS 3M, 3YM

LR 3YM

BV A3, A3YM

DNV IIIYM

GL 3YM

NK KAW53M

RS 3YM

CWB CSA W48 F49A(P)5-EM12K

TÜV EN ISO 14174 - S A AB 1

EN ISO 14171-A - S2Si

CE

DB DIN EN 760-S A AB1

DIN EN ISO 14171-A-S2Si

Applications

- Pressure vessels
- Windtower
- Structural steels

Features

- Good performance with thick plates
- Good resistance to crack
- Density : 1.1g/cm³

Current

AC, DC +

Basicity Index

1.9

Packages (Flux)

Tin Can 20kg(44lbs)

PE Bag 20kg(44lbs)

Flux Composition

Consumable	Chemical Composition, wt%			
	SiO ₂ + TiO ₂	Al ₂ O ₃ + MnO	CaO + MgO	CaF ₂
S-717	10	30	35	10

Diameter / Packaging

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)				✓	✓				✓	✓	✓								

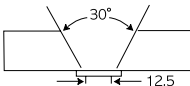
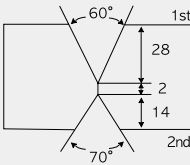
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	BM	Th.(mm)
M-12K	0.09	0.26	1.40	0.023	0.004	SS400	25
	0.08	0.54	1.47	0.025	0.018	BS4360-Gr,50D	44

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft-lbs)	BM	Th.(mm)
M-12K	555 (80,500)	614 (89,100)	29	-51 (-60)	60 (44)	SS400	25
	510 (74,000)	580 (84,200)	28	-20 (-4)	70 (52)	BS4360-Gr,50D	44

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
M-12K	4.0	25		1-13	570	30	40	AWS A5.17
M-12K	4.0	44		1	500	32	40	1st
				2-14	600	36	50	
				15 16-23	500 600	32 36	40 50	Back Gouging 2nd

SWAW

SAW

GM/AV

GTAW

FCAW

Non-FERROUS

APPENDIX

S-707T X H-14

Type : Neutral



Conformances

AWS A5.17/ ASME SFA5.17 F7A(P)6-EH14
 JIS Z3183 S502-H
 EN ISO 14174 S A AB 1 / EN ISO 14171 S4
 KR 3T, 3YT, 4YM
 ABS 4YM, 3T, 3YT
 LR 4YM, 3T, 3YT

BV A4YM, A3T, A3YT
 DNV IVYM, IIIYT
 GL 4YM, 3YT
 NK KAW53T, KAW54M
 RS 3T, 3YT, 4Y40T, 4Y40M H10
 CE

Applications

- Shipbuilding

Features

- Both side single-layer welding
- Low consumption of flux
- 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 + Al ₂ O ₃	MgO + CaF ₂ + CaO	MnO + FeO
S-707T	50	45	5

Diameter / Packaging

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)	✓			✓	✓			✓	✓								
6.4 (1/4)				✓	✓												

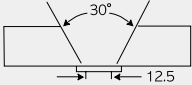
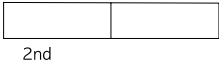
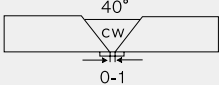
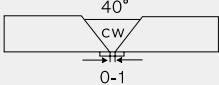
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	BM	Th.(mm)
H-14	0.10	0.37	1.54	0.020	0.012	SS400	25
	0.14	0.41	1.43	0.018	0.008	EH36	20
	0.11	0.29	1.52	0.018	0.009	DH36	25

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)
					0°C (32°F)	-20°C (-4°F)	-51°C (-60°F)		
H-14	570 (82,800)	605 (87,900)	28.0	-	-	-	80 (59)	SS400	25
	-	570 (82,800)	-	BM	-	50 (37)	-	EH36	20
	-	580 (84,200)	23.0	-	70 (52)	-	-	DH36	25

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
H-14	4.0	25		1-13	550	30	40	AWS A5.17
H-14	4.8	20		1st	L(DC+) 1100	37	100	Tandem
				T(AC) 700	42			
H-14	4.8	25		2nd	L(DC+) 1200	37	100	SL
				T(AC) 700	42			
H-14	4.8	25		1	1150	35	20	FAB OSW (DC+)

S-707TP X H-14

Type : Neutral

Conformances

AWS A5.17/ ASME SFA5.17 F7A(P)6-EH14
 JIS Z3183 S502-H
 EN ISO 14174 S A AB 1 / EN ISO 14171 S4
 KR 3M, 3YM
 ABS 3M, 3YM

LR 3M, 3YM
 BV A3M, A3YM
 DNV IIIYM
 GL 3YM
 NK KAW3M, KAW53M

Applications

- Shipbuilding
- Machinery
- Pressure vessels

Features

- Good mechanical properties with multi-layer welding
- Good bead appearance in low speed welding with high currents
- Density : 1.2g/cm³

Current

AC, DC +

Basicity Index

1.8

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-707TP	20	35	30	15

Diameter / Packaging

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)	✓			✓	✓			✓	✓					
6.4 (1/4)				✓	✓									

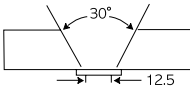
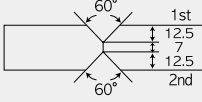
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	BM	Th.(mm)
H-14	0.09	0.25	1.40	0.020	0.016	SS400	25
	0.11	0.29	1.60	0.022	0.014	EH36	32

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft.-lbs)	BM	Th.(mm)
H-14	510 (74,000)	570 (82,800)	28	-51 (-60)	80 (59)	SS400	25
	550 (76,800)	590 (85,700)	-	-40 (-40)	60 (44)	EH36	32

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
H-14	4.0	25		1-13	570	30	40	AWS A5.17
H-14	4.8	32		1	200	28	20	(FCAW)
				2	280	32	25	(FCAW)
				3	600	32	35	Both
				4-8	700	34	40	Multi-
				9~	800	36	40	pass

SWAW

SAW

GM/AV

GTAW

FCAW

Non-FERROUS

APPENDIX

S-787TB X H-14

Type : Neutral



Conformances

AWS A5.17/ ASME SFA5.17 F7A(P)8-EH14
 JIS Z3352 S A FB 1
 EN ISO 14174 S A FB 1 / EN ISO 14171 S4
 KR 3T, 3YT, 4Y40M (-60°C ≥41 J)
 ABS 3T, 3YT, 5Y400M
 LR 3YT, 5Y40M
 BV A5Y40M, A3T, A3YT

DNV VY40M H10, IIIYT (35t),
 VYT (20t)
 GL 6Y40M, 3YT
 NK KAWL3TM, KAW54Y40M
 CWB CSA W48 F49A(P)6-EH14
 CE

Applications

- Offshore structure
- Pressure vessels
- Cryogenic applications

Features

- Good impact value at low temperature
- Good resistance to pockmark and porosity
- Density : 1.2g/cm³

Current

AC, DC +

Basicity Index

2.4

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-787TB	15	55	15	15

Diameter / Packaging

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)	✓			✓	✓			✓	✓					
6.4 (1/4)				✓	✓									

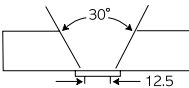
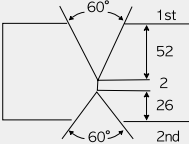
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	Ti	B	BM	Th.(mm)
H-14	0.09	0.25	1.53	0.020	0.015	0.020	0.0020	SS400	25
	0.06	0.12	1.12	0.012	0.005	0.021	0.0024	API-2HGr.50	80

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft.-lbs)	BM	Th.(mm)
H-14	580 (84,200)	620 (90,000)	31	-62 (-80)	90 (66)	SS400	25
	470 (68,200)	550 (76,800)	34	-40 (-40)	90 (66)	API-2H Gr.50	80
				-62 (-80)	70 (52)		

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
H-14	4.0	25		1-13	570	30	40	AWS A5.17
H-14	4.0	80		1	220	26	55	(FCAW)
				2	450	28	30	1st
				3-25	600	34	30	
				26	450	28	30	2nd
	27-36	600	34	30				

Superflux55ULT X H-14

Type : Neutral



Conformances

AWS A5.17/ ASME SFA5.17 F7A(P)8-EH14
 JIS Z3183 S502-H
 EN ISO 14174 S A FB 1 / EN ISO 14171 S4
 KR 4Y40M H5 (-60°C ≥41 J)
 ABS 5Y400MH5, 4YT
 LR 4YT, 4Y40M H5
 BV A5Y40M HHH, A4YT
 DNV VY40MH5, IVYT / VYT (T:t≤20mm)

GL 6Y40H5M, 4YT
 NK KAW54T, KAW54Y40MH5
 (-60°C ≥41 J)
 TÜV EN ISO 14174 - S A FB 1
 EN ISO 14171-A - S4
 RS 5YT, 4Y40T, 5Y40M H5
 CE
 DB DIN EN 760-S A FB1
 DIN EN ISO 14171-A-S4

Applications

- Offshore
- Shipbuilding
- Cryogenic applications

Features

- Good impact value and CTOD at low temperature
- Low hydrogen content
- Tandem, multi-electrode applicable
- Density : 1.2g/cm³

Current

AC, DC +

Basicity Index

2.5

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
Superflux55ULT	20	40	20	15

Diameter / Packaging

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)	✓			✓	✓			✓	✓									
6.4 (1/4)				✓	✓													

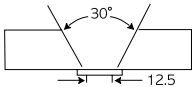
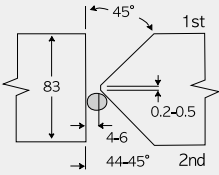
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	Ti	B	BM	Th.(mm)
H-14	0.09	0.21	1.34	0.019	0.012	0.018	0.0015	SS400	25
	0.08	0.26	1.40	0.020	0.009	0.020	0.0018	EH36-TM	83

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)
					-40°C (-40°F)	-62°C (-80°F)		
H-14	530 (76,900)	580 (84,200)	30	-	-	120 (88)	SS400	25
	510 (74,000)	570 (82,800)	32	-	150 (110)	110 (81)	EH36-TM	83

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks			
H-14	4.0	25		1-13	570	30	40	AWS A5.17			
H-14	4.8	83		1	220	25	21	(FCAW)			
				2	270	30	25	(FCAW)			
				3	550	30	35	Both Side Multi-pass			
				4-27	650	34	40				
								Back Gouging			
				28	550	30	35				
29-51	650	34	40								

Superflux787 X H-12K

Type : Neutral

Conformances

AWS A5.17/ ASME SFA5.17 F7A(P)8-EH12K
 JIS Z3183 S502-H
 EN ISO 14174 S A FB 1 / EN ISO 14171 S3Si

Applications

- Offshore
- Pressure vessels
- Pipeline

Features

- Low hydrogen content
- Tandem, multi-electrode applicable
- Good impact value at low temperature after heat treatment
- Density : 1.2g/cm³

Current

AC, DC +

Basicity Index

2.5

Packages (Flux)

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

Flux Composition

Consumable	Chemical Composition, wt%		
	MgO + MnO	CaF ₂ + CaO	Al ₂ O ₃ + SiO ₂
Superflux787	35	35	30

Diameter / Packaging

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)	✓													
2.4 (3/32)				✓										
3.2 (1/8)				✓	✓	✓								
4.0 (5/32)				✓	✓	✓		✓	✓		✓	✓	✓	✓

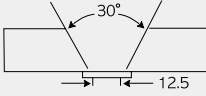
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	BM	Th.(mm)
H-12K	0.09	0.30	1.50	0.018	0.010	AH36	25

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	PWHT condition	Temp °C(°F)	CVN-Impact Value J (ft.-lbs)	BM	Th.(mm)
H-12K	540 (78,400)	580 (84,200)	32.0	-	-62 (-80)	101 (75)	AH36	25
	450 (45,300)	520 (75,500)	33.0	620°C×1hr	-62 (-80)	110 (81)	AH36	25

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
H-12K	4.0	25		1-13	570	30	40	AWS A5.17

SMW

SAW

GMAW

GTAW

FCAW

Non-FERROUS

APPENDIX

Superflux787 X H-14

Type : Neutral

Conformances

AWS A5.17/ ASME SFA5.17 F7A(P)8-EH14
 JIS Z3183 S502-H
 EN ISO 14174 S A FB 1 / EN ISO 14171 S4
 KR 4YM
 ABS 3M, 4YM
 LR 3M, 4YM

BV A4YM
 DNV IVYM
 GL 4YM
 NK KAW54M
 CCS 4YM

Applications

- Offshore
- Pressure vessels
- Pipeline

Features

- Low hydrogen content
- Tandem, multi-electrode applicable
- Good impact value at low temperature after heat treatment
- Density : 1.2g/cm³

Current

AC, DC +

Basicity Index

2.5

Packages (Flux)

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

Flux Composition

Consumable	Chemical Composition, wt%		
	MgO + MnO	CaF ₂ + CaO	Al ₂ O ₃ + SiO ₂
Superflux787	35	35	30

Diameter / Packaging

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)	✓			✓	✓			✓	✓					
6.4 (1/4)				✓	✓									

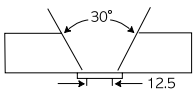
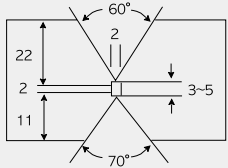
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	BM	Th.(mm)
H-14	0.10	0.07	1.43	0.018	0.010	SS400	25
	0.06	0.13	1.37	0.016	0.007	SM490	39

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft-lbs)	BM	Th.(mm)
H-14	470 (68,200)	560 (81,300)	26	-62 (-80)	130 (96)	SS400	25
	-	550 (76,800)	-	-40 (-40)	80 (59)	SM490	39
	-	-	-	-62 (-80)	50 (37)		

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
H-14	4.0	25		1-13	570	30	40	AWS A5.17
H-14	4.0	39		1	500	28	35	1st
				2-7	600	32	30	
				Back Gouging				8
				9-13	600	32	30	2nd

S-787TT X H-12K(H-14)

Type : Neutral

Conformances

AWS A5.17/ ASME SFA5.17 F7A(P)8-EH12K
 AWS A5.17/ ASME SFA5.17 F7A(P)8-EH14
 JIS Z3183 S502-H
 EN ISO 14174 S A AB 1 / EN ISO 14171 S3Si[S4]

Applications

- Shipbuilding
- Offshore
- Pipeline

Features

- Single and multi electrode welding applicable
- Good impact value at low temperature
- Density : 1.2g/cm³

Current

AC, DC +

Basicity Index

2.4

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-787TT	20	50	15	15

Diameter / Packaging

- H-12K : √ • H-14 : ○

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)	○			○	○			○	○					
6.4 (1/4)				○	○									

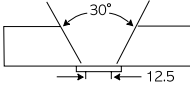
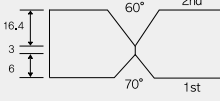
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	BM	Th.(mm)
H-12K	0.10	0.31	1.33	0.019	0.007	SS400	25
H-12K	0.09	0.28	1.46	0.013	0.016	API 2H Gr.50	25.4
H-14	0.10	0.11	1.41	0.019	0.005	SS400	25

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)
					-50°C (-58°F)	-62°C (-80°F)		
H-12K	510 (74,000)	590 (85,600)	26	-	-	100 (74)	SS400	25
H-12K	-	560 (81,200)	-	BM	110 (81)	-	API 2H Gr.50	25.4
H-14	521 (75,600)	550 (79,800)	29	-	-	120 (89)	SS400	25

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
H-12K (H-14)	4.0	25		1~13	570	30	40	AWS A5.17
H-12K	L(DC+):4.0 T(AC):4.0	25.4		1st 1 2 3-4	(L)580 (T)500 (L)750 (T)550 (L)700 (T)550	32 32 34 32 34	60 50 60	Both Side Multi-pass

Superflux55LP X H-14

Type : Neutral

Conformances

AWS A5.17/ ASME SFA5.17 F7A(P)8-EH14
 JIS Z3183 S502-H
 EN ISO 14174 S A AB 1 / EN ISO 14171 S4
 ABS 5Y400M H10

LR 4Y40M H10
 BV A5Y40M HH
 DNV VY40M H10
 GL 6Y40M H10

Applications

- Shipbuilding
- Offshore structure

Features

- Good impact value and CTOD at low temperature
- Density : 1.2g/cm³

Current

AC, DC +

Basicity Index

2.5

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
Superflux55LP	20	45	20	10

Diameter / Packaging

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)	✓			✓	✓			✓	✓					
6.4 (1/4)				✓	✓									

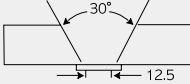
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	Mo	BM	Th.(mm)
H-14	0.10	0.15	1.45	0.020	0.005	-	SS400	25

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)
					-51°C (-60°F)	-55°C (-67°F)	-62°C (-80°F)		
H-14	495 (71,800)	560 (81,200)	29	-	-	-	150 (110)	SS400	25

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
H-14	4.0	25		1-13	570	30	40	AWS A5.17

SMW

SAW

GMW

GTAW

FCAW

Non-FERROUS

APPENDIX

Superflux800T X M-12K(A-2)

Type : Neutral



Conformances

AWS A5.17 / ASME SFA5.17 F7A8-EM12K
 AWS A5.23 / ASME SFA5.23 F8A4-EA2-A3
 EN ISO 14174 S A AB 1 / EN ISO 14171 S2Si[S2Mo]
 TÜV EN ISO 14174 - S A FB 1 / EN ISO 14171-A - S2Si
 EN 756 - S2 Mo

CE
 DB DIN EN 760-S A FB1
 DIN EN ISO 14171-A-S2Si (M-12K)
 DIN EN ISO 14171-A-S2Mo (A-2)

Applications

- Windtower
- Power plant

Features

- Good bead appearance
- Easy to remove slag
- Low consumption of flux
- Density : 1.1g/cm³

Current

AC, DC +

Basicity Index

2.4

Packages (Flux)

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

Flux Composition

Consumable	Chemical Composition, wt%			
	SiO ₂ + TiO ₂	Al ₂ O ₃ + MnO	CaO + MgO	CaF ₂
Superflux800T	10	30	40	15

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)				√	√			√	√	√				

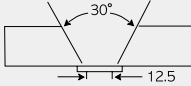
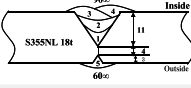
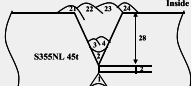
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	Mo	BM	Th.(mm)
M-12K	0.09	0.35	1.40	0.023	0.006	-	SM490	25
A-2	0.09	0.24	1.48	0.020	0.006	0.43	SM570	25
M-12K	0.10	0.35	1.40	0.020	0.007	-	S355NL	45

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)
					-40°C (-40°F)	-50°C (-58°F)	-60°C (-76°F)		
M-12K	530 (76,700)	570 (82,700)	29	-	-	-	100 (74)	SM490	25
A-2	630 (91,400)	660 (95,700)	24	-	70 (52)	-	-	SM570	25
M-12K	-	550 (79,800)	-	BM	-	60 (44)	-	S355NL	45

Typical Welding Conditions

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
M-12K	4.0	18		In 1 2-4 Out 5	550 600 650	28 32 34	40 40 40	Both Side Multi- pass
M-12K	4.0	45		In 1 2-24 Out 25 26-27	600-650 650 650	30-32 30 32	40-45 40 35	Both Side Multi- pass Sealing : SM-70(1.2mm)

SWAW

SAW

GMAW

GTAW

FCAW

Non-FERROUS

APPENDIX

S-800WT X M-12K

Type : Neutral



Conformances

AWS A5.17/ ASME SFA5.17 F7A8-EM12K

EN ISO 14174 S A FB 1 / EN ISO 14171 S2Si

TÜV EN ISO 14174 - S A FB 1 / EN ISO 14171-A - S2Si

CE

CWB CSA W48 F49A(P)6-EM12K

DB DIN EN 760-S A FB1

DIN EN ISO 14171-A-S2Si

Applications

- Windtower
- Power plant

Features

- Good bead appearance
- Easy to remove slag
- Low consumption of flux
- Density : 1.1g/cm³

Current

AC, DC +

Basicity Index

2.7

Packages (Flux)

Tin Can 20kg(44lbs)

PE Bag 20kg(44lbs)

Flux Composition

Consumable	Chemical Composition, wt%			
	SiO ₂ + TiO ₂	Al ₂ O ₃ + MnO	CaO + MgO	CaF ₂
S-800WT	10	30	40	15

Diameter / Packaging

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)				✓	✓			✓	✓	✓				

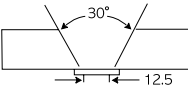
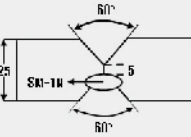
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	Ti	B	BM	Th.(mm)
M-12K	0.090	0.20	1.45	0.020	0.010	0.008	0.0020	SM490	25

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	Position of fracture	Temp °C(°F)	CVN-Impact Value J (ft.-lbs)	BM	Th.(mm)
M-12K	520 (75,400)	570 (82,700)	32.0	-	-60 (-76)	130 (95)	SM490	25
	-	550 (79,800)		BM	-60 (-76)	100 (74)	S355NL	25

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
M-12K	4.0	25		1~13	570	30	40	AWS A5.17
M-12K	4.8	25		1	320	28	70	SM-1N
				1st	(L)750 (T)650	28	60	Both Side
				2nd	(L)900 (T)650	32	65	Single-pass
						38	65	(tandem)

Superflux600 X H-14(A-3)

Type : Neutral

Conformances

AWS A5.17/ ASME SFA5.17 F7A(P)6-EH14
 JIS Z3183 S502-H
 AWS A5.23/ ASME SFA5.23 F8A(P)4-EA3-G
 JIS Z3183 S584-H
 EN ISO 14174 S A AB 1 / EN ISO 14171 S4[S4Mo]

Applications

- Structure fabrication (HSB500(SM490) and HSB600(SM570))

Features

- Good bead appearance
- Easy to remove slag
- Good resistance to pockmarks and pits
- Density : 1.2g/cm³

Current

AC, DC +

Basicity Index

1.9

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
Superflux600	15	35	25	20

Diameter / Packaging

- H-14 : ✓ • A-3 : ○

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)	✓			✓○	✓○			✓○	✓					
6.4 (1/4)				✓	✓									

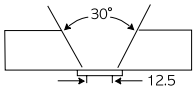
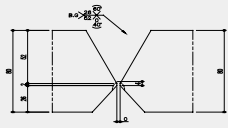
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	Mo	BM	Th.(mm)
H-14	0.08	0.20	1.50	0.020	0.006	-	SS400	25
A-3	0.07	0.21	1.45	0.018	0.006	0.45	SM570	25
A-3	0.05	0.28	1.50	0.017	0.003	0.42	HSB600	80

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)	-40°C (-40°F)	-51°C (-60°F)		
H-14	516 (74,800)	558 (80,900)	31	-	-	-	150 (111)	SS400	25
A-3	621 (90,100)	660 (95,700)	27	-	-	120 (89)	-	SM570	25
A-3	-	632 (91,700)	-	B.M.	100 (74)	-	-	HSB600	45

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
H-14 (A-3)	4.0	25		1-13	570	30	40	AWS A5.17/ A5.23
A-3	4.8	80		1 2-18 19-26	500 550-650 500-650	28 28-32 28-32	40 18-40 20-40	Both Side Multi- pass

SWAW

SAW

GMAW

GTAW

FCAW

Non-FERROUS

APPENDIX

S-800MX X A-G(A-3)

Type : Neutral

Conformances

AWS A5.23/ ASME SFA5.23 F8A0-EG-G
 JIS Z3183 S502-H
 AWS A5.23/ ASME SFA5.23 F8AZ-EA3-G
 JIS Z3183 S582-H
 EN ISO 14174 S A AR 1 / EN ISO 14171 S4[S4Mo]

Applications

- Structural fabrication

Features

- Easy to remove slag
- Tandem welding applicable (H-beam)
- Density : 1.0g/cm³

Current

AC, DC +

Basicity Index

0.8

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
S-800MX	40	20	35

Diameter / Packaging

- A-G : ✓ • A-3 : ○

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)				√○	√○			√○						

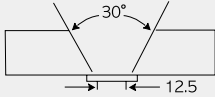
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	Mo	BM
A-G	0.09	0.40	1.20	0.025	0.010	-	SM520B
A-3	0.08	0.35	1.15	0.020	0.010	0.45	SM570

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	CVN-Impact Value J (ft-lbs)		BM	Th.(mm)
				0°C (32°F)	-18°C (0°F)		
A-G	590 (85,600)	630 (91,400)	27	-	120 (89)	SM520B	25
A-3	650 (94,300)	690 (100,000)	25	80 (59)	-	SM570	25

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
A-G (A-3)	4.0	25		1-13	570	30	40	AWS A5.23

S-800P X M-12K(H-14)

Type : Neutral

Conformances

AWS A5.17/ ASME SFA 5.17 F7A2-EM12K
 JIS Z3183 S502-H
 AWS A5.17/ ASME SFA 5.17 F7A(P)6-EH14
 JIS Z3183 S502-H
 EN ISO 14174 S A AB 1 / EN ISO 14171 S2Si[S4]

Applications

- Structural fabrication
- Pipe line

Features

- Easy to remove slag
- Tandem welding applicable (H-beam)
- Density : 1.2g/cm³

Current

AC, DC +

Basicity Index

1.9

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 + CaF ₂
S-800P	20	40	35

Diameter / Packaging

- M-12K : √ • H-14 : ○

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)	○			√○	√○			√○	√○	√				
6.4 (1/4)				○	○									

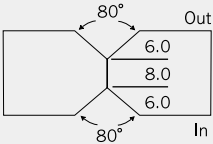
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S
M-12K	0.08	0.47	1.06	0.024	0.012
H-14	0.10	0.29	1.56	0.022	0.011

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	CVN-Impact Value J (ft-lbs)	
				-30°C (-22°F)	-50°C (-58°F)
M-12K	460 (66,800)	540 (78,400)	32.0	80 (59)	-
H-14	490 (71,100)	570 (82,800)	30.0	120 (88)	80 (59)

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
M-12K	4.8	20		1st	800	34	40	Both Side Single-pass
(H-14)				2nd	900	36	35	

S-800P X A-G(A-3)

Type : Neutral

Conformances

AWS A5.23/ ASME SFA5.23 F8A4-EG-G
 JIS Z3183 S582-H
 AWS A5.23/ ASME SFA5.23 F8A4(P2)-EA3-G
 JIS Z3183 S584-H
 EN ISO 14174 S A AB 1 / EN ISO 14171 S4[S4Mo]

Applications

- Pipe line
- Structural fabrication

Features

- Easy to remove slag
- Tandem welding applicable (H-beam)
- Density : 1.2g/cm³

Current

AC, DC +

Basicity Index

1.9

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 + CaF ₂
S-800P	20	40	35

Diameter / Packaging

- A-G : ✓ • A-3 : ○

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
A-G	0.09	0.30	1.57	0.019	0.008	-
A-3	0.08	0.32	1.54	0.022	0.010	0.40

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	CVN-Impact Value J (ft-lbs)	
				-20°C (-4°F)	-40°C (-40°F)
A-G	520 (75,500)	610 (88,500)	28.0	160 (118)	100 (74)
A-3	630 (91,500)	680 (98,700)	24.0	80 (59)	70 (52)

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks			
A-G	4.8	20		1st 1	600	30	40	Both Side Multi- pass			
				2-4	600-650	30-32	30-35				
				Back Gouging			5		650	30	40
				2nd 6	650	32	35				
A-3	L(DC+):4.0 T(AC):4.0	17.5		1st	(L)850 (T)650	34 40	120	Both Side Single- pass (tandem)			
				2nd	(L)1000 (T)650	34 40	120				

S-800CM X B-2

Type : Neutral

Conformances

AWS A5.23/ ASME SFA5.23 F8P2-EB2-B2
EN ISO 14174 S A FB 1 / EN ISO 14171 S2CrMo1

Applications

- Heat resistant steels
- Boiler

Features

- Good resistance to porosity on rust, scales and primers
- Density : 1.0g/cm³

Current

AC, DC +

Basicity Index

3.2

Packages (Flux)

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

Flux Composition

Consumable	Chemical Composition, wt%		
	Al ₂ O ₃ + Fe ₂ O ₃	CaF ₂ + MgO	SiO ₂ + CaO
S-800CM	20	55	25

Diameter / Packaging

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)
2.0 (5/64)				✓	✓							✓	✓	
2.4 (3/32)		✓		✓	✓							✓		
3.2 (1/8)				✓								✓		
4.0 (5/32)				✓	✓							✓		

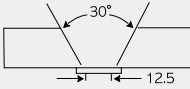
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	Cr	Mo	BM	Th.(mm)
B-2	0.08	0.25	0.84	0.017	0.004	1.21	0.45	A387 Grade II	25

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft-lbs)	BM	Th.(mm)
B-2	610 (88,500)	665 (96,400)	25.6	-29 (-20)	40 (34)	A387 Grade II	25

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
B-2	4.0	25		1-13	570	30	40	AWS A5.23

SMW

SAW

GMW

GTAW

FCAW

Non-FERROUS

APPENDIX

S-800SP X M-12K(A-2)

Type : Neutral

Conformances

AWS A5.17/ ASME SFA5.17 F7A4-EM12K
 JIS Z3183 S502-H
 AWS A5.23/ ASME SFA5.23 F9TA4G-A2 / F8A2-EA2-G
 JIS Z3183 S582-H
 EN ISO 14174 S A AB 1 / EN ISO 14171 S2Si[S2Mo]

Applications

- Pipe line

Features

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

Current

AC, DC +

Basicity Index

1.2

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-800SP	20	25	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)				√	√			√	√	√				

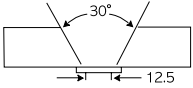
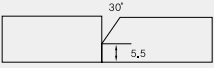
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	Mo	BM	Th.(mm)
M-12K	0.07	0.35	1.30	0.020	0.006	-	SS400	25
A-2	0.09	0.27	1.20	0.018	0.007	0.39	SM570	25
A-2	0.08	0.23	1.40	0.013	0.004	0.14	API 5L X65	11.1

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	505 (73,200)	587 (85,100)	28	-	-	-	70 (52)	SS400	25
A-2	580 (84,200)	654 (94,900)	26	-	-	80 (59)	-	SM570	25
A-2	-	590 (85,600)	-	BM	80 (59)	70 (52)	-	API 5L X65	11.1

Typical Welding Conditions

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	11.1		In side 1st	(L)1050 (T)620	34 40	200	Both Side Single- pass (tandem)
				Out side 2nd	(L)1000 (T)660	34 40		

S-900SP X M-12K(A-2)

Type : Neutral

Conformances

AWS A5.17/ ASME SFA5.17 F7A4(P2)-EM12K
 JIS Z3183 S502-H
 AWS A5.23/ ASME SFA5.23 F9A2-EA2-G
 JIS Z3183 S582-H
 EN ISO 14174 S A CS 1 / EN ISO 14171 S2Si[S2Mo]

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)				√	√			√	√	√				

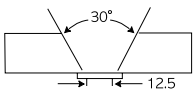
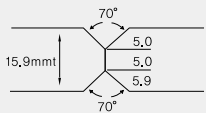
Typical Chemical Composition of All-Weld Metal(%)

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 Conditions

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 Out side 2nd	(L)980 (T)800 (L)1000 (T)780	34 38 39 40	100 110	Both Side Single- pass (tandem)

S-460Y X H-14

Type : Neutral

Conformances

AWS A5.23/ ASME SFA5.23 F8A8-EH14-G

JIS Z3183 S584-H

EN ISO 14174 S A FB 1 / EN ISO 14171 S4

KR 5Y46MH5

ABS 5YQ460M H5

LR 5Y46 H5

BV A5Y46M HHH

DNV VY46M(H5)

GL 6Y46MH5

NK KAW5Y46MH5,
KAW63Y47MH5
(-20°C ≥53J)

Applications

- Shipbuilding
- High strength steels (EH47)

Features

- Good impact value at low temperature and high tensile strength
- Single and multi electrode welding applicable
- Density : 1.2g/cm³

Current

AC, DC +

Basicity Index

2.5

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-460Y	20	40	20	15

Diameter / Packaging

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)	✓			✓	✓			✓	✓									
6.4 (1/4)				✓	✓													

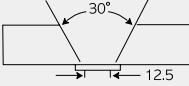
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	BM
H-14	0.10	0.28	1.50	0.020	0.005	SM570

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft-lbs)	BM	Th.(mm)
H-14	610 (88,500)	640 (92,800)	27.0	-60 (-76)	100 (74)	SM570	25

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
H-14	4.0	25		1-13	570	30	40	AWS A5.23

S-100 X F-3(M-4)

Type : Neutral

Conformances

AWS A5.23/ ASME SFA5.23 F9A(P)8-EF3-F3
AWS A5.23/ ASME SFA5.23 F11A(P)8-EG-M4
EN ISO 14174 S A FB 1 / EN ISO 14171 S3Ni1Mo

Applications

- Shipbuilding
- Offshore structure

Features

- Good impact value at low temperature and high tensile strength
- Density : 1.1g/cm³

Current

AC, DC +

Basicity Index

3.0

Packages (Flux)

Tin Can 20kg(44lbs)

PE Bag 20kg(44lbs)

Flux Composition

Consumable	Chemical Composition, wt%			
	Al ₂ O ₃ + MnO	CaF ₂	CaO + MgO	SiO ₂ + TiO ₂
S-100	20	25	40	15

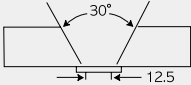
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	Cr	Ni	Mo	BM	Th.(mm)
F-3	0.09	0.27	1.71	0.014	0.004	0.05	0.98	0.44	A516 Gr.70	25
M-4	0.08	0.28	1.55	0.015	0.008	0.48	2.26	0.47	A516 Gr.70	25

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	PWHT condition	Temp °C(°F)	CVN-Impact Value J (ft.-lbs)	BM	Th.(mm)
F-3	660 (95,700)	709 (102,800)	25	As welded	-62 (-80)	46 (34)	A516 Gr.70	25
	641 (93,000)	698 (101,200)	28	620°C×1hr	-62 (-80)	38 (28)	A516 Gr.70	25
M-4	771 (111,800)	803 (116,500)	24	As welded	-62 (-80)	83 (61)	A516 Gr.70	25
	706 (102,400)	796 (115,400)	25	620°C×1hr	-62 (-80)	41 (30)	A516 Gr.70	25

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
F-3 (M-4)	4.0	25		1~13	570	30	40	AWS A5.23

S-705EF X H-14

Conformances

EN ISO 14174 S A CG-I 1 / EN ISO 14171 S4
 KR 2SMR, 2YSMR
 2SR, 2YSR (Max. thick. 25mm)
 ABS 2, 2Y
 LR 2A, 2YA

BV A2M, A2YM
 DNV I1YM (t≤22mm)
 GL 2YM
 NK KAW2, KAW52-SMP
 KAW52SP

Applications

- Shipbuilding (one-side welding)

Features

- High deposition rate with high input use
- Suitable for one side welding of TMCP steel
- Density : 1.3g/cm³

Current

AC, DC +

Basicity Index

4.5

Packages (Flux)

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

Flux Composition

Consumable	Chemical Composition, wt%				
	SiO ₂ + TiO ₂	Al ₂ O ₃ + MnO	MgO + CaO	CaF ₂	FeO
S-705EF	15	10	35	10	30

Diameter / Packaging

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)	✓			✓	✓			✓	✓					
6.4 (1/4)				✓	✓									

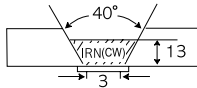
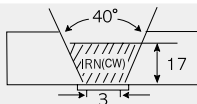
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	Mo	BM	Th.(mm)
H-14	0.10	0.20	1.23	0.017	0.011	0.80	AH36	15
	0.10	0.21	1.29	0.014	0.010	0.90	AH36	20

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft.lbs)	BM	Th.(mm)
H-14	430 (62,400)	560 (81,300)	23	0 (32)	60 (44)	AH36	15
	400 (58,000)	550 (79,800)	23	0 (32)	60 (44)	AH36	20

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
H-14	4.8	15		1	900	35	22	
H-14	4.8	20		1	1000	36	20	

SWAW

SAW

GMAW

GTAW

FCAW

Non-FERROUS

APPENDIX

S-705HF X H-14

Conformances

EN	ISO 14174 S A CG-I 1 / EN ISO 14171 S4
KR	3Y-SMR (Max. thick. 25mm) 3Y-SR
ABS	3Y
LR	3YA
BV	A3YM

DNV	IIIYM (t≤25mm)
GL	3YM, 3Y
NK	KAW53-SMP (Max. thick. 25mm) KAW53SP (Max. thick. 25mm)

Applications

- Shipbuilding (one-side welding)

Features

- High deposition rate with high input use
- Suitable for one side welding of TMCP steel
- Density : 1.3g/cm³

Current

AC, DC +

Basicity Index

4.2

Packages (Flux)

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

Flux Composition

Consumable	Chemical Composition, wt%				
	SiO ₂ + TiO ₂	Al ₂ O ₃ + MnO	MgO + CaO	CaF ₂	FeO
S-705HF	15	8	37	10	30

Diameter / Packaging

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)	✓			✓	✓			✓	✓					
6.4 (1/4)				✓	✓									

Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	P	S	Mo	Ti	B	BM	Th.(mm)
H-14	0.103	0.26	1.44	0.014	0.006	0.021	0.028	0.0045	EH36	25

Typical Mechanical Properties of All-Weld Metal

Wire	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft-lbs)	BM	Th.(mm)
H-14	509 (73,800)	618 (89,600)	22.6	-20 (-4)	80 (59)	EH36	25

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
H-14	4.8	25		1	1000	36	16	

SAW

SAW

GMAW

GTAW

FCAW

Non-FERROUS

APPENDIX

S-400HF X SC-414S, SC-423S, SC-420S, SC-420SG

Type : Neutral

Conformances

EN ISO 14174 S A AB 3

Applications

- Cladding flux for hardfacing products

Features

- Smooth and uniform bead appearance
- Good recovery of alloying element of the hardfacing wire
- Density : 1.1g/cm³

Current

AC, DC +

Basicity Index

Packages (Flux)

Tin Can 20kg(44lbs)

PE Bag 20kg(44lbs)

Flux Composition

Consumable	Chemical Composition, wt%			
	SiO ₂ + TiO ₂	Al ₂ O ₃ + MnO	CaO + MgO	CaF ₂
S-400HF	15	25	35	20

Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	Cr	Ni	Mo	Nb	W	V
SC-414S	0.10	0.5	1.4	14.9	2.7	1.0	0.20	-	0.4
SC-423S	0.04	0.4	1.3	17.5	3.0	1.2	0.20	-	0.4
SC-420S	0.33	0.8	1.8	12.6	0.5	1.9	0.18	1.4	0.4
SC-420SG	0.29	0.7	1.5	13.9	0.2	-	0.17	-	-

Hardness of All-Weld Metal

Wire	Dia.(mm)	Hardness (HRc)
SC-414S	2.4/3.2	43-47
SC-423S	3.2	-
SC-420S	3.2	52-56
SC-420SG	3.2	52-56

Superflux300S X YS-308(L)

Type : Neutral

Conformances

JIS Z3324 FSS-B1/YS308(L)

EN ISO 14174 S A AB 2

Applications

- 18%Cr-8%Ni stainless steel

Features

- Good resistance to crack and corrosion
- Easy to remove slag
- Good bead appearance
- Density : 1.2g/cm³

Current

AC, DC +

Basicity Index

2.0

Packages (Flux)

Tin Can 20kg(44lbs)

PE Bag 20kg(44lbs)

Flux Composition

Consumable	Chemical Composition, wt%			
	SiO ₂ + TiO ₂	Al ₂ O ₃ + MnO	MgO + CaO	CaF ₂
300S	30	20	40	10

SMW

SAW

GMW

GTAW

FCAW

Non-FERROUS

APPENDIX

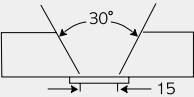
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	Cr	Ni
YS-308	0.05	0.92	1.30	20.3	9.7
YS-308L	0.03	0.90	1.30	20.3	9.8

Typical Mechanical Properties of All-Weld Metal

Wire	TS MPa(lbs/in ²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft-lbs)
YS-308	610 (88,500)	40	-20 (-4)	70 (52)
YS-308L	600 (87,000)	42	-196 (-321)	40 (30)

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
YS-308 YS-308L	4.0	20		1~10	550	32 30	50	JIS Z3324

Superflux300S X YS-309(L)

Type : Neutral

Conformances

JIS Z3324 FSS-B1/YS309(L)

EN ISO 14174 S A AB 2

Applications

- 22%Cr-12%Ni stainless steel

Features

- Good resistance to crack and corrosion
- Easy to remove slag
- Good bead appearance
- Density : 1.2g/cm³

Current

AC, DC +

Basicity Index

2.0

Packages (Flux)

Tin Can 20kg(44lbs)

PE Bag 20kg(44lbs)

Flux Composition

Consumable	Chemical Composition, wt%			
	SiO ₂ + TiO ₂	Al ₂ O ₃ + MnO	MgO + CaO	CaF ₂
300S	30	20	40	10

SMW

SAW

GMW

GTAW

FCAW

Non-FERROUS

APPENDIX

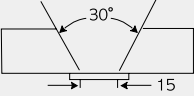
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	Cr	Ni
YS-309	0.05	0.91	1.40	22.6	12.5
YS-309L	0.03	0.93	1.40	22.5	12.8

Typical Mechanical Properties of All-Weld Metal

Wire	TS MPa(lbs/in ²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft.-lbs)
YS-309	580 (84,200)	36	-20 (-4) -196 (-321)	70 (52) 40 (30)
YS-309L	570 (82,700)	38	-196 (-321)	40 (30)

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
YS-309 YS-309L	4.0	20		1~10	550	32 30	50	JIS Z3324

Superflux300S X YS-316(L)

Type : Neutral

Conformances

JIS Z3324 FSS-B1/YS316(L)

EN ISO 14174 S A AB 2

ABS AWS A5.9 ER316L(Wire)
(-60°C ≥ 34 J)

BV UP (KV -60°C ≥ 27 J)
(YS-316L)

Applications

- 18%Cr-12%Ni-2%Mo stainless steel

Features

- Good resistance to crack and corrosion
- Easy to remove slag
- Good bead appearance
- Density : 1.2g/cm³

Current

AC, DC +

Basicity Index

2.0

Packages (Flux)

Tin Can 20kg(44lbs)

PE Bag 20kg(44lbs)

Flux Composition

Consumable	Chemical Composition, wt%			
	SiO ₂ + TiO ₂	Al ₂ O ₃ + MnO	MgO + CaO	CaF ₂
300S	30	20	40	10

SMW

SAW

GMW

GTAW

FCAW

Non-FERROUS

APPENDIX

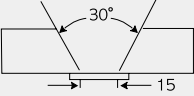
Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Si	Mn	Cr	Ni	Mo
YS-316	0.05	0.90	1.40	19.3	12.2	2.1
YS-316L	0.03	0.90	1.40	19.2	12.1	2.1

Typical Mechanical Properties of All-Weld Metal

Wire	TS MPa(lbs/in ²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft.-lbs)
YS-316	580 (84,200)	40	-20 (-4) -196 (-321)	80 (59) 40 (30)
YS-316L	550 (79,800)	38	-196 (-321)	40 (30)

Typical Welding Conditions

Wire	Dia. (mm)	Th. (mm)	Groove Design (mm)	Pass	Amp. (A)	Volt. (V)	Speed (cm/min)	Remarks
YS-316 YS-316L	4.0	20		1~10	550	32 30	50	JIS Z3324

Superflux209 X YS-2209

Conformances

EN ISO 14174 S A AF 2
 DNV Duplex Stainless Steel

Applications

- Offshore
- Petrochemical
- Chemical industry

Features

- Approximate 50:50 microstructure of austenite with a ferrite matrix
- Density : 1.0g/cm³

Current

AC, DC +

Basicity Index

1.8

Packages (Flux)

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

Flux Composition

Consumable	Chemical Composition, wt%		
	SiO ₂ + TiO ₂	Al ₂ O ₃	CaF ₂
Superflux209	10	40	50

Typical Chemical Composition of All-Weld Metal(%)

C	Si	Mn	P	S	Cr	Ni	Mo	Cu	N
0.02	0.49	1.28	0.017	0.003	22.8	8.15	2.99	0.20	0.20

Typical Mechanical Properties of All-Weld Metal

TS MPa(lbs/in ²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft-lbs)
805 (116,800)	28	-46 (-50)	70 (52)

SMW

SAW

GMW

GTAW

FCW

Non-FERROUS

APPENDIX

S-300EM X Flux for ESW

Conformances

EN ISO 14174 SA AF2

Applications

- Heat exchanger, pressure vessels

Features

- Good resistance to crack and corrosion
- Easy to remove slag
- Good bead appearance
- Density : 1.2g/cm³

Current

DC +

Basicity Index

Packages (Flux)

Tin Can 20kg(44lbs)

Flux Composition

Consumable	Chemical Composition, wt%		
	SiO ₂ + TiO ₂	Al ₂ O ₃ + MnO	CaF ₂
S-300EM	5	30	60

Typical Chemical Composition of Strip Band(%)

Wire	C	Mn	Si	S	P	Cr	Ni	Mo	Nb	N
YSB-308L	0.01	1.7	0.3	0.001	0.015	20.3	10.4			0.044
YSB-309L	0.01	1.6	0.4	0.002	0.01	24.2	13.4	0.1		0.054
YSB-347	0.02	1.1	0.4	0.001	0.018	19.7	10.5	0.1	0.5	0.043
YSB-316L	0.01	1.8	0.4	0.001	0.016	18.1	12.6	2.9		0.047
YSB-309LMo	0.01	2	0.3	0.001	0.018	20.3	13.8	2.7		0.081
YSB-309LNb	0.02	2	0.3	0.011	0.018	21.2	12.0	0.1	0.6	0.049

Typical Chemical Composition of All-Weld Metal(%)

Wire	C	Mn	Si	Cr	Ni	Mo	Nb	N	F.N
YSB-308L	0.02	1.45	0.55	19.3	10.9			0.054	8
YSB-309L	0.03	1.45	0.7	19.5	11			0.045	6
YSB-347	0.03	0.95	0.9	19.5	10.5			0.038	6
YSB-316L	0.03	1.5	0.63	18.5	12.5	2.5		0.045	7
YSB-309LMo	0.03	1.52	0.49	18.2	13.1	2.36	0.04	0.061	5
YSB-309LNb	0.03	1.36	0.37	18.9	10.4	0.05	0.48	0.024	5