SMWELTEC PRODUCT DATA SHEET

FCAW

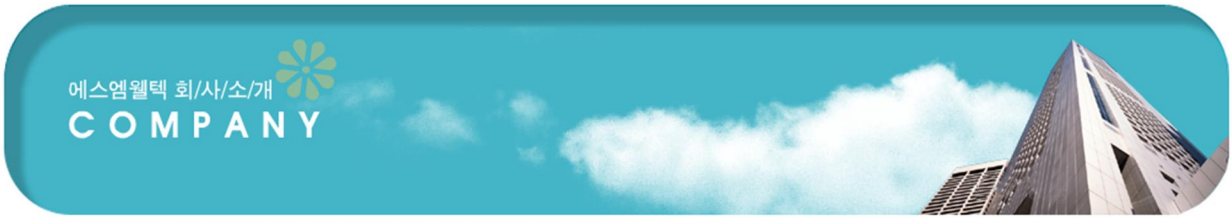
(GMAW / GTAW)

STAINLESS (DUPLEX) / STAINLESS STEEL WIRE
NICKEL ALLOY STEEL / CAST IRON WELDING WIRE
CARBON STEEL (LOW/HIGH) WELDING WIRE
HARD SURFACING WELDING WIRE
(HOT/COLD TOOL, FORGING, PRESS DIE CASTING, GENERAL & EXTREME WEAR RESISTANCE)

(주) 에 스 엠 웰 텍
SMWELTEC CO.,LTD.

Company Introduction

SMWELTEC | *Welding Consumables*



Founded in 1985, we've been recognized for our leading welding consumables& selling various products. (Established in 2011,China FCAW welding wire factory) SMWELTEC has solely focused on developing and sales welding materials for a solid period of over 38 years.

●Our products includes the following kinds

- Stainless steel flux cored wire (Duplex stainless steels)
- Surfacing flux cored wire
- Special Alloys (Hardfacing) Roller(Hot, Cold)/Tool(Forging, Cold press)
- Special Alloys (Joining and surfacing) / (Nickel Alloy)
- Thermal spraying cored wire
- Low alloy steel cored wire
- Carbon steel cored wire
- Cast iron FCAW / GMAW wire
- Special Arc welding rods
- Welding Tip, Torch &Globes and Welding accessory
- **Wear Plate, Liner, Pulley, Hardsurfacing products**
- **Welding consultant** (Korea, domestic & Oversea)

● Major Customers (Domestic & Oversea)

- **Iron Industry, Steel Industry,Cement Factory(partner firm), Oil and Chemical(Plant), Mining Coal-fired power plant, Ship building, Dredge ship, Athletic equipment, Ready-mixed concret, etc.**

● Agent &Affiliated Companies

- **CORODUR, KESTRA** etc.

● Certificates

- Quality Management System Certificate : GB/T 19001-2008 / ISO 9001:2008 Standard.
- Environmental Management System Certificate : GB/T 24001-2004 / ISO 14001:2004 Standard.
- Occupational Health and Safety Management System Certificate : GB/T 28001-2011 / OHSAS 18001:2007 Standard.

Our company continues the healthy growth ever aiming for the best quality & service and prioritizing the trust with customers. Also we will keep exerting every effort to meet customers' needs by focusing on the technology development in order to cope with its industry innovation in advance.

- Established Donghae Factory : June, 2019 ***(Welding Repair & Hardsurfacing)***

SMWELTEC

List of Welding Consumables:

№	*ITEM*	*AWS*	*DIN*
	STAINLESS STEELS		
1	**SMF-308L**	AWS A5.22 : E308L T-1	DIN8556 SG X2 CrNi 19 9
2	**SMF-309L**	AWS A5.22 : E309L T0-1/4	DIN8556 SG CrNi 23 12
3	**SMF-309MoL**	AWS A5.22 : E309L MoT1-1	
4	**SMF-310**	AWS A5.22 : E310 T0	
5	**SMF-316L**	AWS A5.22 : E316L T-1	DIN8556 SG X2 CrNiMo 19 12
6	**SMF-347**	AWS A5.22 : E347 T0- 1/4	
7	**SMF-347L**	AWS A5.22 : E347L T1-1	
8	**SMF-410**	AWS A5.22 : E410 T0-4	
9	**SMF-410NiMo**	AWS A5.22 : E410 NiMo T1-1	
10	**SMF-904L**	AWS A5.22 : E385LT1-1	
	DUPLEX STAINLESS STEELS		
11	**SMF-Duplex 2209**	AWS A5.22 2012 : E2209 T1-1	
12	**SMF-Super Duplex 2594**	AWS A5.22 2012 : E2594 T1-1	
	NICKEL ALLOY (INCONEL)		
13	**SMF-NiCr3**	AWS A5.34 / A5.34M-2018 ENiCr3 T1-4	
14	**SMF-NiCrMo3**	AWS A5.34 / A5.34M-2018 ENiCrMo3 T1-4	
	CAST IRON / (FCAW / GMAW)		
15	**SMG-NiFe 60/40**	Special Alloy	DIN 8573 (GMAW)
16	**SMF-NiFe 60/40**	Special Alloy	MF-NiFe-2 (FCAW)
	CARBON STEELS		
17	**SMF-71**	AWS A5.20 : E71T-1	DIN SG R1 Cy 4643
18	**SMF-502Cu**	Special Alloy	DIN 8555
19	**SMF-81T1-B**	AWS A5.29 : E81T1-B2	
20	**SMF-100T5**	AWS 5.29 : E100T5-K2C	EN 758
	SPECIAL ALLOYS		
21	**SMF-SUPER GOLD**	Special Alloy	DIN8556
22	**SMF-SUPER CHROME**	Special Alloy	DIN8556
23	**SMF-4370 OA**	Special Alloy	
24	**SMF-4370 SUPER**	Special Alloy	
25	**SMG-4370 SUPER**	Special Alloy	DIN8556 **(GMAW)**
26	**SMT-4370 SUPER**	Special Alloy	DIN8556 **(GTAW)**
27	**SMF-4370 M-SUPER**	Special Alloy	DIN 8556
28	**SMF-4370 HIGH-SUPER**	Special Alloy	DIN 8556
29	**SMF-2010XD / SMF-2010XD OA**	Special Alloy	DIN 8556
30	**SMF-300 / SMF-300 OA**	Special Alloy	DIN8556
	SPECIAL ALLOYS (HARDSURFACING) *(Stellite 6 Type)*		
31	**SMF-Cobalt 6**	Special Alloy (Hardsurfacing)	DIN 8555
	SPECIAL ALLOYS (HARDSURFACING) *Tool & Roller, Forging Die, Press Die (Hot, Cold)*		
32	**SMF-GM145**	Special Alloy (Hardsurfacing)	DIN 8555
33	**SMF-GM150**	Special Alloy (Hardsurfacing)	DIN 8555
34	**SMF-216 / SMF-216 OA**	Special Alloy (Hardsurfacing)	DIN 8555

35	**SMF-216 S**	Special Alloy (Hardsurfacing)	DIN 8555
36	**SMF-218**	Special Alloy (Hardsurfacing)	DIN 8555
37	**SMF-288 / SMF-288 OA**	Special Alloy (Hardsurfacing)	DIN 8555
38	**SMF-321 / SMF-321 OA**	Special Alloy (Hardsurfacing)	DIN 8555
39	**SMF-330 / SMF-330 OA**	Special Alloy (Hardsurfacing)	DIN 8555
40	**SMF-350**	Special Alloy (Hardsurfacing)	DIN 8555
41	**SMF-420**	Special Alloy (Hardsurfacing)	DIN 8555
42	**SMF-433**	Special Alloy (Hardsurfacing)	DIN 8555
43	**SMF-440 / SMF-440 OA**	Special Alloy (Hardsurfacing)	DIN 8555

*** 각 제품 MSDS 는당사 홈페이지 특수용접봉 기술자료 참조 | * 표시는 SAW 용접(Submerged Arc Welding) 가능한 타입임**
*** 당사 FCAW 용접봉 2.8mm 는 Non gas 이며 SAW(Submerged Arc Welding) 가능한 타입임**

№	*ITEM*	*AWS*	*DIN*
	SPECIAL ALLOYS (HARDSURFACING) *Tool & Roller, Forging Die, Press Die (Hot, Cold)*		
44	**SMF-476**	Special Alloy (Hardsurfacing)	DIN 8555
45	**SMF-601 / SMF-601 OA**	Special Alloy (Hardsurfacing)	DIN 8555
46	*** SMF-612 / SMF-612 OA**	Special Alloy (Hardsurfacing)	DIN 8555
47	**SMF-688 / SMF-688 OA**	Special Alloy (Hardsurfacing)	DIN 8555
48	**SMF-713 / SMF-713 OA**	Special Alloy (Hardsurfacing)	DIN 8555
49	**SMF-733 / SMF-733 OA**	Special Alloy (Hardsurfacing)	DIN 8555
50	**SMF-733 SUPER / SMF-733 SUPER OA**	Special Alloy (Hardsurfacing)	DIN 8555
51	**SMF-788 / SMF-788 OA**	Special Alloy (Hardsurfacing)	DIN 8555
	SPECIAL ALLOYS (HARDSURFACING) *Wear resistance / Extreme wear resistance*		
52	*** SMF-53 / SMF-53 OA**	Special Alloy (Hardsurfacing)	DIN 8555
53	*** SMF-55 / SMF-55 OA**	Special Alloy (Hardsurfacing)	DIN 8555
54	*** SMF-55B / SMF-55B OA**	Special Alloy (Hardsurfacing)	DIN 8555
55	*** SMF-55Mo / SMF-55Mo OA**	Special Alloy (Hardsurfacing)	DIN 8555
56	*** SMF-55MoB / SMF-55MoB OA**	Special Alloy (Hardsurfacing)	DIN 8555
57	*** SMF-55MoW / SMF-55MoW OA**	Special Alloy (Hardsurfacing)	DIN 8555
58	*** SMF-55MoNb / SMF-55MoNb OA**	Special Alloy (Hardsurfacing)	DIN 8555
59	*** SMF-56Mo / SMF-56Mo OA**	Special Alloy (Hardsurfacing)	DIN 8555
60	*** SMF-56MoW / SMF-56MoW OA**	Special Alloy (Hardsurfacing)	DIN 8555
61	*** SMF-57 / SMF-57 OA**	Special Alloy (Hardsurfacing)	DIN 8555
62	*** SMF-58 / SMF-58 OA**	Special Alloy (Hardsurfacing)	DIN 8555
63	*** SMF-58MoB / SMF-58MoB OA**	Special Alloy (Hardsurfacing)	DIN 8555
64	*** SMF-58MoNb / SMF-58MoNb OA**	Special Alloy (Hardsurfacing)	DIN 8555
65	*** SMF-58Nb / SMF-58Nb OA**	Special Alloy (Hardsurfacing)	DIN 8555
66	*** SMF-58MoNbW / SMF-58MoNbW OA**	Special Alloy (Hardsurfacing)	DIN 8555
67	*** SMF-59 / SMF-59 OA**	Special Alloy (Hardsurfacing)	DIN 8555
68	*** SMF-60 / SMF-60 OA**	Special Alloy (Hardsurfacing)	DIN 8555
69	*** SMF-61 / SMF-61 OA**	Special Alloy (Hardsurfacing)	DIN 8555
70	*** SMF-62 /SMF-62 OA**	Special Alloy (Hardsurfacing)	DIN 8555
71	*** SMF-63 / SMF-63 OA**	Special Alloy (Hardsurfacing)	DIN 8555
72	*** SMF-64 / SMF-64 OA**	Special Alloy (Hardsurfacing)	DIN 8555
73	*** SMF-65Mo / SMF-65Mo OA**	Special Alloy (Hardsurfacing)	DIN 8555

74	* SMF-65MoW / SMF-65MoW OA	Special Alloy (Hardsurfacing)	DIN 8555
75	* SMF-66 / SMF-66 OA	Special Alloy (Hardsurfacing)	DIN 8555
76	* SMF-69Nb / SMF-69Nb OA	Special Alloy (Hardsurfacing)	DIN 8555
77	* SMF-75Mo / SMF-75Mo OA	Special Alloy (Hardsurfacing)	DIN 8555
78	* SMF-75MoNb / SMF-75MoNb OA	Special Alloy (Hardsurfacing)	DIN 8555
79	* SMF-76Mo / SMF-76Mo OA	Special Alloy (Hardsurfacing)	DIN 8555
80	* SMF-76MoNb / SMF-76MoNb OA	Special Alloy (Hardsurfacing)	DIN 8555
81	* SMF-76MoNbW / SMF-76MoNbW OA	Special Alloy (Hardsurfacing)	DIN 8555
82	* SMF-77Nb / SMF-77Nb OA	Special Alloy (Hardsurfacing)	DIN 8555
83	* SMF-78MoNb / SMF-78MoNb OA	Special Alloy (Hardsurfacing)	DIN 8555
84	* SMF-87 / SMF-87 OA	Special Alloy (Hardsurfacing)	DIN 8555

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Nº	ITEM	AWS	DIN
	SPECIAL ALLOYS (HARDSURFACING)		
	Wear resistance / Extreme wear resistance		
85	* SMF-73CoNbW / SMF-73CoNbW OA	Special Alloy (Hardsurfacing)	DIN 8555
86	* SMF-88MoNbW / SMF-88MoNbW OA	Special Alloy (Hardsurfacing)	DIN 8555
87	* SMF-98CoMoW / SMF-98CoMoW OA	Special Alloy (Hardsurfacing)	DIN 8555
88	SMF-365 / SMF-365 OA	Special Alloy (Hardsurfacing)	DIN 8555
89	* SMF-500 / SMF-500 OA	Special Alloy (Hardsurfacing)	DIN 8555
90	* SMF-510 / SMF-510 OA	Special Alloy (Hardsurfacing)	DIN 8555
91	SMF-500K	Special Alloy (Hardsurfacing)	DIN 8555
92	SMF-560K	Special Alloy (Hardsurfacing)	DIN 8555
93	* SMF-600Ti / SMF-600Ti OA	Special Alloy (Hardsurfacing)	DIN 8555
94	* SMF-611 / SMF-611 OA	Special Alloy (Hardsurfacing)	DIN 8555
95	* SMF-615 / SMF-615 OA	Special Alloy (Hardsurfacing)	DIN 8555
96	* SMF-618 / SMF-618 OA	Special Alloy (Hardsurfacing)	DIN 8555
97	* SMF-620 / SMF-620 OA	Special Alloy (Hardsurfacing)	DIN 8555
98	* SMF-620Nb / SMF-620Nb OA	Special Alloy (Hardsurfacing)	DIN 8555
99	* SMF-712 / SMF-712 OA	Special Alloy (Hardsurfacing)	DIN 8555
100	* SMF-718 / SMF-718 OA	Special Alloy (Hardsurfacing)	DIN 8555
101	* SMF-725 / 725 OA	Special Alloy (Hardsurfacing)	DIN 8555
102	* SMF-760 / SMF-760 OA	Special Alloy (Hardsurfacing)	DIN 8555
	SPECIAL ALLOYS (HARDSURFACING)		
	Tungsten Carbide Matrix type		
103	SMF-WC Ni	Special Alloy (Hardsurfacing)	DIN 8555
104	SMF-WC Fe	Special Alloy (Hardsurfacing)	DIN 8555
	SAW FLUX		
105	SMJ-506		
106	SMJ-508		
107	SMJ-414		

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* 당사 FCAW 용접봉 2.8mm 는 Non gas 이며 SAW(Submerged Arc Welding) 가능한 타입임

SMF-308L

CLASSIFICATION

DIN8556 SG X2 CrNi 19 9 AWS A5.22 : E308L T-1
Special Alloy 1.4316

GENERAL CHARACTERISTICS

Flux cored wire to weld with shielding gas protection with low carbon for joining of stainless steels applied for all 18/8 type stainless steels at service temperatures from -120℃ up to +350℃. Use CO_2 gas.

APPLICATION

All Stainless steel welding and joint,Tubes, heat exchangers, piping systems.
Tanks(vessel tank)

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Si	Mn	Cr	Ni	Mo	Cu	P	S	Fe
0.03	0.56	1.24	19.3	9.82	0.1	0.08	0.020	0.010	base

MECHANICAL PROPERTIES OF WELD METAL

Rp0,2 (MPa)	Rm (MPa)	A5 (%)	KV(J)
510	580	38	+20℃ : 56

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-220	20~26
1.4 mm	200-260	22~28
1.6 mm	220-280	22~30

FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759
Spool B / BS 300 with app. 13-15 Kgs , EN 759
Spool B 450 with app. 25-30 Kgs , EN 759
Big spool S 760 with app. 250 Kgs , EN 759
Drums with app. 150 Kgs or 250-300 Kgs

SMF-309L

CLASSIFICATION

DIN8556SG CrNi23 12 AWS A5.22 : E309L T0-1/4 EN 12073 : T23 12 L R M3 / C3
Special Alloy

GENERAL CHARACTERISTICS

Rutile flux cored wire for gas shielded metal arc welding with low carbon, for welding dissimilar steels as stainless steels to low alloyed steels. Also suitable for welding high temperature steels and as buffer layer before hard facing. Use CO_2 gas.

APPLICATION

For repairring of machine parts for civil engineering.
First layer on construction steels for 18/8 cladding.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Si	Mn	Cr	Ni	Mo	Cu	P	S	Fe
0.03	0.7	1.4	23.5	13.0	0.1	0.08	0.022	0.008	base

MECHANICAL PROPERTIES OF WELD METAL

Rp0,2 (MPa)	Rm (MPa)	A5 (%)	KV(J)
440	580	35	+20℃ : 52

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-220	20~26
1.4 mm	200-260	22~28
1.6 mm	220-280	22~30

FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759
Spool B / BS 300 with app. 13-15 Kgs , EN 759
Spool B 450 with app. 25-30 Kgs , EN 759
Big spool S 760 with app. 250 Kgs , EN 759
Drums with app. 150 Kgs or 250-300 Kgs

SMF-309MoL

CLASSIFICATION

AWS A5.22 : E309L MoT1-1 EN 12073 : T23 12 2L R M3 / C3
Special Alloy

GENERAL CHARACTERISTICS

Rutile flux cored wire for gas shielded metal arc welding used to weld on 316L stainless steels and for dissimilar joints between construction / mild steels and stainless steels. Intermediate layer for a 316L type cladding.

APPLICATION

Due to its high level of delta ferrite also used for repairs in maintenance welding.
Highly crack resistant.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Si	Mn	Cr	Ni	Mo	Cu	P	S	Fe
0.03	0.59	1.05	23.7	13.5	2.8	0.08	0.022	0.008	base

MECHANICAL PROPERTIES OF WELD METAL

Rp0,2 (MPa)	Rm (MPa)	A5 (%)	KV(J)
590	760	32	60-40℃

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-220	20~26
1.4 mm	200-260	22~28
1.6 mm	220-280	22~30

FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759
Spool B / BS 300 with app. 13-15 Kgs , EN 759
Spool B 450 with app. 25-30 Kgs , EN 759
Big spool S 760 with app. 250 Kgs , EN 759
Drums with app. 150 Kgs or 250-300 Kgs

SMF-310

CLASSIFICATION

EN 12073: T2520 R M3 C/3 AWS A5.22 : E310 T0
Special Alloy: 1.4841

GENERAL CHARACTERISTICS

Flux cored wire to weld with shielding gas protection with a high temperature resistant austenitic stainless steel deposit. Resistant to corrosion and oxidation up to 1200℃, good resistance against hot crack, easy slag removal and nice aspect of the weld beads. Use CO_2 gas.

APPLICATION

Construction of steam boilers, chemical installations, gas industry, ovens, heat exchangers, themal equipments,.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Si	Mn	Cr	Ni	P	S	Fe
0.12	0.50	2.40	24.0	20.5	0.02	0.008	base

MECHANICAL PROPERTIES OF WELD METAL

Rp0,2 (MPa)	Rm (MPa)	A5 (%)	KV(J)
410	560	33	+20℃ : 60

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-220	20~26
1.4 mm	200-260	22~28
1.6 mm	220-280	22~30

FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759
Spool B / BS 300 with app. 13-15 Kgs , EN 759
Spool B 450 with app. 25-30 Kgs , EN 759
Big spool S 760 with app. 250 Kgs , EN 759
Drums with app. 150 Kgs or 250-300 Kgs

SMF-316L

CLASSIFICATION

DIN8556 SG X2 CrNiMo 19 12 AWS A5.22 : E316L T-1
Special Alloy 1.443

GENERAL CHARACTERISTICS

Flux cored wire with low carbon for joining Mo containing austenitic stainless steel applied at service temperatures from -120℃ up to +400℃

APPLICATION

In the chemical and petrochemical industries, in refineries, in the food industries and for ship building to weld pipes, tanks, heat exchangers.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Si	Mn	Cr	Ni	Mo	Cu	P	S	Fe
0.03	0.65	1.10	18.5	12.3	2.60	0.08	0.025	0.010	base

MECHANICAL PROPERTIES OF WELD METAL

Rp0,2 (MPa)	Rm (MPa)	A5 (%)	KV(J)
380	520	35	-120℃ : 32

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-220	20~26
1.4 mm	200-260	22~28
1.6 mm	220-280	22~30

FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759
Spool B / BS 300 with app. 13-15 Kgs , EN 759
Spool B 450 with app. 25-30 Kgs , EN 759
Big spool S 760 with app. 250 Kgs , EN 759
Drums with app. 150 Kgs or 250-300 Kgs

SMF-347

CLASSIFICATION

AWS A5.22 : E347 T0- 1/4 EN 12073 : T19 9 Nb R M3 / C3
Special Alloy

GENERAL CHARACTERISTICS

Rutile type flux cored wire to weld with shielding gas protection 18%Cr-8Ni type stainless steel Niobioum / columbium stabilised, suited to weld Ti or Nb stabilised stainless steels. The weld deposit is resistant to intercrystalline corrosion for service temperatures up to 400℃. CO_2 gas is used.

APPLICATION(Base Materials)

Stainless steels for general use:

UNS	Alloy	EN 10088	Material No	UGINE
S30400	304	X5crni18-10	1.4301	UGINOX 18-9B, D, E
S30403	304L	X2CrNi19-11	1.4306	UGINOX 18-10 L
S32100	321	X6CrNiTi18-10	1.4541	UGINOX 18-10 T
S34700	347	X6CrNiNb18-10	1.4550	

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Si	Mn	Cr	Ni	Mo	Cu	Nb	P	S	Fe
0.03	0.9	1.4	19.5	10.5	0.1	0.08	0.5	0.02	0.01	base

MECHANICAL PROPERTIES OF WELD METAL

Rp0,2 (MPa)	Rm (MPa)	A5 (%)	KV(J)
450	650	35	-196℃ : 34

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-220	20~26
1.4 mm	200-260	22~28
1.6 mm	220-280	22~30

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-347L

CLASSIFICATION

AWS: A5.22 E347L T1-1

GENERAL CHARACTERISTICS

It is ultra-low carbon 20%Cr-10%Ni-Nb stainless steel flux cored wire shield by CO2. It can be used for joining 07Cr19Ni11Ti(SUS321) and 07Cr18Ni11Nb(SUS347) cause it has better performance on intergranular corrosion resistance.

APPLICATION

The weld deposit is resistant to intercrystalline corrosion for service temperature up to 400℃ suited to weld Ti or Nb stabilised stainless steel. It usally can be used for food machinery, medical equipment, pressure vessel tank, petroleum chemical industry etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Ni	Mo	P	S	Nb	Fe	
0.027	0.50	1.12	19.3	10.2	0.1	0.021	0.010	0.85	basis	%

MECHANICAL PROPERTIES OF WELD METAL

Rp0,2 (MPa)	Rm (MPa)	A5 (%)
450	650	35

USED GAS

CO_2 gas	Ar+ 10~20% CO_2 gas

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs	,	EN 759
Spool B / BS 300 with app.	13-15 Kgs	,	EN 759
Spool B 450 with app.	25-30 Kgs	,	EN 759
Big spool S 760 with app.	250 Kgs	,	EN 759
Drums with app.	150 Kgs	or	250-300 Kgs

SMF-410

CLASSIFICATION

AWS A5.22 : E410 T0-4 EN 14700 EN ISO 17633-A : T 13R M3
Special Alloy

GENERAL CHARACTERISTICS

Rutile flux cored wire to weld with shielding gas protection used for cladding and for joining of 410 stainless steels. CO_2 gas is used.
Nice bead appearance, self releasing slag, good penetration and high productivity.

APPLICATION

To surface valve seats and to weld ferritic martensitic stainless steels used in the presence of sulphurous gas.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Si	Mn	Cr	Ni	P	S	Fe
0.05	0.6	1.0	12.0	0.4	0.015	0.005	base

MECHANICAL PROPERTIES OF WELD METAL

Rp0,2 (MPa)	Rm (MPa)	A5 (%)
300	500	25

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-220	20~26
1.4 mm	200-260	22~28
1.6 mm	220-280	22~30

FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759
Spool B / BS 300 with app. 13-15 Kgs , EN 759
Spool B 450 with app. 25-30 Kgs , EN 759
Big spool S 760 with app. 250 Kgs , EN 759
Drums with app. 150 Kgs or 250-300 Kgs

SMF-410 NiMo

CLASSIFICATION

AWS: A5.22 E410 NiMo T1-1

GENERAL CHARACTERISTICS

Shielding gas projection used for cladding and for joining of 410NiMo Stainless steel. It is 13% Cr martensitic stainless steel flux cored wire shield by Co2. It can use less of Cr and Ni to limit the harmful effect of the mechanical properties of ferrite. As there are Ni and Mo in deposited metal. It has higher strength and hardness. It can be used for joining more wear-resisting and corrosion resistanting materials. CO_2 gas is used.

APPLICATION

Hydro power station, valves and other occasion which need wear resistance. Surfacing and Valve sheets and weld ferritic martensitic stainless stee used in the presence of sulphurous gas and corrosion resistance such as stainless steel AlSi403, 410, 420, 450 etc welding. ASTM CA6NM and the similar objects.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Ni	Mo	P	S	Fe	
0.04	0.41	0.70	12	4.3	0.53	0.022	0.011	basis	%

MECHANICAL PROPERTIES OF WELD METAL

Rp0,2 (MPa)	Rm (MPa)	A5 (%)
500	850	20-25

HARDNESS

52-57HS / 39-43 HRC

USED GAS

Ar+ 20% CO_2 gas CO_2 gas

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759
Spool B / BS 300 with app. 13-15 Kgs , EN 759
Spool B 450 with app. 25-30 Kgs , EN 759
Big spool S 760 with app. 250 Kgs , EN 759
Drums with app. 150 Kgs or 250-300 Kgs

SMF-904L

CLASSIFICATION

AWS A5.22 E385LT1-1

GENERAL CHARACTERISTICS

SMWELTEC SMF-904L FCAW wire is a high-alloy fully austenitic additional chemical (Mo+Mn+Cr+Ni+Cu). The weld metal has an austenitic structure, has excellent weldability and high tempera-ture and corrosive resistance. In particular, it is widely used as a base material for heat-resistant steel (SUS310) and corrosion-resistant steel (SUS316). Compared to SUS 310 and SUS 316 welding rods, Ni content (sulfuric acid, phosphoric acid, etc.) is high and acid corrosion resistance is excellent. The machinability of the weld metal is also very good.

APPLICATION

It is widely used for heat-resistant steel (SUS310) and corrosion-resistant steel (SUS316), and is used in oil refineries, petrochemical plants, and heat-resistant steel furnaces. Very good resistance to general corrosion in non-oxidising environments such as sulphuric acid and phosphoric acid. Very good resistance to pitting and crevice corrosion in chloride containing solutions.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Mo	Cu	Fe
0.015-0.020	1.20~1.50	0.70-1.00	20.0-21.0	25.0~26.0	4.50~5.00	1.50~2.00	basis

HARDNESS

Welding after 200-220HB

USED GAS

SMF-904L (Mag gas / Ar 80% + Co220%)

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength : 600-630Mpa
Elongation : 33-38%

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-200	18~22
1.4 mm	180-220	20~24
1.6 mm	200-260	22~26

FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs, EN 759

SMF-Duplex 2209

CLASSIFICATION

AWS A5.22-2012 E2209T1-1

GENERAL CHARACTERISTICS

SMWELTEC SMF-Duplex 2209 is FCAW(Flux Cored Wire) Stainless steel welding wire. A continuous, solid, corrosion-resistant, duplex wire for welding austenitic-ferritic stainless alloys. SMF-Duplex 2209 has high general corrosion resistance.

APPLICATION

For shop doing all welding repairs(Iron steel factory, Cement factory, Mines, Quarries, Chemical, etc). Used for pipe work and general fabrication in the offshore oil and gas and chemical process industries. And suitable for cladding steels to obtain corrosion resistant layers.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Mo	Fe+N
0.02~0.04	0.50~2.0	0.60~1.0	21~24	8.0~10	2.50~4.0	trace

USED GAS

Co2 gas

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength : 730~800Mpa
Elongation : 23~28%

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160~200	18~22(DCRP)

FORMS OF DELIVERY

Spool B / D 300 with app. 15 Kgs, EN 759
Spool B 450 with app. 25-30 Kgs, EN 759

SMF-Super Duplex 2594

CLASSIFICATION

AWS A5.22-2012 E2594T1-1

GENERAL CHARACTERISTICS

SMWELTEC SMF-Super Duplex 2594 is FCAW(Flux Cored Wire) Stainless steel welding wire. SMF-Super Duplex 2594 has high intergranular-corrosion, pitting and stress-corrosion resistance.

APPLICATION

For shop doing all welding repairs(Iron steel factory, Cement factory, Mines, Quarries, Chemical, etc) Welding wrought, forged or cast super duplex stainless steels for service in the as-welded Condition. Heterogeneous welding between super duplex stainless steels and dissimilar welds between other stainless and mild or low alloyed steels.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Mo	Fe+N + W
0.02~0.04	0.50~2.5	0.60~1.0	24~27	8.0~11	3.0~4.50	trace

USED GAS

Co2 gas

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength	:	760~950Mpa
Elongation	:	23~28%
Ferrite Content		40
PRE		41

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160~200	18~22(DCRP)

FORMS OF DELIVERY

Spool B / D 300 with app.	15 Kgs,	EN 759
Spool B 450 with app.	25-30 Kgs,	EN 759

SMF-NiCr3

CLASSIFICATION

AWS A5.34/A5.34M-2018 ENiCr3T1-4

GENERAL CHARACTERISTICS

SMWELTEC SMF-ENiCr3 FCAW (Flux cored wire), - Inconel type welding wire - used for joining identical or similar heat resistant Ni-base alloys, heat resistant austenites, cold tough Ni-steel, and for joing heat resistant austenitec-ferritic materials.

High temperature(1,200 ℃) welding, Ni+Cr+Fe alloy clade steel welding, Welding Metal Corrosion, High Elongation and Tensile strength.

APPLICATION

For shop doing all welding repairs(Iron steel factory, Cement factory, Mines, Quarries, Chemical, etc), Nickel and nickel alloy steel welding rods used at high temperatures

(1,200 ℃) Stainless steel 310 base metal, Inconel(600) welding, Incoley(800) Incoley welding, Inconel and Ni alloy - dissimilar metals welding, Inconel and stainless steel welding. Welding of wrought and cast form of Ni-Cr-Fe alloys to themselves and to carbon steels. Joining Ni Based alloys to steel. Joining carbon, SS or low alloy steel or combi-nation.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Nb	Fe+Ti +Cu
0.03 ~0.05	2.50~3.00	0.40~0.50	20~22	69~71	2.5~3.0	Trace

USED GAS

Max gas Ar(80%) + Co2(20%)

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength : 660~730Mpa
Elongation : 38~40%

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-200	18~22(DCRP)

FORMS OF DELIVERY

Spool B / D 300 with app. 15 Kgs , EN 759
Spool B 450 with app. 25-30 Kgs , EN 759

SMF-NiCrMo3

CLASSIFICATION

AWS A5.34/A5.34M-2018 ENiCrMo3T1-4

GENERAL CHARACTERISTICS

SMWELTEC SMF-ENiCrMo3 FCAW(Flux Cored Wire) – Inconel type welding wire, suited for joining and surfacing on nickel alloys, austenitic steels, low temperature nickel steels, austenitic-ferritic-joints and claddings of the same or similar.

Suitable for High temperature(1,200 ℃) and LowTemperature (-196 ℃) welding,

Ni+Cr+Fe alloy clade steel welding, Welding Metal Corrosion, High elongation, and Tensile strength.

APPLICATION

For shop doing all welding repairs(Iron steel factory, Cement factory, Mines, Quarries, Chemical, etc), Nickel and nickel alloy steel welding rods used at high temperatures

(1,200 ℃) Stainless steel 310 base metal, Stainless steel 310 base metal, Inconel(600) welding, Incoley(800) Incoley welding, Inconel and Ni alloy - dissimilar metals welding, Inconel and stainless steel welding. High nickel alloy wire developed for welding and cladding nickel based alloys such as 625 or similar material.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Nb+Ta	Mo	Fe + Ti
0.02~0.05	0.40~0.50	0.30~0.50	21~23	60~63	3.2~4.0	9.0~10	trace

USED GAS

Max gas Ar(80%) + Co2(20%)

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength : 750~770Mpa
Elongation : 32~35%

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	180~200	18~22(DCRP)

FORMS OF DELIVERY

Spool B / D 300 with app. 15 Kgs , EN 759
Spool B 450 with app. 25-30 Kgs , EN 759

SMG-NiFe 60/40

CLASSIFICATION

Special Alloy	DIN 8573	G NiFe2

GENERAL CHARACTERISTICS

SMWELTEC SMF SMG-NiFe 60/40, solid wire type welding wire for crack resitant welding on gray and nodular cast iron. All iron welding joint and repair. Ar 80% + CO_2 20% mixed gas is used. The weld metal is machinable.

APPLICATION

Solid wire with 60% Ni and 40% Fe for machinable cast iron cold welding as well as joint and repair welds on damaged gray iron castings and malleable cast iron components. High carbon steel buffer layers and joint. It is suited especially for welding of spherodal cast iron.The chilling effect in the transition zones is reduced so that this can adequately be machined. The wire has excellent welding properties and produces prorefree and tight seams without notches. Only little spattering and easy slag removal.

WELDING METHOD KEY POINT

All welding before preheating and post heating.
All welding after hammer chipping.
All welding base metal low ampere slow to little heating.

TYPICAL ALL WELD METAL ANALYSIS (%)

Ni 58~60%	Fe 37~39%	and others chemical

HARDNESS

190-200 HB

USED GAS

Ar (80%) + CO_2 gas (20%)	MAG gas used

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength : 480-500 N/㎟	Elongation : 10-15 %

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	100-350	15~32
1.4 mm	150-450	18~38
1.6 mm	200-550	22~42

FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759

SMF-NiFe 60/40

CLASSIFICATION

Special Alloy MF-NiFe-2

GENERAL CHARACTERISTICS

SMWELTEC SMF-NiFe 60/40, flux cored wire type welding wire for crack resitant welding on gray and nodular cast iron. All iron welding joint and repair. Ar 80% + CO_2 20% or Ar 97.5%+CO_2 2~5% mixed gas is used.The weld metal is machinable.

APPLICATION

Flux cored wire with 60% Ni and 40% Fe for machinable cast iron cold welding as well as joint and repair welds on damaged gray iron castings and malleable cast iron components. It is suited especially for welding of spherodal cast iron.The chilling effect in the transition zones is reduced so that this can adequately be machined. The wire has excellent welding properties and produces prorefree and tight seams without notches. Only little spattering and easy slag removal.

WELDING METHOD KEY POINT

All welding before preheating and post heating.
All welding after hammer chipping.
All welding base metal low ampere slow to little heating.

TYPICAL ALL WELD METAL ANALYSIS (%)

Ni 55% Fe 45%

HARDNESS

160-190 HB

USED GAS

Ar (80%) + CO_2 gas (20%) MAG gas used

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength : 480-500 N/㎟ Elongation : 10-15 %

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	100-350	15~32
1.4 mm	150-450	18~38
1.6 mm	200-550	22~42

FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759

SMF-71

CLASSIFICATION

AWS A5.20 : E71T-1 (FCAW)
Special Alloy

GENERAL CHARACTERISTICS

Metal cored wire electrode without slag for welding CO_2 gas or MMA gas protection Shipbuilding, steel and pressure vessel constructions, mechanical engineering and pipe work. Good arc striking and restriking even with cold wire tip, suitable for robot applications. Mult-pass welding without in-between cleaning,excellent gap bridging, high efficiency for economic production

APPLICATION

Construction steels for general use , Tube steels, Ship steels, Steels for Boiler and Pressure Vessels, High strenth steels, Cold tough steels

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	S	P	Cu	Ni	Fe	
0.05	0.35	1.08	0.010	0.016	0.30	0.41	basis	%

MECHANICAL PROPERTIES OF WELD METAL

2V-Notch impact test : Temp (— 20℃) 88AKV
Yield strength : 510Mpa
Tensile strength : 590Mpa
Elongation : 27.%

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-220	20~26
1.4 mm	200-260	22~28
1.6 mm	220-280	22~30

FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759
Spool B / BS 300 with app. 13-15 Kgs , EN 759
Spool B 450 with app. 25-30 Kgs , EN 759
Big spool S 760 with app. 250 Kgs , EN 759
Drums with app. 150 Kgs or 250-300 Kgs

SMF-502Cu

CLASSIFICATION

DIN 8555
Special Alloy

GENERAL CHARACTERISTICS

SMF-502Cu is a Rutile type flux cored wire electrode welding alloy.
Sulphuric acid corrosion resisting steel, self-shielded, slag- free flux cored wire electrode

APPLICATION

Carbon steel , Sulphuric acid corrosion resisting steel .Low alloy steel., etc

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	S	P	Cr	Cu	Fe	
0.05	0.41	1.27	0.009	0.015	0.80	0.42	basis	%

MECHANICAL PROPERTIES OF WELD METAL

2V-Notch impact test : Temp(0℃) 66AKV(J)
Yield strength : 565Mpa
Tensile strength : 630Mpa
Elongation : 27.1%

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180~220	22~28
1.6 mm	200-280	22~30
2,0 mm	220-310	24~32
2.4 mm	260-320	26~34
2,8 mm	300-380	28~36

FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759
Spool B / BS 300 with app. 13-15 Kgs , EN 759
Spool B 450 with app. 25-30 Kgs , EN 759
Big spool S 760 with app. 250 Kgs , EN 759
Drums with app. 150 Kgs or 250-300 Kgs

SMF-81T1-B

CLASSIFICATION

AWS: A5.29 E81T1-B2

GENERAL CHARACTERISTICS

1.25%Cr-0.5% Mo stainless steel welding wire and solidifying slag for welding under CO_2 and Ar- CO_2 shielding gas projection. It belong to titanium calcium type slag series. It is low alloy steel wire and can be welded on all position. It is suitable for low alloy steel welding. CO_2 gas is used.

APPLICATION

Ship building, Power plant, Boiler steam pipe, Oil refining. Heating pipe. High-temperature chemical equipment. Steel and pressure vessel constructions, Mechanical engeering and pipe work, very good weld pool mainipulation for welding in all position including vertical down.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	P	S	Fe	
0.05	0.8	1.2	1.20	0.53	0.03	0.03	basis	%

MECHANICAL PROPERTIES OF WELD METAL

Rp0,2 (MPa)	Rm (MPa)	A5 (%)
630	555	25

USED GAS

CO_2 gas

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-100 T5

CLASSIFICATION

AWS A5.20 : E1005T-5-K2C (FCAW)
Special Alloy

GENERAL CHARACTERISTICS

High basicity Metal cored wire electrode without slag for welding CO_2 gas or MMA gas protection,Shipbuilding, crane, automobiles,steel and pressure vessel constructions, fountries, mechanical engineering and pipe work. Good arc striking and restriking even with cold wire tip, suitable for robot applications. Mult-pass welding without in-between cleaning,excellent gap bridging, high efficiency for economic production. CO_2 gas is used.

APPLICATION

Construction steels for general use , Tube steels, Ship steels, Steels for Boiler and Pressure Vessels, High strenth steels, Cold tough steels, crane, automobiles

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	S	P	Cu	Ni	Mo	Cr	Fe	
0.06	0.58	1.68	0.009	0.015	0.30	1.56	0.34	0.12	basis	%

MECHANICAL PROPERTIES OF WELD METAL

2V-Notch impact test : Temp (— 40℃) 72AKV
Yield strength : 760Mpa
Tensile strength : 655Mpa
Elongation : 20.%

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-220	20~26
1.4 mm	200-260	22~28
1.6 mm	220-280	22~30
2.0mm	240-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36

FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759
Spool B / BS 300 with app. 13-15 Kgs , EN 759
Spool B 450 with app. 25-30 Kgs , EN 759
Big spool S 760 with app. 250 Kgs , EN 759
Drums with app. 150 Kgs or 250-300 Kgs

SMF-SUPER GOLD

CLASSIFICATION

Special Alloy

GENERAL CHARACTERISTICS

SMF-Super Gold(Open Arc) is a high alloyed, Self shielded and slag producing flux-cored wire electrode. The ferrite and austenitic for joint welding weld deposit is corrosion resistant and high tensile strength(75~85Kg/㎟) is superior to all other alloys used for welding purposes with regard to resistance to cracking , High chromium and high nickel themal shock resistant up to 420~500℃. Furthermore the weld metal is heat and acid-resistant the alloy is suitable for high carbon steel and joinning dissimilar and difficult to weld steels. CO_2 gas is used and The weld metal is machinable.

APPLICATION

For shop doing all welding repairs(Iron steel factory, Cement factory, Mines, Quarries, Chemical, etc). Welding difficult steel(High carbon, High manganes, High chrome, Dissimlar metal). A variety of Hot roll, Chemical pipe, Hot forges die, Rails, Rails point, Coarse, Crusher(Jaws), Mill, Shell, Killen tire, Hot corrosion liner, Over head crane wheels, Tool steels,,High speed tool steels, Shaft journal Joing and hardfacing , etc.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Mo+Nb+Ti	Fe
0.12	1.60	0.56	28.50	9.30	trace	balance

HARDNESS

Welding after 220-250HB

USED GAS

CO_2gas

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-200	18~22
1.4 mm	180-220	20~24
1.6 mm	200-260	22~26
2.0 mm	220-310	24~32
2.4 mm	260-340	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-SUPER CHROME

CLASSIFICATION

Special Alloy

GENERAL CHARACTERISTICS

SMF-Super Chrome(Open Arc) is a Cr+Ni+Mn High alloyed, Self shielded and slag producing flux-cored wire electrode. The weld material has a very high tensile strength (70~75kg/㎟) and is superior to all other alloys used for weldigng purposes with regard to resistance to cracking. The ferrite-austenitic wire for joint welding and difficult weldable steels. Materials such as high carbon steels, high speed tool steels, bearing steels, high alloys steels, high manganese steel, high chrome steel. Furthermore the weld metal is a heat and acid-resistant. CO_2 gas is used and The weld metal is machinable.

APPLICATION

For shop doing all welding repairs(Iron steel factory, Cement factory, Mines, Quarries, Chemical, etc). Welding difficult steel(High carbon, High manganes, High chrome, Dissimlar metal). A variety of Hot roll, Chemical pipe, Hot forges die, Rails, Rails point, Coarse, Crusher(Jaws), Mill, Shell, Killen tire, Hot corrosion liner, Over head crane wheels, Tool steels,,High speed tool steels, Shaft journal Joing and hardfacing , etc.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Mo+Ti	Fe
0.09-0.12	1.50-1.80	0.50-0.70	28-30	8.5-9.5	trace	balance

TECHNICAL DATA

Elongation : 25-30% Tensile strength : 70-75 kg/㎟

HARDNESS

Welding after 250-320 HB

USED GAS

CO_2 gas

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-200	18~22
1.4 mm	180-220	20~24
1.6 mm	200-260	22~26
2.0 mm	220-310	24~32
2.4 mm	260-340	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-4370 OA

CLASSIFICATION

Special Alloy

GENERAL CHARACTERISTICS

SMF-4370 OA (Open Arc) is a high alloyed, self shielded and slag producing flux-cored wire electrode. Welding wire containing some ferrite in austenite. The austenitic weld deposit is corrosion resistant and high tensile strength, working hardening(self hardening / The hardness range may vary slightly depending on the product and processing used.), anti-magnetic and themal shock resistant up to 800~900℃. Depending on the high elongation(40%) the alloy is suitable for ductile buffer layers on cold and heating old hardfacings and joinning dissimilar and difficult to weld steels. Suitable for hardfacing high- manganese Delta ferrite content: 7 %. (i.e. Manganese-Hardfield-steel). CO_2 gas & Non gas is used. The weld metal is machinable.

APPLICATION

For shop doing all welding repairs(Iron steel factory, Cement factory, Mines, Quarries, Chemical, etc). Welding difficult steel(High carbon, High manganes, High chrome, Dissimlar metal). Multi-layer Hardsurfacing welding(Bottom buffer layers and Impact prrof). A variety of Hot roll, Chemical pipe, Hot forges die, Rails, Rails point, Coarse, Crusher(Jaws), Mill, Shell, Killen tire, Hot corrosion liner, Over head crane wheels, etc.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Mo+N+B+Ti	Fe
0.08-0.12	6.5-7.0	0.7-1.0	19-21	9-10	trace	balance

HARDNESS

Working Hardness 400-450 HB (43~48 HRC)

USED GAS

SMF-4370 OA (CO_2 gas or Non gas)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-200	18~22
1.4 mm	180-220	20~24
1.6 mm	200-260	22~26
2.0 mm	220-310	24~32
2.4 mm	260-340	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-4370 SUPER

CLASSIFICATION

Special Alloy

GENERAL CHARACTERISTICS

SMWELTEC SMF-4370 Super is a additional chemical(Mo+Nb+B+Ti+V), high alloyed, self shielded and slag producing flux-cored wire electrode. Welding wire containing some ferrite in austenite. The austenitic and small ferrite weld deposit is corrosion resistant and high tensile strength, working hardening(self hardening, 450HB), anti-magnetic and themal shock resistant up to 800~900℃. Depending on the high elongation(38%) the high tensil strength alloy is suitable for welding joint and ductile buffer layers on cold and heating old hardfacings and joinning dissimilar and difficult to weld steels. Suitable for hardfacing high- manganese Delta ferrite content: 6.5~7.5 %. (i.e. Manganese-Hardfield-steel, Low Carbon steel). CO_2 gas & Non gas is used. The weld metal is machinable.

APPLICATION

For shop doing all welding repairs(Iron steel factory, Cement factory(Mill, Kiln), Mines, Quarries, Chemical, etc). Welding difficult steel(High carbon, High manganes, High chrome, Dissimlar metal). Multi-layer Hardsurfacing welding(Bottom buffer layers and Impact prrof). A variety of Hot roll, Chemical pipe, Hot forges die, Rails, Rails point, Coarse, Crusher(Jaws), Mill, Shell, Killen tire, Hot corrosion liner, Over head crane wheels, etc.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Mo+Nb+B+Ti+V	Fe
0.05-0.10	6.5-7.5	0.7-1.0	20-21	9-11	trace	balance

HARDNESS

Welding after 200-220HB Work Hardned App 450HB

USED GAS

SMF-4370 Super (CO_2 gas)

MECHANICAL PROPERTIES OF WELD METAL

Carbon Steel	Tensile sterength (Mpa)	Elongation (%)
Low / Medium Carbon	650~710	35~40
High Carbon	780~810	15~30

※ Tensile strength and elongation can vary depending on carbon content.

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-200	18~22
1.4 mm	180-220	20~24
1.6 mm	200-260	22~26
2.0 mm	220-310	24~32
2.4 mm	260-340	26~34
2.8 mm	300-380	28~36

FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759
Drums with app. 150 Kgs or 250-300 Kgs

SMG-4370 SUPER

CLASSIFICATION

Special Alloy

GENERAL CHARACTERISTICS

SMG-4370 SUPER (Solid Wire) is a high alloyed, self shielded and slag producing GMAW wire. Welding wire containing some ferrite in austenite. The austenitic weld deposit is corrosion resistant and high tensile strength, working hardening(self hardening), anti-magnetic and themal shock resistant up to 800~850℃. Depending on the high elongation(35~38%) the alloy is suitable for ductile buffer layers on cold and heating old hardfacings and joinning dissimilar and difficult to weld steels. Suitable for hardfacing high- manganese Delta ferrite content: 6 %. (i.e. Manganese-Hardfield-steel). MAG gas is used. The weld metal is machinable.

APPLICATION

Vertical and over head welding. For shop doing all welding repairs(Iron steel factory, Cement factory, Mines, Quarries, Chemical, etc). Welding difficult steel(High carbon, High manganes, High chrome, Dissimlar metal). Multi-layer Hardsurfacing welding(Bottom buffer layers and Impact prrof). A variety of Hot roll, Chemical pipe, Hot forges die, Rails, Rails point, Coarse, Crusher(Jaws), Mill, Shell, Killen tire, Hot corrosion liner, Over head crane wheels, etc.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Mo+Ti+B	Fe
0.07-0.10	6.50-6.90	0.70-0.75	19.30-19.80	9.00-9.50	trace	balance

HARDNESS

Welding after 180-210HB Work Hardned App 420HB

USED GAS

MAG gas (Mix gas : Ar 80% + CO_2 20% & Ar 90% + CO_2 10%)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-200	18~22
1.4 mm	180-220	20~24

FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759
Spool B / BS 300 with app. 13-15 Kgs , EN 759

SMT-4370 SUPER

CLASSIFICATION

Special Alloy

GENERAL CHARACTERISTICS

SMT-4370Super(GTAW) is a high alloyed, self shielded and slag producing GMAW wire. Welding wire containing some ferrite in austenite. The austenitic weld deposit is corrosion resistant and high tensile strength, working hardening(self hardening), anti-magnetic and themal shock resistant up to 800~850℃. Depending on the high elongation(35~38%) the alloy is suitable for ductile buffer layers on cold and heating old hardfacings and joinning dissimilar and difficult to weld steels. Suitable for hardfacing high- manganese Delta ferrite content: 6 %. (i.e. Manganese-Hardfield-steel). MAG gas is used. The weld metal is machinable.

APPLICATION

Vertical and over head welding. For shop doing all welding repairs(Iron steel factory, Cement factory, Mines, Quarries, Chemical, etc). Welding difficult steel(High carbon, High manganes, High chrome, Dissimlar metal). Multi-layer Hardsurfacing welding(Bottom buffer layers and Impact prrof). A variety of Hot roll, Chemical pipe, Hot forges die, Rails, Rails point, Coarse, Crusher(Jaws), Mill, Shell, Killen tire, Hot corrosion liner, Over head crane wheels, etc.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Mo	Ti+B	Fe
0.05-0.08	6.50-6.90	0.70-0.75	19.3-19.8	9.0-9.5	1.0~1.2	trace	balance

HARDNESS

Welding after 180-210HB Work Hardned App 420HB

USED GAS

Argon (Pure Ar 100%) & (Max gas : Ar 80% + CO_2 20%)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm (GMAW)	160-200	18~22
3.2 mm (GTAW)	200-260	20~26

FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759(GMAW)
Spool B / BS 300 with app. 13-15 Kgs , EN 759(GMAW)
Tig Rod / 300mm 2kg with 1,000mm 5kg (GTAW)

SMF-4370 M-SUPER

CLASSIFICATION

Special Alloy

GENERAL CHARACTERISTICS

SMWELTEC SMF-4370 M-Super is a additional chemical(Mn+Mo+W+V+Ti+N), high alloyed, self shielded and slag producing flux-cored wire electrode. CO_2 gas is used. Welding wire containing some ferrite in austenite. The austenitic weld deposit is corrosion resistant and high tensile strength, working hardening (self hardening, 48~52HRC), anti-magnetic and themal shock resistant up to 800~1000℃. Depending on the high elongation(40%) the alloy is suitable for ductile buffer layers on cold and heating old hardfacings and joinning dissimilar and difficult to weld steels. Suitable for hardfacing high- manganese Delta ferrite content: 7.1 %. (i.e. Manganese-Hardfield-steel).

APPLICATION

For shop doing all welding repairs(Iron steel factory, Cement factory, Mines, Quarries, Chemical, etc). Welding difficult steel(High carbon, High manganes, High chrome, Dissimlar metal). Multi-layer Hardsurfacing welding(Bottom buffer layers and Impact prrof). A variety of Hot roll, Chemical pipe, Hot forges die, Rails, Rails point, Coarse, Crusher(Jaws), Mill, Shell, Killen tire, Hot corrosion liner, Over head crane wheels, etc.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Mo+W+V+Ti+N	Fe
0.12	7.10	0.73	19.5	9.10	trace	balance

HARDNESS

Welding after 200-220HB Work Hardning 48-52HRC

USED GAS

SMF-4370 M-Super (CO_2 gas)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-200	18~22
1.4 mm	180-220	20~24
1.6 mm	200-260	22~26
2.0 mm	220-310	24~32
2.4 mm	260-340	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759
Spool B / BS 300 with app. 13-15 Kgs , EN 759
Spool B 450 with app. 25-30 Kgs , EN 759
Big spool S 760 with app. 250 Kgs , EN 759
Drums with app. 150 Kgs or 250-300 Kgs
150 Kgs or 250-300 Kgs

SMF-4370 HIGH-SUPER

CLASSIFICATION

Special Alloy

GENERAL CHARACTERISTICS

SMWELTEC SMF-4370 High-Super (Open Arc) is a additional chemical Mo+W+V+Ti+ N+B, high alloyed, self shielded and slag producing flux-cored wire electrode. CO_2 gas is used and Non gas welding. Welding wire containing some ferrite in austenite. The austenitic weld deposit is corrosion resistant and high tensile strength, working hardening(self hardening, 38~42HRC), anti-magnetic and themal shock resistant up to 1000℃. Depending on the high elongation(35~38%). The alloy is welding difficult materials and dissimilar metals. Suitable for hardfacing high- manganese Delta ferrite content: 7~8%. (i.e. Manganese-Hardfield-steel). The weld metal is machinable.

APPLICATION

Iron steel factory, Power plant, Chemical plant, Cement plant, Railroad, Air Shipbuilding bridge construction etc. Hardsurfacing buffer layers, Buffer layers, Impact-proof, Forge die, Cold and Hot rolls, Steel mill roll, Caster roll, Table roll, Heating rolls, High carbon steel rail joint and repair, High manganese steel and Chromium steel joining. Coarse crusher(jaws), Hot and Corrosion liner, Beaters, etc..

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Mo+W+V+Ti + N+ B	Fe	
0.05-0.12	6.8-8.0	0.70-1.0	19- 21	9.0-10	trace	basis	%

HARDNESS

Welding after 190-220HB	Work Hardening 38-42 HRC

USED GAS

SMF-4370 HIGH SUPER 1.2/1.4/1.6mm CO_2 gas | 2.4mm Non gas

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-200	18~22
1.4 mm	180-220	20~24
1.6 mm	200-260	22~26
2.0 mm	220-310	24~32
2.4 mm	260-340	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-2010XD / SMF-2010XD OA

CLASSIFICATION

Special Alloy

GENERAL CHARACTERISTICS

SMF-2010XD & SMF-2010XD OA (Open Arc and Non gas type) is a high alloyed, self shielded and slag producing flux-cored wire electrode. The wire is austentic weld deposit is a high tensile strength. High elongation, High temperature, corrsion is very good. Surfacing and Buffer layers. High-Mn, High-C, High Cr, Welding joining. Impact used working hardening. The weld metal is very good machinable.

APPLICATION

Railway joining, Earth moving, Quarry or Construction machinery, Cement works, Iron Steel factory, Mines, Different type of crusher. Welding difficult steel(High carbon, high maganes, High chrome, dissimlar metal)

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Mo	Nb+Ti+N+B	Fe
0.05-0.08	6.50-7.2	0.7-0.9	19.5-21.5	9.5-11	1.0-1.5	trace	balance

TECHNICAL DATA

Tensile strenth	630-680 Mpa	Elongation	38-40%
Welding after	170-180 HB	Work Hardned	App 450HB (6~8mm)

USED GAS

SMF-2010XD (CO_2 gas)	SMF-2010XD OA (Non gas)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-200	18~22
1.4 mm	180-220	20~24
1.6 mm	200-260	22~26
2.0 mm	220-310	24~32
2.4 mm	260-340	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-300 / SMF-300 OA

CLASSIFICATION

Special Alloy

GENERAL CHARACTERISTICS

SMF-300 & SMF-300 OA (Open Arc) is a high alloyed, self shielded and slag producing flux-cored wire electrode. The austenitic and ferrite weld deposit is corrosion resistant and high tensile strength, working hardening(self hardening), anti-magnetic and themal shock resistant up to 800~1000℃. Corrosion and Impact wear, extreme resistance wear. Depending on the high elongation(35%) the alloy is suitable for ductile buffer layers on cold and heating old hardfacings and joinning dissimilar and difficult to weld steels. Suitable for hardfacing high- manganese Delta ferrite content: 7.2 %. (i.e. Manganese-Hardfield-steel). CO_2 gas & Non gas is used. The weld metal is machinable.

APPLICATION

For shop doing all welding repairs(Iron steel factory, Cement factory, Mines, Quarries, Chemical, etc). Multi-layer Hardsurfacing welding(Bottom buffer layers and Impact prrof and high temperature welding). A variety of Hot roll, Chemical pipe, Hot forges die, Coarse, Crusher(Jaws), Hot corrosion liner, Hot Rotar blade, Hot Grizzlyu bar, Hot Stone box, Buffer layers.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Mo+N+B+V	Fe
0.12-0.15	6.5-7.0	0.7-1.0	19-21	9.0-9.5	trace	balance

HARDNESS

Welding after 200-250HB	Work Hardned App 500-550HB

USED GAS

SMF-300 (Non gas)	SMF-300 OA (CO_2 gas or Non gas 2.8mm)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-200	18~22
1.4 mm	180-220	20~24
1.6 mm	200-260	22~26
2.0 mm	220-310	24~32
2.4 mm	260-340	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-Cobalt 6

CLASSIFICATION

AWS A5.21 /A5.21M ERCCoCr-A
DIN 8555
Alloy- No : MF-20-GW45-CTZ (Special Alloy)

GENERAL CHARACTERISTICS

FCAW SMWELTEC SMF-Cobalt 6, Co+Cr+W is in alloyed (Stellite 6 Type). The deposited weld material has a very good resitance and High temperature(1,000~1,200) Wear-resistant, Corrosion(acids, alkalis) and Impact wear, extreme resistance wear, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. Ar(100%),Max gas(Ar80%+Co2,20%)used. Use the for multi-layer welding. The weld metal is used machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Chemical industry, Power plant, Grinding plates and parts in the dip-land diiling industry , Extreme wear used(hot,corrosion,impact), Pump, Hot gas (dust exhaust fan blades coke plant equipment. Mixer parts(centrifugal separator etc)r , Corrosion wear rotor and exctrusion screw, screw blade, rotar bar,Valve and Valve seat , Hot shear blades, Bearing surfacing. Hot tool steel, Forging die.etc,

TYPICAL ALL WELD METAL ANALysis(%) Matrix type

C	Si	Mn	Cr	Ni	Mo	Co	W	Fe
1.20	0.55	0.80	30.01	2.34	0.50	Rem	4.30	3.80

HARDNESS

42~45Hrc(8mm)_

USED GAS

SMF-Stellite 6 1.2 &1.4 & 1.6mm(Ar gas) & MAX (Ar 80%+Co2 20%)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-GM145

CLASSIFICATION

DIN 8555
Special Alloy

GENERAL CHARACTERISTICS

SMF-GM145 is a Cr+Ni+Mo+Mn alloy Carbon steel die and hot forging die. self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. CO_2 gas is used.

The weld metal is tool machining. , Used (Tempering at 500℃)heat treatment.

APPLICATION

Hot and cold working tools . Hot Liner, Carbon steel die(press die) , Hot forging die casting. Hot shear blades , Cold and Hot guide

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Ni	W+V+Ti	Fe	
0.12	1.03	1.01	7.68	2.68	1.57	trace	basis	%

HARDNESS

Welding : 40~42HRC Tempering at 500℃ : 47~50HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-GM150

CLASSIFICATION

DIN 8555
Special Alloy

GENERAL CHARACTERISTICS

SMF-GM150 is a Cr+Ni+Mo+Mn+V alloy Carbon steel die and hot forging die. self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. CO_2 gas is used.

The weld metal is not tool machining. , Used (Tempering at 500℃)heat treatment.

APPLICATION

Hot and cold working tools . Carbon steel die(press die) , Hot forging die casting.
Hot shear blades ,

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Ni	Mo	V	Fe	
0.22	1.01	1.20	9.03	1.65	3.65	1.02	basis	%

HARDNESS

Welding : 47~48HRC Tempering at 500℃ : 52~53HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-216 / SMF-216 OA

CLASSIFICATION

DIN 8555
Alloy-No : MF-5-45-PRT

GENERAL CHARACTERISTICS

SMF-216/SMF-216 OA is a self-shielded, slag-small flux cored wire electrode for hard-surfacing on parts that are exposed to corrosion and high temperature and abrasive(corrosion) mineral wear, non-crack after welding. CO2 gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is machinable.

APPLICATION

Cement factory shaft and rolls, Iron Steel factory(steel mill rolls), Forging industry (Hot forging die), Food industry, Hot Liner, Continuous casting rolls, Back up rolls shaft, Auxiliary roll, Guilding rolls. Slabbing rolls, Bar mill rolls, Pinch rolls, Hot strip mill table rolls, each rolls hardsurfacing.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Ni	Co	V	W+Nb+N+Ti	Fe	
0.06	0.68	1.20	13.40	0.80	3.20	1.30	0.50	trace	basis	%

HARDNESS

42 – 46 HRC (56-62 HS), (Tempering at 600℃), Medium Carbon steel 45-52 HRC
Carbon steel 5mm and less: 42-46 HRC, 5mm and over : 50-52 HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-216 S

CLASSIFICATION

DIN 8555
Alloy-No : Special Alloy

GENERAL CHARACTERISTICS

SMF-216S is a self-shielded, slag-small flux cored wire electrode for hard-surfacing (Cr+Mo+Mn+Co+Ni+W+Nb+V+Ti) on parts that are exposed to corrosion and high temperature and abrasive(corrosion) mineral wear,high hardness, non-crack after welding. CO2 gas is used. Use the SMF-4370 OA(underlayer) for multi-layer welding. The weld metal is machinable.

APPLICATION

Power Plant, Cement factory shaft and rolls, Iron Steel factory(Hot rolling mill, roll up), Forging industry (Hot forging die), Food screw industry, Hot Liner, Continuous casting rolls, Back up rolls shaft, Auxiliary roll, Guilding rolls. Slabbing rolls, Bar mill rolls, Pinch rolls, Hot strip mill table rolls, Punch die, each rolls hardsurfacing.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Ni	Co	V	W	Nb+Ti+N+B	Fe	
0.11-0.15	0.5-0.7	1.30-1.40	13-15	1.20-1.50	3.20-3.50	1.30-1.50	1.0-1.5	1.0-1.5	trace	basis	%

HARDNESS

45–48 HRC, (Tempering at 600℃), 5mm and over : 45-52 HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30

FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759
Spool B / BS 300 with app. 13-15 Kgs , EN 759

SMF-218

CLASSIFICATION

DIN 8555
Alloy-No : MF-5-45-PRT

GENERAL CHARACTERISTICS

SMF-218 is a self-shielded, slag-small flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature and abrasive(corrosion) impact mineral wear, non crack after welding. CO2 gas is used. The weld metal is machinable.

APPLICATION

Cement factory shaft and rolls, Iron Steel factory(steel mill rolls) , continuous casting rolls, back up rolls shaft, auxiliary roll, Guilding rolls. Slabbing rolls, bar mill rolls, Pinch rolls, hot strip mill table rolls, Edger Rolls, Descale Rolls, Backup Rolls, Straightener Rolls, Plate Leveler Rolls, each rolls hardsurfacing.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Ni	V + Nb + Ti + N	Fe	
0.25-0.30	0.69	1.2	13.6	1.8-2.0	0.6-1.0	trace	basis	%

HARDNESS

42 – 45 HRC(57-60HS) 1 Layer 40-44 HRC | 2 Layer 45-49 HRC | 3 Layer 49-50 HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-288 / SMF-288 OA

CLASSIFICATION

DIN 8555
Alloy- No : Special Alloy

GENERAL CHARACTERISTICS

SMF-288 & SMF-288 OA(SA) is a Cr+Mo+Mn+V+W+Ni alloy. Self-shielded gas, slag-free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is machinable.

APPLICATION,

Cement factory, Iron Steel factory , Mineral and brick industry, Mine industry
Dredge ship, Dredging parts, Gravel pumps, CCP Roll segment, Screws, Crusher hammers, Drive tumblers, Road Construction, Suction dredger, Inner cashing and bucket and impeller, Mixer parts, Hot strip mill table rolls, Feed roll, Edger rolls, Pinch rolls, Finishing table roll, Entry table roll, Continous casting roll, Steel mill rolls, Other rolls hardsurfacing.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	V	Ni	Ti + Nb	Fe	
0.25	0.90	1.45	14	1.50	0.3	0.5	2.5	trace	basis	%

HARDNESS

40-45 HRC 6~8mm ↑

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-321 / SMF-321 OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-6-55RP

GENERAL CHARACTERISTICS

SMF-321 & SMF-321 OA(SA) is a Cr+Mo+Mn+V+W alloy. Self-shielded gas, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is machinable.

APPLICATION,

Cement factory, Iron Steel factory , Mineral and brick industry, Mine industry
Dredge ship, Dredging parts, Gravel pumps, Roll tire and table, Screws, Crusher hammers, Drive tumblers, Road Construction, Suction dredger, Inner cashing and bucket and impeller, Mixer parts, Hot strip mill table rolls, Feed roll, Edger rolls, Pinch rolls, Finishing table roll, Entry table roll, Continous casting roll, Steel mill rolls, Other rolls hardsurfacing.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	V	Ni + Ti + Nb	Fe	
0.52	0.90	1.18	12.5	1.52	0.8	0.90	trace	basis	%

HARDNESS

47-52HRC 6~8mm ↑ 50-55HRC 12-20mm ↑

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-330 / SMF-330 OA

CLASSIFICATION

DIN 8555
Special Alloy

GENERAL CHARACTERISTICS

SMF-330 is a self-shielded, special alloy (W+Ni+V+Ti) and slag-small flux cored wire electrode for hardsurfacing on parts mineral wear, non crack after welding. CO_2 gas is used. The weld metal is machinable.

APPLICATION

Iron Steel factory, Cement factory, Construction machine, The bulldozer sprocket, Cluch bracket, Auxiliary roller, Guilde roller, Support roller, Over head crane wheels (mine car wheels), Tractor Roll and idlers, Shovel parts, Dredge pump etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Ni	Cr	Mo	W	V+Ti+B	Fe	
0.20-0.25	0.42	0.60	2.10	0.60	0.50	Trace	basis	%

HARDNESS

35-38 HRC , Heat Treatment (850℃) 45-48 HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-350

CLASSIFICATION

DIN 8555
Alloy- No : MF 1-40-P

GENERAL CHARACTERISTICS

SMF-350 is a C-Cr- Mn alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear.
Suitable for metal to metal wear and light abrasion part. CO_2 gas is used. The weld metal is good for machine processing.

APPLICATION

Metal and Metal hardsurfacing , Hot Liner, Upper Roller, Sprockets of buildozers ,Clutch lugs, Auxiliary rolls, guiding roll, etc

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Others	Fe	
0.30	0.42	1.95	1.20	0.50	trace	basis	%

HARDNESS

38~40HRC 850℃ 44~49 Hrc

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-420

CLASSIFICATION

DIN 8555
Special Alloy

GENERAL CHARACTERISTICS

SMF-420 deposit is a martensitic stainless steel used be rebuild steel mill , Roll components. Good wear resistance and provides resistance to fire cracking, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. CO_2 gas is used. SAW Roll hardsurfacing used SMJ-414 Flux. Much better layer hardfacing used the SMF-300OA 1 layer welding. The weld metal is machinable.

APPLICATION

Steel mill roll , Caster roll, Table roll, Rail Hardfacing, etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Ni	V+Ti+Nb	Fe	
0.25-0.30	0.7-1.0	0.7-1.0	13-14	0.5-0.8	trace	basis	%

HARDNESS

40~45 HRC | SMF-4370 OA Buffer layer after 40~45 HRC | Carbon steel 46~52 HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-433

CLASSIFICATION

DIN 8555
Special Alloy

GENERAL CHARACTERISTICS

Shield gas projection used for hardfacing SMF-433 OA flux cored wire 13Cr 4Ni welding material. It has higher strength and hardness. It can be used for harding more wear-resisting and corrosion resistanting materials. CO_2 gas is used.

APPLICATION

Iron steel factory(Roll hardsurfacing, Hot strip mill rolls), Chemical industry(Surfacing and Valve sheets, Sulphurous gas and Corrosion resistance) Hydro power station, Forging industry(Hot forging die). Hot liner etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Ni	Cr	Ti + V + Nb + Mo	Fe	
0.04-0.05	0.40-0.41	0.4-0.7	4.0-4.3	12-13	trace	basis	%

HARDNESS

52-57 HS / 39-43 HRC

USED GAS

Ar+ 20% CO_2 gas	CO_2 gas

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759

SMF-440 / SMF-440 OA

CLASSIFICATION

DIN 8555
MF 5-450-PRT
Special Alloy

GENERAL CHARACTERISTICS

SMF-440(Open Arc) is a high alloyed, self shielded and slag producing flux-cored wire electrode. The high tensile strength Cr-Ni-Mo-V-W thermal shock resistant up to 500-800℃ . The alloy is suitable for cold and heating(hot) maintrance and repair old hard-facings weld steels. Crack-free weld buffer-1 Layer SMF-300 OA. CO_2 gas is used.

APPLICATION

Iron and steel hot and cold rolls, Heating rolls, cement factory coarse crusher(jaws, hammer) and rolls, Back up Roll, Edge Roll, Heating fan, Pinch Rolls, Plate Leveller Rolls, Heating liner. hot forging die, hot strip mill table rolls, all cold and hot steel hardsurfacing

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Ni	Si	Cr	Mo	Mn	W	Co+V+Nb+B	Fe
0.35-0.40	1.5-2.0	0.3-0.4	12-13	2.5-2.8	1.2-1.5	2.0-2.4	trace	base

HARDNESS

500~570HB (50~55HRC)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-200	18~22
1.4 mm	180-220	20~24
1.6 mm	200-260	22~26
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-476

CLASSIFICATION

DIN 8555
Alloy- No : MF-5-50-PRT

GENERAL CHARACTERISTICS

SMF-476 is a Ni-Cr-Mo-V-W alloyed, self-shielded, slag-free flux cored wire electrode for hard-surfacing on parts that are exposed to corrosion, wear resistant welding high abrasive mineral wear. Non-crack after welding. The weld metal is for machine processing. Use the SMF-300 OA, 1-layer for multi-layer welding.

APPLICATION,

Cement factory, Iron Steel factory, Chemical plant (Corrosion wear resistant part) Hot Liner, Mineral and brick industry, Mine industry, Dredge ship, Steel mill rolls, Caster roll, Table roll, Auxiliary roll, Guiding roll, Pumps, Impeller screws, Conveyer screws.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	V	Ni	W+Ti+Nb	Fe	
0.28-0.30	1.10-1.15	0.90-0.95	16-16.5	1.52-1.60	1.2-1.5	4.2-4.5	each 05-1.0	basis	%

HARDNESS

46-51HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-601 / SMF-601 OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-6-60-PT

GENERAL CHARACTERISTICS

SMF-601 & SMF-601OA(SA) is a Cr+Mo+Mn+V+W alloy self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature and abrasive(corrosion) mineral wear, fewer crack after welding. CO_2 gas is used. Use the SMF-300 OA(under layer) for multi-layer welding. The weld metal is not machinable.

APPLICATION,

Cement factory, Iron Steel factory, Mineral and brick industry, Mine industry, Chemical industry, Backup roll, Pinch roll, Table roll, Work roll, Spindles (Roll etc) Dredge ship, Dredging parts, Gravel pumps, Blowbar, Screws, Crusher hammers, Drive tumblers ,Road Construction, Bucket teeth, Rock processing and Recycling, Severe wear Roll tire and table, Suction dredger, Inner cashing and bucket and impeller, Mixer parts.

TYPICAL ALL WELD METAL ANALYSIS

C	Mn	Si	Mo	Cr	V	W	Ni+Ti+B+N	Fe	
0.8-1.0	2.80	1.00	1.5-2.0	7-9	1.25	1.5-2.0	trace	basis	%

HARDNESS

55-60HRC	SUS 304	4~6mm	48~51	HRC
	Carbon steel	4~6mm	58~61	HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs	,	EN 759
Spool B / BS 300 with app.	13-15 Kgs	,	EN 759
Spool B 450 with app.	25-30 Kgs	,	EN 759
Big spool S 760 with app.	250 Kgs	,	EN 759
Drums with app.	150 Kgs	or	250-300 Kgs

SMF-612 / SMF-612 OA

CLASSIFICATION

DIN 8555
Alloy- No : Special Alloy

GENERAL CHARACTERISTICS

SMF-612 & SMF-612 OA(SA) is a Cr+Mo+Mn+W alloy. Self-shielded gas, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to corrosion and high abrasive mineral wear and high temperature(500°C). CO_2 gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. Non crack after welding. The weld metal is machinable.

APPLICATION,

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Food industry, Dredge ship ,. Dredging parts, Gravel pumps, Roll tire and table, Backup roll, Pinch roll, Table roll, Work roll, Spindles (Roll etc..) Screws, Hot liner, Crusher hammers, Drive tumblers ,Road Construction, Suction dredger, Inner cashing and bucket and impeller, Mixer parts.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	Nb+Co+Ti+V+B+N	Fe	
0.52	0.90	1.20	12-13	2.0-2.5	3.0-5.0	trace	basis	%

HARDNESS

Tickness 3mm 50-52 HRC | 5mm 52-54 HRC | 7mm 54-56 HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30

FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759
Spool B / BS 300 with app. 13-15 Kgs , EN 759
Spool B 450 with app. 25-30 Kgs , EN 759

SMF-688 / SMF-688 OA

CLASSIFICATION

DIN 8555
Special Alloy

GENERAL CHARACTERISTICS

SMF-688 & SMF-688 OA is a high Cr+Mo+Nb+W+Mn and Ni+V+Ti+B alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature (800~1000°C over) abrasive(corrosion) mineral wear, Non-crack after welding . Co_2 gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory, Mineral and brick industry, Industry fixing machine surfacing, Hot liner, Mine industry, PVC pipe resin(Screw and Cylinder/hightemperature) Less tire die and Cutter knife, Hot forging die, Hot cutter knife, Ciners, Cutting edges on tool bodies, Wooden cutter knife, Press die, Rubber factory bambari mixer, High temperature mixer part, Aluminium die casting etc. Continuous casting rolls, Back up rolls shaft, Auxiliary roll, Guilding rolls. Slabbing rolls, Bar mill rolls, Pinch rolls, Hot strip mill table rolls, each rolls hardsurfacing.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	Nb	Ni	V	Ti+B	Fe
1.3-1.6	1.40	1.20-1.35	7.3-7.8	0.8-1.0	1.1-1.5	8-8.5	0.6-1.0	1.0-1.5	trace	basis %

HARDNESS

55-58 HRC 4-5mm

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs	,	EN 759
Spool B / BS 300 with app.	13-15 Kgs	,	EN 759
Spool B 450 with app.	25-30 Kgs	,	EN 759
Big spool S 760 with app.	250 Kgs	,	EN 759
Drums with app.	150 Kgs	or	250-300 Kgs

SMF-713 / SMF-713 OA

CLASSIFICATION

DIN 8555
Special Alloy

GENERAL CHARACTERISTICS

SMF-713 & SMF-713 OA is a high Cr+Mo+W+Mn and Co+Nb+V+Ti+B alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature (500~800°C) abrasive(corrosion) mineral wear, Non-crack after underlayer welding. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is machinable except multi-layer hardfacing.

APPLICATION

Cement factory, Iron Steel factory, Mineral and brick industry, Industry fixing machine surfacing, Hot liner, Mine industry, PVC pipe resin(Screw and Cylinder/hightemperature) Less tire die and Cutter knife, Hot forging die, Hot cutter knife, Ciners, Cutting edges on tool bodies, Wooden cutter knife, Press die, Rubber factory bambari mixer, High temperature mixer part, Aluminium die casting etc. Continuous casting rolls, Back up rolls shaft, Auxiliary roll, Guilding rolls. Slabbing rolls, Bar mill rolls, Pinch rolls, Hot strip mill table rolls, each rolls hardsurfacing.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	Co+V+Ti+Nb+B	Fe	
0.50	0.52	1.20	8-10	2.0-2.5	5.0~7.0	trace	basis	%

HARDNESS

52-56 HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-733 / SMF-733 OA

CLASSIFICATION

DIN 8555
Special Alloy

GENERAL CHARACTERISTICS

SMF-733 & SMF-733 OA is a high Cr+Mo+W+Mn and Co+Nb+V+Ti+N+B alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature (600~800°C over) abrasive(corrosion) mineral wear, Non-crack after welding . CO_2 gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is machinable.

APPLICATION

Cement factory, Iron Steel factory, Mineral and brick industry, Industry fixing machine surfacing, Hot liner, Mine industry, PVC pipe resin(Screw and Cylinder/high temperature) Less tire die and Cutter knife, Hot forging die, Hot cutter knife, Ciners, Cutting edges on tool bodies, Wooden cutter knife, Press die, Rubber factory bambari mixer, High temperature mixer part, Aluminium die casting etc. Continuous casting rolls, Back up rolls shaft, Auxiliary roll, Guilding rolls. Slabbing rolls, Bar mill rolls, Pinch rolls, Hot strip mill table rolls, each rolls hardsurfacing.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	Co+Nb+V+Ti+N+B	Fe	
0.5-0.7	0.9-1.2	1.2-1.5	10-12	2.0-2.5	8-10	trace	basis	%

HARDNESS

48-52 HRC 3-5mm 52-58 HRC 8mm ↑

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-733 SUPER / SMF-733 SUPER OA

CLASSIFICATION

DIN 8555
Special Alloy

GENERAL CHARACTERISTICS

SMF-733 SUPER & SMF-733 SUPER OA is a high Cr+Mo+W+Mn and Ni+Nb+V+Ti+B alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature (800~1000℃ over) abrasive(corrosion) mineral wear, Non-crack after welding . CO_2 gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory, Mineral and brick industry, Industry fixing machine, Corrision surfacing, Hot liner, Mine industry, PVC pipe resin(Screw and Cylinder/high temperature) Less tire die and Cutter knife, Hot forging die, Hot cutter knife, Ciners, Cutting edges on tool bodies, Wooden cutter knife, Press die, Rubber factory bambari mixer, Auxiliary roll, High temperature mixer part, Aluminium die casting etc. Continuous casting rolls, Back up rolls shaft, Guilding rolls. Slabbing rolls, Bar mill rolls, Pinch rolls, Hot strip mill table rolls, each rolls hardsurfacing.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	Ni+V+Ti+Nb+B+N	Fe	
0.7-1.0	1.0-1.2	0.8-1.5	12-13	2.3-2.6	8~10	trace	basis	%

HARDNESS

55-58 HRC 3-5mm 58-62 HRC 8mm ↑

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-788 / SMF-788 OA

CLASSIFICATION

DIN 8555
Special Alloy

GENERAL CHARACTERISTICS

SMF-788 & SMF-788 OA is a high Cr+Mo+W+Mn and Ni+Nb+V+Ti+B alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature (800~1000°C over) abrasive(corrosion) mineral wear, Non-crack after welding . CO_2 gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory, Mineral and brick industry, Industry fixing machine, Corrosion surfacing, Hot liner, Mine industry, PVC pipe resin(Screw and Cylinder/high temperature) Less tire die and Cutter knife, Hot forging die, Hot cutter knife, Ciners, Cutting edges on tool bodies, Wooden cutter knife, Press die, Rubber factory bambari mixer, Auxiliary roll, High temperature mixer part, Aluminium die casting etc. Continuous casting rolls, Back up rolls shaft, Guilding rolls. Slabbing rolls, Bar mill rolls, Pinch rolls, Hot strip mill table rolls, each rolls hardsurfacing.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	Nb	Ni+V+Ti+B+N	Fe	
1.6-2.0	1.5-1.7	1.0-1.5	6.0-8.0	1.0-1.5	1.5-2.0	8-10	trace	basis	%

HARDNESS

58-61 HRC 3-5mm 62-65 HRC 8mm ↑

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-53 / SMF-53 OA

CLASSIFICATION

DIN 8555
Special Alloy

GENERAL CHARACTERISTICS

SMF-53 & SMF-53 OA(Open Arc) is a high alloyed, self shielded and slag producing flux-cored wire electrode. CO_2 gas & Non gas is used. The austenitic weld deposit is low stress abrasion, corrosion resistant and high tensile strength(combined with moderate to high impact), anti-magnetic and thermal shock resistant . The alloy is suitable on cold and heating old hardfacings and joinning dissimilar and difficult to weld steels. Suitable for hardfacing high- manganese Delta ferrite content: 14 %.(i.e. Manganese-Hardfield-steel). Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron steel factory, Mineral and brick industry, Impact-proof, forges, cold and hot rolls, Coarse crusher(jaws), Liner, Hammer crushers, Roll crusher, Chuts, Gyratory crusher mantles, Screw conveyors, Expeller screws etc..

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Mo	W+V+Nb+Ti	Fe	
2.8-3.0	14.0	1.6-1.8	15-22	2.0-2.2	trace	basis	%

HARDNESS

Welding after 52-57 HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-200	18~22
1.4 mm	180-220	20~24
1.6 mm	200-260	22~26
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-55 / SMF-55 OA

CLASSIFICATION

DIN 8555
Alloy- No : Special Alloy

GENERAL CHARACTERISTICS

SMF- 55 & SMF-55OA(SA) is a high C-Cr- alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature (300°C) abrasive mineral wear. CO_2 gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Pulley Dredge ship Pumps, Mixer and Dredging parts, Coal bucket and hoppers, Conveyer screws, Wear plates, Liner, Pulley, Scrapper, Hub, Roller(Tire&Table), Polycom, PGR Grinding roller, Coil Crusher, etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W+V+Nb+Ti+B+N	Fe	
5.10	1.0-1.3	2.0-2.2	28-31	1.3-1.5	trace	basis	%

HARDNESS

6-8mm 60-63 HRC

USED GAS

1.2/1.4/1.6mm (CO_2 gas or Non gas) | 2.8mm (Non gas)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-55B / SMF-55B OA

CLASSIFICATION

DIN 8555
Alloy- No : Special Alloy

GENERAL CHARACTERISTICS

SMF- 55B & SMF-55B OA(SA) is a high C-Cr-Mn-Mo-B alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature (300°C) abrasive mineral wear. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry,Extreme wear resistance, Pulley, Liners (Wear, Dozer, Chute, Stone box, Iron stone etc.) Dredge ship Pumps, Mixer and Dredging parts, Coal bucket and hoppers, Conveyer screws, Wear plates, Liner, Pulley, Scrapper, Hub, Roller(Tire&Table), Polycom, PGR, Grinding roller, Coil Crusher, etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Nb+W+B+Ti+N	Fe	
4.9-5.3	0.7-1.2	1.90-2.30	27-30	1.20-1.40	trace	basis	%

HARDNESS

60-63 HRC 3-5mm | 63-65 HRC 6-8mm

USED GAS

1.2/1.4/1.6mm (CO_2 gas) | 2.8mm (Non gas)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-55Mo / SMF-55Mo OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-60-G

GENERAL CHARACTERISTICS

SMF- 55Mo & SMF-55Mo OA(SA) is a high C-Cr-Mo alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature(up to 300~450℃) impact wear, extreme resistance wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Pulley Dredge ship ,Pumps, Mixer and Dredging parts, Coal and Iron bucket and hoppers , Conveyer screws, Coal crusher, cones , Liners , wear plates, Grinding roller , Crusher rolls etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Nb+W+B+Ti	Fe	
4.90	1.30	2.10	28.0	1.30	trace	basis	%

HARDNESS

60-63HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-55MoB / SMF-55MoB OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-60-G (B)

GENERAL CHARACTERISTICS

SMF- 55MoB & SMF-55MoB OA(SA) is a high C-Cr-Mo-B alloyed, self-shielded, slag-free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature(up to 450℃-500℃) abrasive mineral resistance wear. CO_2 gas & Non gas is used. Use the SMF-300 OA (underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Pulley Dredge ship ,Pumps, Mixer and Dredging parts, Coal and Iron bucket and hoppers , Conveyer screws, Coal crusher, Cones , Liners , Wear plates, Grinding roller , Crusher rolls.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W+Nb+B+V+Ti	Fe	
4.90	1.30	1.25	26.50	1.30	trace	basis	%

HARDNESS

58-62HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-55MoW / SMF-55MoW OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-65-G (Special Alloy)

GENERAL CHARACTERISTICS

SMF- 55MoW & SMF-55MoW OA(SA) is a high C-Cr-Mo-W alloyed, self-shielded, slag-free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature(to 800℃) impact wear, extreme resistance wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory, Rotar blade, Grizzly bar, Stone box, Hot ID fan impeller, Mineral and brick industry , Mine industry, Pulley, Dredge ship ,Pumps, Mixer and Dredging parts, Coal and Iron bucket and hoppers , Conveyer screws, Coal and Cement hammer crusher, cones , Liners , wear plates, Grinding roller , Crusher rolls , Cement clinker pulrerizer roll and table, Bucket teeth, Rippers etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	Nb	V+Ti+B+N	Fe
5.2-5.8	1.0-1.50	1.6-2.0	24-28	4.5-5.40	5.0-6.0	1.5-2.0	trace	basis %

HARDNESS

63-68 HRC 8mm

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-55MoNb / SMF-55MoNb OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-60-G (Nb)

GENERAL CHARACTERISTICS

SMF- 55MoNb & SMF-55MoNb OA(SA) is a high C-Cr-Mo-Nb alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature(800°C-1000°C) and abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA (underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, IDF Fan, Dredge ship ,Pumps, Mixer and Dredging parts, Coal bucket and hoppers , Conveyer screws, Coal crusher, cones , Liners , wear plates, Grinding roller , Crusher rolls, Food machinery wear-resistant

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Nb	W + V + Ti + B	Fe	
4.35	1.30	2.10	26.15	3.02	3.85	trace	basis	%

HARDNESS

61-64HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-56Mo / SMF-56Mo OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-61-GR

GENERAL CHARACTERISTICS

SMF- 56Mo & SMF- 56Mo OA(SA) is a very high C-Cr-Mo alloyed, self-shielded gas, slag- free flux cored wire electrode for hard-surfacing, High temperature(600°C), Corrosion, High abrasive mineral wear. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry Dredge ship, Pumps, Impeller screws, Track hopper, Wooden cutter knife, Coal bucket and hoppers , Conveyer screws, Coal crusher, cones , Liners , wear plates, Grinding roller , Crusher rolls, etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W + V + NB + Ti	Fe	
5.0	1.0-1.5	1.5	28	4.5-5.4	trace	balance	%

HARDNESS

62 – 65 HRC

USED GAS

SMF-56Mo (Non gas) SMF-56MoOA (CO_2 gas)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-56MoW / SMF-56MoW OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-61-GR

GENERAL CHARACTERISTICS

SMF- 56MoW & SMF- 56MoW OA(SA) is a very high C-Cr-Mo alloyed, self-shielded gas, slag- free flux cored wire electrode for hard-surfacing, high temperature(600°C), Corrosion, High abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry Dredge ship, Pumps, Impeller screws, Track hopper, Wooden cutter knife, Coal bucket and hoppers , Conveyer screws, Coal crusher, cones , Liners , wear plates, Grinding roller , Crusher rolls, etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	V + B + Ti	Fe	
5.6	1.0	0.3	32	1.5	1.25	trace	balance	%

HARDNESS

62 – 64 HRC

USED GAS

SMF-56MoW (CO_2 gas)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-57 / SMF-57 OA

CLASSIFICATION

DIN 8555
Alloy- No : Special Alloy

GENERAL CHARACTERISTICS

SMF-57 & SMF-57 OA(SA) is a very high C-Cr-B-N, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION,

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry
Dredge ship ,Dredging parts, Gravel pumps, Blowbar, Screws, Crusher hammers,
Drive tumblers ,Road Construction, Bucket teeth, Rock processing and Recycling,
Suction dredger, Inner cashing and bucket and impeller, Mixer parts, etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Mn	Si	Cr	Mo+W+Ti+V+B	Fe	
4.9-5.10	2.20	0.7-1.0	26-28	trace	basis	%

HARDNESS

6-8mm 60-62HRC

USED GAS

1.2/1.4/1.6mm (CO_2 gas or Non gas) | 2.8mm (Non gas)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-58 / SMF-58 OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-60-GR

GENERAL CHARACTERISTICS

SMF-58 & SMF-58OA(SA) is a high C-Cr- alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature(200°C) abrasive mineral wear and. high temperature and abrasive(corrosion) mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Rock crushing, Fan blades, Dredge ship Pumps, Mixer and Dredging parts, Coal bucket and hoppers, Liners(wear, dozer, chute, stone box), Screw(conveyer, metal feed), Plate(wear, target), Grinding roller , etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W + B + Ti	Fe	
4.80	1.20	1.52	28.2	0.92	trace	basis	%

HARDNESS

58 – 61 HRC

USED GAS

SMF-58 (CO_2 gas) SMF-58 OA (Non gas)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-58MoB / SMF-58MoB OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-60-G (B)

GENERAL CHARACTERISTICS

SMF- 58MoB & SMF-58MoB OA(SA) is a high C-Cr-Mo-Nb-V-W-B alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature(up to 450℃-500℃) a small amount of water, corrosion and impact wear, extreme resistance wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Pulley Dredge ship ,Pumps, Mixer and Dredging parts, Coal and Iron bucket and hoppers, Conveyer screws, Shute, Coal crusher, Cones , Liners , Wear plates, Grinding roller, Crusher rolls etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Nb	W+B+V+Ti	Fe
4.5-4.8	1.60	2.30	26-28	1.25	1.0	trace	basis %

HARDNESS

61-65 HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-58MoNb / SMF-58MoNb OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-65-G (B)

GENERAL CHARACTERISTICS

SMF- 58MoNb & SMF-58MoNb OA(SA) is a high C-Cr-Mo-Nb-V-W-B alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature(up to 800℃) a small amount of water, corrosion and impact wear, extreme resistance wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, IDF Fan, Hot Rotar blade, Hot sinter break, Dredge ship ,Pumps, Mixer and Dredging parts, Coal bucket and hoppers , Conveyer screws, Coal crusher, cones , Liners , wear plates, Grinding roller , Crusher rolls, Food machinery wear-resistant

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Nb	W+B+V+Ti	Fe	
4.5-4.8	1.4-1.6	2.2-2.3	26-28	2.2-2.5	2.0-2.5	trace	basis	%

HARDNESS

60-65 HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-58Nb / SMF-58Nb OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-60-G (B)

GENERAL CHARACTERISTICS

SMF- 58Nb & SMF-58Nb OA(SA) is a high C-Cr-Mo-Nb-V-W-B alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature(up to 450℃-500℃) a small amount of water, corrosion and impact wear, extreme resistance wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Pulley Dredge ship ,Pumps, Mixer and Dredging parts, Coal and Iron bucket and hoppers, Conveyer screws, Shute, Coal crusher, Cones , Liners , Wear plates, Grinding roller, Crusher rolls etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Nb	W + B + V + Ti	Fe
4.5-5.0	1.3-1.6	2.0-2.3	26-28	0.8-1.30	1.5-1.7	trace	basis %

HARDNESS

62-65 HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-58MoNbW / SMF-58MoNbW OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-65-G (Special Alloy)

GENERAL CHARACTERISTICS

SMF- 58MoNbW & SMF-58MoNbW OA(SA) is a high C-Cr-Mo-Nb-W-B alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature(up to 800~1000℃) a small amount of water, corrosion and impact wear, extreme resistance wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Hot gas, Dredge ship ,Mining and clinker industry, Concrete pumps, Slag conveyer screws , Scraper, Blade of hot crusher, Hot sinter breaker , Cement Coller, Hot Grizzy bar, Hot Rotar Blade, Hot crusher upper deck, Parts in screening units, Mixer parts, Blast furnace charge, etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Nb	W	V+Ti+B	Fe	
4.6-5.0	1.4-1.6	2.2-2.3	28-31	2.5-3.0	2.0-2.5	2.50	trace	basis	%

HARDNESS

63-67 HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-59 / SMF-59 OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-61-GR

GENERAL CHARACTERISTICS

SMF-59 & SMF-59 OA(SA) is a very high C-Cr-Mn-B alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature (200°C) abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, pulley Dredge ship(Pump, Impeller, Screws, Cutter Knife), Track hopper, Wooden cutter knife, Coal bucket and hoppers , Conveyer screws, Crusher(Cement, Coal, Hammer and rolls), Cones , Liners , Wear plates, Grinding roller, etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	B + N	Fe	
5.40	1.0	1.0	30-31	0.5	trace	basis	%

HARDNESS

58-62HRC

USED GAS

SMF-59 (CO_2 gas)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-60 / SMF-60 OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-60-GR

GENERAL CHARACTERISTICS

SMF-60 & SMF-60 OA(SA) is a very high C-Cr-Mn-Mo alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature (300°C) abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA (underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Dredge ship(Pump, Impeller, Screws, Cutter Knife), Track hopper, Wooden cutter knife, Coal bucket and hoppers , Conveyer screws, Crusher(Cement, Coal, Hammer and rolls), Cones, Liners, Wear plates, Grinding roller, Hub Scraper, Cement of coil clinker pulverizer roll and table, Bucket teeth, Rippers, etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Nb+V+W+B+Ti	Fe	
5.8-6.7	1.50-1.70	1.70-2.20	31.5	1.50	trace	basis	%

HARDNESS

61-64 HRC

USED GAS

SMF-60 (CO_2 gas)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-61 / SMF-61 OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-60-G

GENERAL CHARACTERISTICS

SMF-61 & SMF-61 OA(SA) is a high C-Cr-Mo-W alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature(up to 450℃) abrasive mineral resistance wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Pulley Dredge ship ,Pumps, Mixer and Dredging parts, Coal and Iron bucket and hoppers , Conveyer screws, Coal crusher, cones , Liners , wear plates, Grinding roller , Crusher rolls etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	Nb+V+Ti+B	Fe	
4.8-5.2	1.2-1.3	2.0-2.3	28-30	1.30	1.2-1.5	trace	basis	%

HARDNESS

61-63HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-62 / SMF-62 OA

CLASSIFICATION

DIN 8555
Special Alloy

GENERAL CHARACTERISTICS

SMF- 62& SMF-62 OA(SA) is a high C-Cr- alloyed, used Extreme abrasion resistance. self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Coke oven screen, Pulverizer hammers , Pumps, Mixer and Dredging parts,
Coal bucket and hoppers, Wear plate etc

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	V + Ti	Fe	
5.30	1.10	1.05	34.2	0.02	trace	basis	%

HARDNESS

63-65HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-63 / SMF-63 OA

CLASSIFICATION

DIN 8555
Alloy- No : 1.3255(E 18 Co 5) / UM-60-65-ST

GENERAL CHARACTERISTICS

SMF-63 & SMF-63 OA(SA) is a hot and cold cutting edges on tool bodies made of low alloyed or un alloyed steels and for the lining of cold and cutting tools, excellent results have been achived with wear-ressistent facing , self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Hot forging die, Roll(Cold and Hot), Press Roll, PVC and resin pipe (screw, cylinder), Cutting edges on tool bodies, Wooden cutter knife, Hot and cold wear-ressistent facing. hot and cold knife, hot linner, Cement and Iron Steel high temperature abrasive mineral wear.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Co	Cr	Mn	Mo	V	W + B + Ti	Fe		
0.80	0.70	5.00	4.30	1.50	1.60	1.60	1.60	trace	basis	%

HARDNESS

60-63HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt	
1.2 mm	160-190	18~26	
1.4 mm	180-220	22~28	
1.6 mm	200-280	22~30	
2.4 mm	260-320	26~34	(SAW)
2.8 mm	300-380	28~36	(SAW)
3.2 mm	320-450	30~38	(SAW)

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs	,	EN 759
Spool B / BS 300 with app.	13-15 Kgs	,	EN 759
Spool B 450 with app.	25-30 Kgs	,	EN 759
Big spool S 760 with app.	250 Kgs	,	EN 759
Drums with app.	150 Kgs	or	250-300 Kgs

SMF-64 / SMF-64 OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-65-GZ

GENERAL CHARACTERISTICS

SMF-64 & SMF-64 OA(SA) is a High temperature extreme abrasion resistance, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA (underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION,

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry Dredge ship ,Dredging parts, Gravel pumps, Blowbar, Screws, Crusher hammers, Drive tumblers ,Road Construction, Bucket teeth, Rock processing and Recycling , Roll tire and table ,Suction dredger, Inner cashing and bucket and impeller, Mixer parts

TYPICAL ALL WELD METAL ANALYSIS

C	Mn	Si	B	Cr	V + W + Ti	Fe	
3.70	0.92	0.83	1.01	21.05	trace	basis	%

HARDNESS

62-64HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-65Mo / SMF-65Mo OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-65-GZ

GENERAL CHARACTERISTICS

SMF-65Mo & SMF-65Mo(SA) is a high C-Cr-Mo-Mn and high temperature (300~500℃) inclusion Nb alloyed, also High temperature wear-resistant , self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry Dredge ship, Pumps, Impeller screws, Track hopper, Wooden cutter knife, Coal bucket and hoppers , Conveyer screws, Coal crusher, cones , Liners , wear plates, Grinding roller , Crusher rolls, etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	V+Nb+W+Ti+B	Fe	
4.5-5.0	1.40	2.20	28-30	4.5-5.5	trace	basis	%

HARDNESS

58-62 HRC

USED GAS

SMF-65Mo (CO_2 gas)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-65MoW / SMF-65MoW OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-65-GZ

GENERAL CHARACTERISTICS

SMF-65MoW & SMF-65MoW OA(SA) is a High C-Cr-Mo-W and High temperature (600~800℃) extreme abrasion resistance, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION,

Cement factory, Iron Steel factory, Mineral and brick industry , Mine industry, Hot gas, Dredge ship ,Mining and clinker industry, Concrete pumps, Slag conveyer screws , Scraper, Blade of hot crusher, Hot sinter breaker, Cement Coller, Hot Grizzy bar, Hot Rotar Blade, Parts in screening units, Mixer parts, Blast furnace charge, etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Mn	Si	Cr	Mo	W	V+Ni+Ti+B+Nb	Fe	
4.6-5.0	2.20	1.40	28-30	4.5-5.5	5.5-6.0	trace	basis	%

HARDNESS

64-70HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-66 / SMF-66 OA

CLASSIFICATION

DIN 8555
Special alloy

GENERAL CHARACTERISTICS

SMF-66 & SMF-66OA(SA) is a high C-Cr-Mn_Mo alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature (300-500°C) abrasive mineral wear and. high temperature and abrasive(corrosion) mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA (under layer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Extreme wear resistance, Rock crushing, Fan blades, Dredge ship Pumps, Mixer and Dredging parts, Coal bucket and hoppers, Liners(wear, dozer, chute, stone box), Screw(conveyer, metal feed), Plate(wear, target), Grinding roller, Scrapper, Hub,etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W+Nb+Ti+V+B	Fe	
5.0-5.5	0.6-1.0	2.0-2.5	27-30	1.1-1.3	trace	basis	%

HARDNESS

6-8mm 59 – 62 HRC

USED GAS

1.2/1.4/1.6mm (CO_2 gas) | 2.8mm (Non gas)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-69Nb / SMF-69Nb OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-65-RGZ

GENERAL CHARACTERISTICS

SMF-69Nb & SMF-69Nb OA(SA) is a high carbon and high temperature inclusion Nb alloyed, also High temperature wear-resistant , self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature(1200°C) abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION,

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Hot Crusher blade, Crash Deck, Sinter machine grizzly bar, Outer screw, Dredge ship ,Slag conveyer screws , Hot sinter breaker , Parts in screening units, Mixer parts , Scraper, Concrete-industry

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Nb	B	W + V + Ti	Fe	
5.40	0.70	0.72	32.50	5.50	1.48	trace	basis	%

HARDNESS

64-67HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-75Mo / SMF-75Mo OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-65-GZ

GENERAL CHARACTERISTICS

SMF-75Mo & SMF-75Mo(SA) is a high carbon and high temperature (800~1200℃) inclusion Nb alloyed, also High temperature wear-resistant , self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Hot gas(dust exhaust fan blades coke plant equipment). Dredge ship , Screws(Slag conveyer, Bottom ash), Hot sinter breaker, Hot Grizzy bar, Hot Rotar Blade, Parts in screening units, Mixer parts, Scraper, Blast furnace charge(Pawl wurth, Deflecting bars, Burden areas of bells and hoppers) etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Nb	W	V + B + Ti	Fe	
5.2-5.5	1.2-1.5	0.9-1.2	20-25	3.1-3.5	5.8-6.2	1.5-2.0	trace	basis	%

HARDNESS

62-65HRC

USED GAS

SMF-75Mo (CO_2 gas)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-75MoNb / SMF-75MoNb OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-65-GZ

GENERAL CHARACTERISTICS

SMF-75Mo & SMF-75Mo(SA) is a high carbon Cr-Mo-Nb+W and high temperature (800~1200℃) inclusion Mo-Nb alloyed, also High temperature wear-resistant , self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Hot gas(dust exhaust fan blades coke plant equipment). Dredge ship , Screws(Slag conveyer, Bottom ash), Hot sinter breaker, Hot Grizzy bar, Hot Rotar Blade, Parts in screening units, Mixer parts, Scraper, Blast furnace charge(Pawl wurth, Deflecting bars, Burden areas of bells and hoppers) etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Nb	V	W	Ti	Fe	
5.6-5.8	1.0-1.2	0.6-1.2	20-25	5.0-5.5	5.2-5.5	0.9-1.2	1.5-1.8	0.2	basis	%

HARDNESS

63-66 HRC

USED GAS

2.8mm Non gas

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-76Mo / SMF-76Mo OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-65-GZ

GENERAL CHARACTERISTICS

SMF-76Mo & SMF-76Mo OA(SA) is a high carbon and Cr+Mo+V+Nb+W alloyed, also High temperature(800~1200℃) extreme abrasion resistance, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION,

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Hot gas, Dredge ship ,Mining and clinker industry, Concrete pumps, Slag conveyer screws , Scraper, Blade of hot crusher, Hot sinter breaker , Cement Coller, Hot Grizzy bar, Hot Rotar Blade, Parts in screening units, Mixer parts, Blast furnace charge, etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Nb	W	V + B + Ti	Fe	
5.31	1.05	0.98	25.50	4.80	2.5-3.0	2.01	Trace	basis	%

HARDNESS

62-66HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-76MoNb / SMF-76MoNb OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-65-GZ

GENERAL CHARACTERISTICS

SMF-76MoNb & SMF-76MoNb(SA) is a high C+Cr+Mo+Nb+W+V alloyed and high temperature (1000-1200℃) inclusion Nb+Mo alloyed, also High temperature wear-resistant , self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Hot gas(dust exhaust fan blades coke plant equipment). Dredge ship , Screws(Slag conveyer, Bottom ash), Hot sinter breaker, Hot Grizzy bar, Parts in screening units, Mixer parts, Scraper, Blast furnace charge(Pawl wurth, Deflecting bars, Burden areas of bells and hoppers), Rotar blade, Rotar bar etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Nb	W	V	B + Ti	Fe
5.6-5.8	1.0-1.2	0.6-1.0	20-25	5.0-5.5	5.2-5.5	1.5-1.8	0.9-1.2	trace	basis %

HARDNESS

63-66 HRC

USED GAS

SMF-76MoNb (CO_2 gas) 2.8mm & 3.2mm : Non gas

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-76MoNbW / SMF-76MoNbW OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-65-GZ (Special Alloy)

GENERAL CHARACTERISTICS

SMF-76MoNbW & SMF-76MoNbW(OA) is a C+Cr+Mo+Nb+W+V alloyed and high temperature (1000-1200℃) inclusion C+Mo+Nb+W alloyed, also High temperature wear-resistant, Corrosion and Impact wear, extreme resistance wear, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Hot gas(dust exhaust fan blades coke plant equipment). Dredge ship , Screws(Slag conveyer, Bottom ash), Hot sinter breaker, Hot Grizzy bar, Hot crusher upper deck, Parts in screening units, Mixer parts, Scraper, Blast furnace charge(Pawl wurth, Deflecting bars, Burden areas of bells and hoppers), Rotar blade, Rotar bar etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Nb	W	V	Ti + B	Fe
5.6-5.8	1.0-1.2	1.0-1.5	23-27	5.0-5.5	5.2-5.5	2.5-3.0	1.0-1.2	trace	basis %

HARDNESS

63-68 HRC

USED GAS

SMF-76MoNbW 1.6mm(CO_2 gas) 2.4mm & 2.8mm & 3.2mm : Non gas

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-77Nb / SMF-77Nb OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-65-GZ

GENERAL CHARACTERISTICS

SMF-77Nb & SMF-77Nb OA(SA) is a high carbon and C-Cr-V-Nb alloyed, also High temperature(800°C) extreme abrasion resistance, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION,

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Hot gas, Dredge ship ,Mining and clinker industry, Concrete pumps, Slag conveyer screws , Scraper, Blade of hot crusher, Hot sinter breaker , Cement Coller, Hot Grizzy bar, Hot Rotar Blade, Parts in screening units, Mixer parts, Blast furnace charge, etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Nb	V	W+Ti+B	Fe	
5.30	1.0-1.2	1.1-1.5	11-15	1.2-1.5	6.50	6.0	trace	basis	%

HARDNESS

65-68 HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-78MoNb / SMF-78MoNb OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-65-GZ

GENERAL CHARACTERISTICS

SMF-78MoNb & SMF-78MoNb(SA) is a high C+Cr+Mo+Nb alloyed and high temperature (1200℃) inclusion Nb alloyed, also High temperature wear-resistant , self-shielded, slag-free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Hot gas(dust exhaust fan blades coke plant equipment). Dredge ship , Screws(Slag conveyer, Bottom ash), Hot sinter breaker, Hot Grizzy bar, Parts in screening units, Mixer parts, Scraper, Blast furnace charge(Pawl wurth, Deflecting bars, Burden areas of bells and hoppers) etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Nb	W	V + B + Ti	Fe	
5.6	1.0	0.8	28	5.2	5.5	1.5	trace	basis	%

HARDNESS

62-66 HRC

USED GAS

SMF-78MoNb (CO_2 gas)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-87 / SMF-87 OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-21-65-RG

GENERAL CHARACTERISTICS

SMF-87 & SMF-87 OA(SA) is a high carbon ,high temperature , extreme abrasion resistance, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature(1200°C) abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION,

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry Dredge ship, Dressing tool,Rubber-mixing blades , Mineral wear ,Deep well drilling parts , Auger, Mixer blades and Mixer parts ,Bucket ,Mining and clinker industry, Concrete pumps, Slag conveyer screws , Scraper Parts in screening units, extreme abrasion resistance etc

TYPICAL ALL WELD METAL ANALYSIS

C	Mn	Si	Cr	Nb	V + W + Ti + N	Fe	
5.30	1.10	0.93	25.02	6.91	trace	basis	%

HARDNESS

64-66HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-73CoNbW OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-65-GZ (Special Alloy)

GENERAL CHARACTERISTICS

FCAW SMF-73CoNbW is a C+Cr+Mo+Nb+W+Co+V+Ti alloyed and high temperature (1000-1200℃) inclusion Co+Mo+Nb+W alloyed, also High temperature wear-resistant, Corrosion and Impact wear, extreme resistance wear, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. CO_2 gas & Non gas is used. 8mm under welding no crack , 8mm up overlay welding the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Hot gas(dust exhaust fan blades coke plant equipment). Dredge ship , Screws(Slag conveyer, Bottom ash), Hot sinter breaker, Hot Grizzy bar, Hot crusher upper deck, Parts in screening units, Mixer parts, Scraper, Blast furnace charge(Pawl wurth, Deflecting bars, Burden areas of bells and hoppers), Rotor blade, Rotor bar etc.

TYPICAL ALL WELD METAL ANALYSIS(%)

C	Si	Mn	Cr	Mo	Nb	W	V	Ti	Fe
0.8-1.2	1.0-1.2	2.0-2.30	9-10	2.5-3.0	1.2-1.5	5.0-6.0	1.0-1.5	0.3-0.5	basis

HARDNESS

52-55 HRC (8mm)

USED GAS

SMF-73CoNbW 1.6mm(CO_2 gas) 2.4mm & 2.8mm & 3.2mm : Non gas

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-88MoNbW / SMF-88MoNbW OA

CLASSIFICATION

DIN 8555
Alloy- No : (Special Alloy)

GENERAL CHARACTERISTICS

SMF-88MoNbW & SMF-88MoNbW(OA) is a Extremely high heat abrasion resistance welding wire used at 1,200~1,500℃ and contains C+Cr+Mo+Mn+Nb+W+(Co+V+Ti+B) alloy. It is mainly used for high temperature and extreme wear resistance. also corrosion and impact wear, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. Due to its high hardness ,(in multi-layer welding), use SMF-300 OA for underlaying from the first layer if possible. The weld metal is not machinable. Containing a large amount of Flux, only 2.8mm is produced (only non-gas is used).

APPLICATION

Iron Steel factory, Cement factory, Mineral and brick industry , Mine industry, Hot gas (dust exhaust fan blades coke plant equipment). Dredge ship , Screws(Slag conveyer, Bottom ash), Hot sinter breaker, Hot Grizzy bar, Hot crusher upper deck, Parts in screening units, Mixer parts, Scraper, Blast furnace charge(Pawl wurth, Deflecting bars, Burden areas of bells and hoppers), Rotar blade, Rotar bar etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Nb	W	Co+V+Ti + B	Fe
6.0-6.5	1.0-1.2	1.5~2.0	28-30	5.8-6.5	5.6-6.5	4.5-5.5	trace	basis %

HARDNESS

66-68 HRC (10mm)

USED GAS

SMF-88MoNbW 2.8mm & 3.2mm : Non gas

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-98CoMoW / SMF-98CoMoW OA

CLASSIFICATION

DIN 8555
Alloy- No : (Special Alloy)

GENERAL CHARACTERISTICS

SMF-98CoMoW & SMF-98CoMoW(OA) is a W(18%), Co(1.5%), welding wire used at mainly high temperature(1,200~1,500℃) , extreme wear resistance also corrosion and impact wear and contain C+Cr+Mo+Mn+Nb+W+(Co+V+Ti+B) alloy. self-shielded, slag-free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. Due to its high hardness ,(in multi-layer welding), use SMF-300 OA for underlaying from the first layer if possible. The weld metal is not machinable. Containing a large amount of Flux, only 2.8mm is produced (only non-gas is used).

APPLICATION

Iron Steel factory, Cement factory, Mineral and brick industry , Mine industry, High heat abrasion resistance, Extreme wear resistance, Hot gas (dust exhaust fan blades coke plant equipment). Dredge ship, Screws(Slag conveyer, Bottom ash), Hot sinter breaker, Hot Grizzly bar, Hot crusher upper deck, Parts in screening units, Mixer parts, Scraper, Blast furnace charge(Pawl wurth, Deflecting bars, Burden areas of bells and hoppers), Rotor blade, Rotor bar etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Co	W	Nb+V+Ti +Ni+ B	Fe
6.0-7.0	0.8-1.2	1.5~2.0	21-25	6.0-6.5	1.5-2.0	18-20	trace	basis %

HARDNESS

65-68 HRC (8~10mm)

USED GAS

SMF-98CoMoW 2.4mm & 2.8mm & 3.2mm : Non gas

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
2.4mm	260-340	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-365 / SMF-365 OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-60-GR

GENERAL CHARACTERISTICS

SMF- 365 & SMF-365OA(SA) is a high C-Cr-Mn-Mo-W alloyed and small crack. Self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high temperature (300~600°C) abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA(Under layer) for Multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory(Roller-Tire,Press,Table), Iron Steel factory(Roller and Liners), Miner, Liners(Chute, Dozzer, Hopper), Crusher(Rock, Rolls, Hammer), Sand and slurry. Screw conveyers, Flop gate, Fan blades, Material feed screws, etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	Ti+Nb+B+N	Fe	
3.5-4.0	1.30-1.50	2.20-2.50	22-24	1.10-1.50	1.10-1.50	trace	basis	%

HARDNESS

60-62 HRC 5-8mm 62-65 HRC 8mm ↑

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-500 / SMF-500 OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-60-GR

GENERAL CHARACTERISTICS

SMF-500& SMF-500OA(SA) is a high C-Cr-Mnalloyed, self-shielded and non gas, slag-free flux cored wire electrode for hard-surfacing on parts that are exposed to temperature (200°C) abrasive mineral wear. CO_2 gas & Non gas is used. Use the SMF-300 OA (underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry ,Mineindustry, Rock crushing, Fan blades, Dredge shipPumps, Mixer and Dredging parts, Coal bucket and hoppers, Liners(wear, dozer, chute, stone box), Pulley, Screw(conveyer, metal feed), Plate(wear,target), Grinding roller , etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	B+N +Ti	Fe
5.50-6.0	1.10-1.30	1.60-1.80	25.0-27.0	0.5	trace	basis %

HARDNESS

59– 61 HRC (6mm) 61-65 HRC (6-8mm)

USED GAS

SMF-500 (CO_2 gas) SMF-500 OA (Non gas)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.13-15 Kgs ,EN 759
Spool B / BS 300 with app.13-15 Kgs ,EN 759
Spool B 450 with app.25-30Kgs,EN 759
Big spool S 760 with app.250 Kgs ,EN 759
Drums with app. 150 Kgsor250-300 Kgs

SMF-510 / SMF-510 OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-60-GZ

GENERAL CHARACTERISTICS

SMF-510 & SMF-510 OA(SA) is a very high C-Cr-B-N, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION,

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry
Dredge ship ,Dredging parts, Gravel pumps, Blowbar, Screws, Crusher hammers,
Drive tumblers ,Road Construction, Bucket teeth, Rock processing and Recycling ,
Roll tire and table ,Suction dredger, Inner cashing and bucket and impeller, Mixer parts

TYPICAL ALL WELD METAL ANALYSIS

C	Mn	Si	Cr	Mo + B + Ti + V	Fe	
5.15	2.20	0.85	27.5	trace	basis	%

HARDNESS

6-8mm 62HRC

USED GAS

Non gas

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-500K

CLASSIFICATION

DIN 8555
MF 7-200-KNP
Special Alloy

GENERAL CHARACTERISTICS

SMF500K(Open Arc) is a high alloyed, self shielded and slag producing flux-cored wire electrode. The austenitic weld deposit is corrosion resistant and high tensile strength,working hardening(self hardening), anti-magnetic and thermal shock resistant . The alloy is suitable for ductile buffer layers on cold and heating old hardfacings and joinning dissimilar and difficult to weld steels. Suitable for hardfacing high- manganese Delta ferrite content: 14 %. (i.e. Manganese-Hardfield-steel).

APPLICATION

Buffer layers, Impact-proof, forges, cold and hot rolls, Heating rolls, rails, rail points, coarse crusher(jaws), liner, crane wheels. beaters, etc..

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	others	Fe
1.0	14.0	0.4	4.0	0.6	trace	balance

HARDNESS

Welding after 200-230HB Work Hardness App 450HB

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-200	18~22
1.4 mm	180-220	20~24
1.6 mm	200-260	22~26
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-560K

CLASSIFICATION

DIN 8555
MF 7-250-KNP
Special Alloy

GENERAL CHARACTERISTICS

SMF-560K (Open Arc) is a high alloyed, self shielded and slag producing flux-cored wire electrode. The austenitic weld deposit is corrosion resistant and high tensile strength, working hardening(self hardening), anti-magnetic and thermal shock resistant , The alloy is suitable for ductile buffer layers on cold and hot old hardfacings and joinning dissimilar and difficult to weld steels. Suitable for hardfacing high- manganese Delta ferrite content: 16 %. (i.e. Manganese-Hardfield-steel).

APPLICATION

Buffer layers, Impact-proof, forges die, iron and steel cold and hot rolls, Heating rolls, rail points, rails welding , coarse crusher(jaws, hammer) and rolls, cold and hot liner. beaters, etc..

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Mo	V	others	Fe
0.40	16.0	0.4	14.0	1.2	0.6	0.2	trace	balance

HARDNESS

Welding after 220-250HB Work Hardness App 500~ 560HB(52~56HRC)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-200	18~22
1.4 mm	180-220	20~24
1.6 mm	200-260	22~26
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-600Ti / SMF-600Ti OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-6-60-GP

GENERAL CHARACTERISTICS

SMF-600Ti & SMF-600Ti OA(SA) is a Cr+ Ti+ Mo+ Mn alloy. self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. CO_2 gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION,

Cement factory, Iron Steel factory , Mineral and brick industry, Mine industry Dredge ship ,Cement crusher roll and Roll tire &.table . Dredging parts, Gravel pumps, Blow bar, Screws, Crusher hammers, Drive tumblers ,Road Construction, Bucket teeth, Rock processing and Recycling ,Roll tire and table, Suction dredger, Inner cashing and bucket and impeller, Mixer parts

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Ti	W+Ni+V+Nb	Fe	
1.80	0.50	1.38	6.98	1.42	5.00	trace	basis	%

HARDNESS

57-61HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-611 / SMF-611 OA

CLASSIFICATION

DIN 8555
Alloy- No : Special Alloy

GENERAL CHARACTERISTICS

SMF-611 & SMF-611 OA(SA) is a Cr+Mo+Mn+W+Co alloy. self-shielded gas. slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to corrosion and high abrasive mineral wear. Use the SMF-300 OA(under layer) for multi-layer welding. Non crack after welding. CO_2 gas is used. Use the SMF-300 OA (underlayer) for multi-layer welding. The weld metal is machinable.

APPLICATION,

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Food industry, Dredge ship ,. Dredging parts, Gravel pumps, Roll tire and table, Backup roll, Pinch roll, Table roll, Work roll, Spindles (Roll etc..) Screws, Hot liner, Crusher hammers, Drive tumblers ,Road Construction, Suction dredger, Inner cashing and bucket and impeller, Mixer parts

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	Nb+Co+Ti+V+B+N	Fe	
0.52	0.90	1.50	12-15	2.0-2.5	1.0-1.05	trace	basis	%

HARDNESS

Tickness 3mm 50 HRC | 5mm 52 HRC | 7mm 54 HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-615 / SMF-615 OA

CLASSIFICATION

DIN 8555
Alloy- No : Special Alloy

GENERAL CHARACTERISTICS

SMF-615 & SMF-615 OA(SA) is a Cr+Mo+Mn+W alloy. Self-shielded gas, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to corrosion and high abrasive mineral wear and high temperature(500°C). CO_2 gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. Non crack after welding. The weld metal is not machinable.

APPLICATION,

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Food industry, Dredge ship ,. Dredging parts, Gravel pumps, Roll tire and table, Backup roll, Pinch roll, Table roll, Work roll, Press roll, Spindles (Roll etc..) Screws, Hot liner, Crusher hammers, Drive tumblers ,Road Construction, Suction dredger, Inner cashing and bucket and impeller, Mixer parts.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	Ti+V+Nb+B	Fe	
0.45	0.57	1.6-2.5	6-7	1.4-2.0	1.5-2.0	trace	basis	%

HARDNESS

5-8mm 50-55 HRC | Working 55-62 HRC

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30

FORMS OF DELIVERY

Spool B / D 300 with app. 13-15 Kgs , EN 759
Spool B / BS 300 with app. 13-15 Kgs , EN 759
Spool B 450 with app. 25-30 Kgs , EN 759

SMF-618 / SMF-618 OA

CLASSIFICATION

DIN 8555
Alloy- No : Special Alloy

GENERAL CHARACTERISTICS

SMF-618 & SMF-618 OA(SA) is high carbon, low chrome and low molybdenum (Cr+Mo+W+C) with the included welding wire. self-shielded gas. slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to corrosion and high abrasive mineral wear. Use the SMF-300 OA(under layer) for multi-layer welding. Non crack after welding. CO_2 gas is used. Use the SMF-300 OA (underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION,

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Rock crushing, Fan blades, Dredge ship Pumps, Mixer and Dredging parts, Coal bucket and hoppers, Liners(wear, dozer, chute, stone box), Clamping Bar, Screw(conveyer, metal feed), Plate(wear, target), Grinding roller, Screen Crusher. etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Mn	Cr	Mo	W	V	B+Ti+Nb	Fe	
5.0 ↑	0.8 ↓	11-14 ↑	00.7 ↓	1.5-2.5 ↓	0.046 ↓	trace	basis	%

HARDNESS

60-62 HRC

USED GAS

1.6mm (CO_2 gas) 2.8mm (Non gas)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-620 / SMF-620 OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-61-GR

GENERAL CHARACTERISTICS

SMF-620 & SMF-620 OA(SA) is a high C-Cr-W-Mn-Mo alloyed, Self-shielded gas and Non gas, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear and high temperature(400°C) and abrasive(corrosion) mineral wear. CO_2 gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Fan blades, Target plate, Dredge ship Pumps, Mixer and Dredging parts, Coal bucket and hoppers, Conveyer screws, Wear plates, Grinding roller, Liners(wear, dozer, chute, hopper, stone box), Screens, Crusher(hammers, chute, rock), etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	V + Ti + Nb + B	Fe	
4.82	1.20	2.40	29.5	1.05	1.0	trace	basis	%

HARDNESS

60 – 65 HRC

USED GAS

SMF-620 (CO_2 gas)	SMF-620 OA (Non gas)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~24
1.4 mm	180-220	22~26
1.6 mm	200-280	22~28
2.0 mm	220-310	24~30
2.4 mm	260-320	26~32
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-620 Nb / SMF-620 Nb OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-65-GZ

GENERAL CHARACTERISTICS

SMF-620Nb & SMF-620Nb(OA) is a high carbon and high temperature (800℃) inclusion Nb alloyed, also High temperature wear-resistant, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. CO_2 gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Hot gas(dust exhaust fan blades coke plant equipment). Dredge ship , Screws(Slag conveyer, Bottom ash), Hot sinter breaker, Hot Grizzy bar, Hot Rotar Blade, Parts in screening units, Mixer parts, Scraper, Blast furnace charge(Pawl wurth, Deflecting bars, Burden areas of bells and hoppers) etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Nb	V+W+Ti+B	Fe	
4.8-5.2	0.8-1.2	2.9-3.5	29-30	0.9-1.6	5.1-5.6	trace	basis	%

HARDNESS

58-63 HRC

USED GAS

SMF-620Nb (CO_2 gas)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-712 / SMF-712 OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-60-G

GENERAL CHARACTERISTICS

SMF-712 & SMF-712 OA(SA) is a high C-Cr-Mo-Si alloyed, Self-shielded gas and Non gas, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear and high temperature and abrasive(corrosion) mineral wear up to 400~450°C. CO_2 gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Fan blades, Target plate, Dredge ship Pumps, Mixer and Dredging parts, Coal bucket and hoppers, Conveyer screws, Wear plates, Grinding roller, Liners(wear, dozer, chute, hopper, stone box), Screens, Crusher(hammers, chute, rock), etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Ti + V + B + N	Fe	
5.0	1.75	0.65	27.0	1.3	trace	basis	%

HARDNESS

58 – 62 HRC

USED GAS

SMF-712 (CO_2 gas) SMF-712 OA (Non gas)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~24
1.4 mm	180-220	22~26
1.6 mm	200-280	22~28
2.0 mm	220-310	24~30
2.4 mm	260-320	26~32
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-718 / SMF-718 OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-60-GR

GENERAL CHARACTERISTICS

SMF-718 & SMF-718OA(SA) is a high C-Cr- alloyed, self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear and. high temperature (200℃~400℃) and abrasive(corrosion) mineral wear. CO_2 gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Rock crushing, Fan blades, Dredge ship Pumps, Mixer and Dredging parts, Coal bucket and hoppers, Liners(wear, dozer, chute, stone box), Clamping Bar, Screw(conveyer, metal feed), Plate(wear, target), Grinding roller, Screen Crusher. etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	Nb	B + Ti + V	Fe
6.10	1.00	1.20	26.0	0.50	1.2	1.2	trace	basis %

HARDNESS

62 – 65 HRC

USED GAS

SMF-718 (CO_2 gas) SMF-718 OA (Non gas)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~26
1.4 mm	180-220	22~28
1.6 mm	200-280	22~30
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-725 / SMF-725 OA

CLASSIFICATION

DIN 8555
Alloy- No : MF-10-61-GR

GENERAL CHARACTERISTICS

SMF-725 & SMF-725 OA(SA) is a high C-Cr-B alloyed, Self-shielded gas and Non gas, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear and high temperature(200°C) and abrasive(corrosion) mineral wear. CO_2 gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Fan blades, Target plate, Dredge ship Pumps, Mixer and Dredging parts, Coal bucket and hoppers, Conveyer screws, Wear plates, Grinding roller, Liners(wear, dozer, chute, hopper, stone box), Screens, Crusher(hammers, chute, rock), etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W + B + V + Ti	Fe	
4.82	1.20	0.65	29.5	0.80	trace	basis	%

HARDNESS

57 – 62 HRC

USED GAS

SMF-725 (CO_2 gas) SMF-725 OA (Non gas)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-190	18~24
1.4 mm	180-220	22~26
1.6 mm	200-280	22~28
2.0 mm	220-310	24~30
2.4 mm	260-320	26~32
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-760 / SMF-760 OA

CLASSIFICATION

DIN 8555
MF 6-55-GP
Special Alloy

GENERAL CHARACTERISTICS

SMF-760 & SMF-760 OA(SA) is a high alloyed, self shielded and slag producing flux-cored wire electrode. The high tensile strength high carbon and high Nb and Cr-W-V thermal shock resistant up to 1.200℃. The alloy is suitable for cold and heating(hot) maintrance and repair old hardfacings weld steels. CO_2 gas is used. Use the SMF-300 OA(underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Iron and steel hot and cold rolls, Heating rolls, cement factory coarse crusher (jaws , hammer) and rolls , heating fan, heating liner. hot forging die, all hot steel hardsurfacing

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Nb	Si	Cr	W	Ti + V + B	Fe	
1.50	8.50	0.3	6.50	1.4	trace	balance	%

HARDNESS

55~57Hrc

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.2 mm	160-200	18~22
1.4 mm	180-220	20~24
1.6 mm	200-260	22~26
2.0 mm	220-310	24~32
2.4 mm	260-320	26~34
2.8 mm	300-380	28~36

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-WC Ni

CLASSIFICATION

DIN 8555
Alloy- No : MF-21-55-CGTZ (Special Alloy)

GENERAL CHARACTERISTICS

FCAW SMWELTEC SMF-WC Ni, WC type is tungsten carbide(Matrix type) is a Ni+Cr+Si+B Matrix with build-fused tungsten cabides in alloyed. The deposited weld material has a very good resitance and High temperature(1,000~1,200) Wear-resistant, Corrosion(acids,alkalis) and Impact wear, extreme resistance wear, self-shielded, slag-free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. Ar(100%), Max gas(Ar80%+Co2,20%)used. Use the SMF-300 OA(10mm up underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry, Mine industry, Chemical industry, Power plant, Grinding plates and parts in the dip-land diiling industry , Extreme wear used(hot,corrosion,impact), Hot gas (dust exhaust fan blades coke plant equipment. Dredge ship, Screws(Slag conveyer, Blade, Bottom ash), Scraper, Send casting bar, Hot Sinter Plant(ID fan impeller, breaker, hot grizzy bar, hot crusher,rotor disc,upper deck, parts in screening units), Mixer parts(centrifugal separator etc), Blast furnace charge (Pawl wurth, Deflecting bars, Burden areas of bells and hoppers, Corrosion wear rotor and screw blade, rotor bar etc.

TYPICAL ALL WELD METAL ANALysis(%) Matrix type

WC	Ni+Cr+Si+B	Fe
50~55	42~47	Bkance

HARDNESS

48~52Hrc(8mm)_

USED GAS

SMF-WC Ni 1.6mm(Ar gas) & MAX (Ar 80%+Co2 20%)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.6 mm	200-280	22~30
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMF-WC Fe

CLASSIFICATION

DIN 8555
Alloy- No : MF-21-65-GZ (Special Alloy)

GENERAL CHARACTERISTICS

FCAW SMWELTEC SMF-WC Fe, WC type is tungsten carbide(Matrix type) is a Mn+Cr+Si+B Matrix with build-fused tungsten cabides in alloyed. The deposited weld material has a very good resitance and High temperature(1,000℃) Wear-resistant, Corrosion(acids,alkalis) and Impact wear, extreme resistance wear, self-shielded, slag-free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. Ar(100%), Max gas(Ar80%+Co2,20%)used. Use the SMF-300 OA(10mm up underlayer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry, Mine industry, Chemical industry, Power plant, Grinding plates and parts in the dip-land diiling industry , Extreme wear used(hot,corrosion,impact), Hot gas (dust exhaust fan blades coke plant equipment. Dredge ship, Screws(Slag conveyer, Blade, Bottom ash), Scraper, Send casting bar, Hot Sinter Plant(ID fan impeller, breaker, hot grizzy bar, hot crusher,rotor disc,upper deck, parts in screening units), Mixer parts(centrifugal separator etc), Blast furnace charge (Pawl wurth, Deflecting bars, Burden areas of bells and hoppers, Corrosion wear rotor and screw blade, rotor bar etc.

TYPICAL ALL WELD METAL ANALysis(%) Matrix type

WC	Mn+Cr+Ni+Si+B	Fe
50~55	4~5	Balance

HARDNESS

60~65 HRC (8mm) | Stainless steel 45~52 HRC (3mm) | Carbon steel 52~60 HRC (3mm)

USED GAS

SMF-WC Ni 1.6mm(Ar gas) & MAX (Ar 80%+Co2 20%)

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Volt
1.6 mm	200-280	22~30
2.8 mm	300-380	28~36
3.2 mm	320-450	30~38

FORMS OF DELIVERY

Spool B / D 300 with app.	13-15 Kgs ,	EN 759
Spool B / BS 300 with app.	13-15 Kgs ,	EN 759
Spool B 450 with app.	25-30 Kgs ,	EN 759
Big spool S 760 with app.	250 Kgs ,	EN 759
Drums with app.	150 Kgs or	250-300 Kgs

SMJ-506 (SAW FLUX)

CLASSIFICATION

Flux, that is specially designed

GENERAL CHARACTERISTICS

Submerged Arc Welding(SAW) SMJ-506, Bond type, granular flux provides a blanket over the weld which protect against sparks and spatter. The process must be performed in the flat and horisontal fillet position only.

APPLICATION,

SAW material application include carbon steels, low alloy steels, stainless steels, nickel base alloys and hardsurfacing application(wear-facing, build up and corrosion-resistant overlay of steels), SAW is freuently used in heavy structural construction it is also used in the pressure vessel industry, chemical plants and ship building.

VARIABLES OF THE SAW PROCESS

There are some key varialbes of the submerged arc welding process. These varialbes include Arc voltage, Wire feed speed, Travel speed, Contact tip work(CTTW) or electrode stick out(ESO). Polarity and current type(may be either AC or DC) as well as variable balance AC current.

ADVANTAGES OF SUBMERGED ARC WELDING

Some of the advantage of Submerged Arc Welding include.
- Strong, sound welds are readily made
- Mineral welding fume is emitted
- Mineral arc light is emitted
- SAW is suitable for both indoor and outdoor works
- Less distortion, Deep weld penetraction
- Minimal edge preparation
- High deposition rates are possible
- Thick maturials may be weld
- At least half or more of the flux is recoverable

TYPICAL ALL FLUX ANALYSIS

MnO+SiO	CaF+CaO+MgO	AlO + S + P	
32	41	trace	%

SPECIAL VERSION

The flux before use must pass through the 300~350 drying.
Drying time : 2 Hours

AVAILABLE FLUX TYPE

Bond type

FORMS MESH SIZE

Granularity	10-40 mesh	25kg

SMJ-508 (SAW FLUX)

CLASSIFICATION

Flux, that is specially designed

GENERAL CHARACTERISTICS

Submerged Arc Welding(SAW) SMJ-508, Bond type, granular flux provides a blanket over the weld which protect against sparks and spatter. The process must be performed in the flat and horisontal fillet position only.

APPLICATION,

SAW material application include carbon steels, low alloy steels, stainless steels, nickel base alloys and hardsurfacing application(wear-facing, build up and corrosion-resistant overlay of steels), SAW is freuently used in heavy structural construction it is also used in the pressure vessel industry, chemical plants and ship building.

VARIABLES OF THE SAW PROCESS

There are some key varialbes of the submerged arc welding process. These varialbes include Arc voltage, Wire feed speed, Travel speed, Contact tip work(CTTW) or electrode stick out(ESO). Polarity and current type(may be either AC or DC) as well as variable balance AC current.

ADVANTAGES OF SUBMERGED ARC WELDING

Some of the advantage of Submerged Arc Welding include.
- Strong, sound welds are readily made
- Mineral welding fume is emitted
- Mineral arc light is emitted
- SAW is suitable for both indoor and outdoor works
- Less distortion, Deep weld penetraction
- Minimal edge preparation
- High deposition rates are possible
- Thick maturials may be weld
- At least half or more of the flux is recoverable

TYPICAL ALL FLUX ANALYSIS

SiO_2+TiO_2	Al_2O_3+MnO	CaO+MgO	CaF_2 + S + P + H_2O	
20.22	24.83	30.20	trace	%

SPECIAL VERSION

The flux before use must pass through the 300~350 drying.
Drying time : 2 Hours

AVAILABLE FLUX TYPE

Bond type

FORMS MESH SIZE

Granularity	10-40 mesh	25kg

SMJ-414 (SAW FLUX)

CLASSIFICATION

Flux, that is specially designed

GENERAL CHARACTERISTICS

Submerged Arc Welding(SAW) SMJ-414, Bond type, granular flux provides a blanket over the weld which protect against sparks and spatter. The process must be performed in the flat and horisontal fillet position only.

APPLICATION,

SAW material application include carbon steels, low alloy steels, stainless steels, nickel base alloys and hardsurfacing application(wear-facing, build up and corrosion-resistant overlay of steels), SAW is freuently used in heavy structural construction it is also used in the pressure vessel industry, chemical plants and ship building.

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- At least half or more of the flux is recoverable

TYPICAL ALL FLUX ANALYSIS

SiO_2+TiO_2	Al_2O_3+MnO	CaO+MgO	CaF_2	S	P	Moisture	Impurity	
19.4	24.5	31.5	20.7	0.015	0.02	0.02	0.02	%

SPECIAL VERSION

The flux before use must pass through the 300~350 drying.
Drying time : 2 Hours

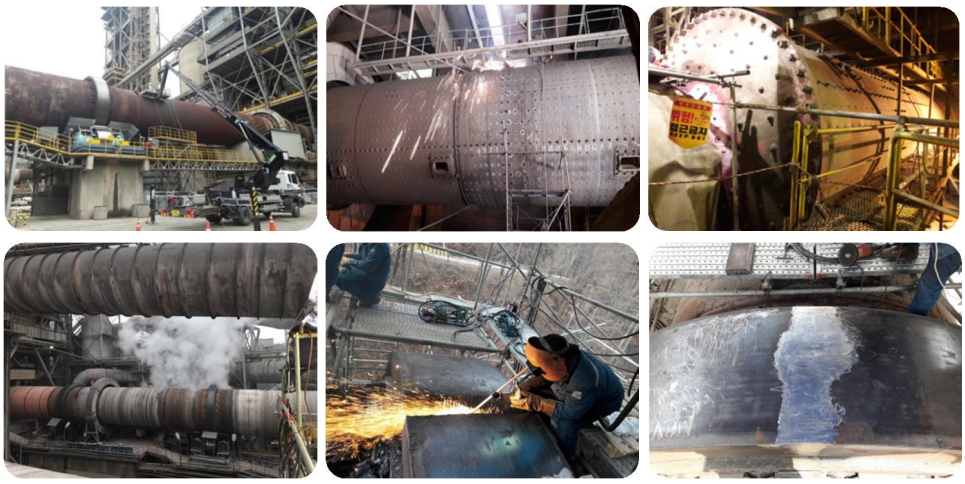
AVAILABLE FLUX TYPE

Bond type

FORMS MESH SIZE

Granularity	10-60 mesh	25kg

WELDING REPAIR & MAINTENANCE · HARD SURFACING



CEMENT FACTORY REPAIR & MAINTENANCE

IRON & STEEL FACTORY : PRODUCTION & REPAIR AND MAINTENANCE

RAIL (ENCLOSED WELDING) / CRAINE WHEEL (REPAIR) / WEAR PLATE

SMWELTEC CO.,LTD

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e-mail : smweltec@hanmail.net | smweltec@naver.com
bbs : http://cafe.daum.net/sammiwelding
Homepage : www.smweltec.co.kr

SMPLANTEC CO.,LTD

○ FACTORY : Zipcode 25799, 1, Gongdan 7-ro, Donghae-si, Gangwon-do, Korea
TEL : 033-521-8186 | e-mail : smplantec@naver.com
Homepage : www.smplantec.co.kr

www.smweltec.co.kr

SMWELTEC PRODUCT

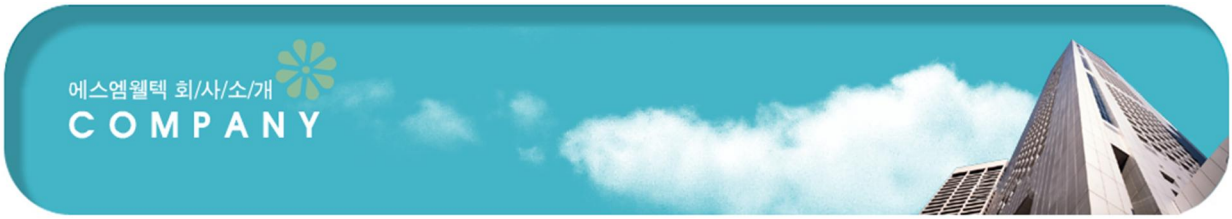
SHIELD METAL ARC WELDING

SMAW

CAST IRON
SPECIAL ALLOY STEEL
STAINLESS STEEL
HARDSURFACING ROD

SMWELTEC

SMWELTEC | *Welding Consumables*



Founded in 1985, we've been recognized for our leading welding consumables& selling various products. (Established in 2011,China Factory) SMWELTEC has solely focused on developing and sales welding materials for a solid period of over 30 years.

●Our products includes the following kinds

- Stainless steel flux cored wire
- Surfacing flux cored wire
- Special Alloys (Hardfacing) Roller(Hot, Cold)/Tool(Forging, Cold press)
- Special Alloys (Joining and surfacing)
- Thermal spraying cored wire
- Low alloy steel cored wire
- Carbon steel cored wire
- Cast iron GMAW wire
- Special Arc welding rods
- Welding Tip, Torch &Globes and Welding accessory
- **Wear Plate, Liner, Pulley, Hardsurfacing products**
- **Welding consultant** (Korea, domestic & Oversea)

● Major Customers (Domestic & Oversea)

- **Iron Industry, Steel Industry,Cement Factory(partner firm), Oil and Chemical(Plant), Mining Coal-fired power plant, Ship building, Dredge ship, Athletic equipment, Ready-mixed concret, etc.**

● Agent &Affiliated Companies

- **CORODUR, KESTRA, ZANDER** etc.

● Certificates

- Quality Management System Certificate : GB/T 19001-2008 / ISO 9001:2008 Standard.
- Environmental Management System Certificate : GB/T 24001-2004 / ISO 14001:2004 Standard.
- Occupational Health and Safety Management System Certificate : GB/T 28001-2011 / OHSAS 18001:2007 Standard.

Our company continues the healthy growth ever aiming for the best quality & service and prioritizing the trust with customers. Also we will keep exerting every effort to meet customers' needs by focusing on the technology development in order to cope with its industry innovation in advance.

SMWELTEC

List of Welding Consumables:

№	ITEM	AWS	DIN
	CARBON STEEL		
1	**SMW-6013**	A5.1	DIN1913
2	**SMW-6013V**	A5.1	DIN1913
3	**SMW-7016**	A5.1	DIN1913
	STAINLESS STEEL		
4	**SMW-308L**	A5.4	DIN8556
5	**SMW-309L**	A5.4	DIN8556
6	**SMW-309MoL**	A5.4	DIN8556
7	**SMW-310**	A5.4	DIN8556
8	**SMW-316L**	A5.4	DIN8556
	CAST IRON		
9	**SMW-Cast**	A5.15 ENI-CI	DIN8573
	SPECIAL ALLOY (CARBON STEEL + STAINLESS STEEL)		
10	**SMW-4370**	A5.4	DIN8556
11	**SMW-29/9**	A5.4	DIN8556
	HARDSURFACING (SPECIAL)		
12	**SMW-58**	A5.13	DIN8555
13	**SMW-60**	A5.13	DIN8555
14	**SMW-63**	A5.13	DIN8555
15	**SMW-CoCrA**	A5.13	DIN8555
16	**SMW-720**	A5.13	DIN8555
17	**SMW-730**	A5.13	DIN8555
18	**SMW-732**	A5.13	DIN8555
19	**SMW-733**	A5.13	DIN8555
20	**SMW-738**	A5.13	DIN8555
21	**SMW-750**	A5.13	DIN8555

* 주) 제품 MSDS 는 홈페이지 용접봉 기술자료 참조

SMW-6013

CLASSIFICATION

Carbon Steel DIN1913 AWS A5.1 E6013

GENERAL CHARACTERISTICS

SMWELTEC SMW-6013 is used to weld low-carbon steel structure, especially be acceptable for intermittent welding of sheet and short welding line, also finishing layer welding which need glabrous surface.

APPLICATION

Thick rutile coated electrode with special suitability for out-of-position welding highly stressed joints that occour in boiler, tank and pipeline construction as well as in steel structures and mechanical engeneering. Low spatter losses and easy slag removal. The out-of-postion weldability is very good.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	P	S
0.12	0.3-0.6	0.35	0.040	0.035

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength : 480-510 MPa Elongation : 22-25 %

CURRENT

AC/DCRP

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Length/mm
3.2 mm	80-110	350
4.0 mm	110-140	350
5.0 mm	150-180	400

FORMS OF DELIVERY

5 Kg Box / 20kg Box

SMW-6013V

CLASSIFICATION

Carbon Steel DIN1913 AWS A5.1 E6013

GENERAL CHARACTERISTICS

SMWELTEC SMW-6013V, Apply to welding general Marine carbon steel and galvanized steel sheet, especially suitable for vertical down welding and intermittent welding of steel sheets.

APPLICATION

Thick rutile coated electrode with a high deposit efficiency for welding in machine and ship building, boiler and tank constrcution as well as for structual engeneering. The electrode produces weld seams which are both neat in appearance and free from notcheds. The slag is easy to remove even from narrow “V” angles and rsuty work pieces. Weldable also in the vertical-up postion.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	S	P
0.08	0.5	0.25	0.035	0.04

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength : 480-510 Mpa Elongation : 22-25 %

CURRENT

AC/DCRP

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Length/mm
3.2 mm	80-110	350
4.0 mm	110-140	350
5.0 mm	150-180	400

FORMS OF DELIVERY

5 Kg Box / 20kg Box

SMW-7016

CLASSIFICATION

Carbon Steel DIN1913 AWS A5.1 E7016

GENERAL CHARACTERISTICS

SMWELTEC SMW-7013, Basic coated electrode presenting exceptional welding characteristics due to its double coating. Arc very stable in all positions, almost spatter free, easy removal of the slag. Universal use for welding metal constructions and for repairing. Recommended for root passes and on badly prepared joints too.

APPLICATION

Basic coated electrode for high grade and crack resistant welds on hydrogen controlled steels and for constructions which are subject to local stress accumulations. Suitable for fine grained steels. Good out-of- postion welding properties.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	P	S
0.12	1.60	0.75	0.035	0.040

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength : 520-550 Mpa Elongation : 25-27 %

CURRENT

AC/DCRP

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Length/mm
3.2 mm	80-110	350
4.0 mm	110-140	350
5.0 mm	150-180	400

FORMS OF DELIVERY

5 Kg Box / 20kg Box

SMW-308L

CLASSIFICATION

Steinless Steel	DIN8556	AWS A5.4	E308L-16

GENERAL CHARACTERISTICS

SMWELTEC SMW-308L, Low carbon Rutile-basic-coated austenitic stainless steel electrode with approx, 8% ferrite. Coating with very low moisture pick up. Soft fusion without spatters, very easy slag removal, exceptional weld bead appearance, easy restriking. Applies for all 18/8 type stainless steels at service temperatures from -120℃ up to +350℃. General applications : tubes, tanks, heat exchangers, piping systems.

APPLICATION

Suitable for joint welding on unstabilized corrosion resistant CrNi-steel at working temperatures up to 350℃. On air and oxidizing gases scale resistant up to 800℃. The weld metal is capable of taking a high polish. Due to its high desposit rate this electrode is very economical.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Mo
0.04	0.5-2.5	0.90	18-21	9.0-11.0	0.75

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength : 550 Mpa Elongation : 35 %

CURRENT

AC/DCRP

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Length/mm
3.2 mm	80-110	350
4.0 mm	110-140	350
5.0 mm	150-180	400

FORMS OF DELIVERY

5 Kg Box / 20kg Box

SMW-309L

CLASSIFICATION

Steinless Steel DIN8556 AWS A5.4 E309L-16

GENERAL CHARACTERISTICS

SMWELTEC SMW-309L, Low carbon Rutile-basic electrode with an austenitic stainless steel deposit containing 15% ferrite for welding dissimilar steels as stainless steels to low alloyed steels. Also suitable for welding high temperature steels and as buffer layer before hardfacing. For repairing of machine parts for civil engineering. First layer on construction steels for18/8 cladding. Soft fusion, nice aspect of the bead, self releasing slag.

APPLICATION

Rutile-basic electrode for joint welding heat-resistant steels up to 1050℃. working temparature. Also suitable for the root pass in welding stainless clad metal, for the first layer on overay work on carbon or low allyed steel and for welding carbon and alloyed steel to stainless steel.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Mo
0.04	0.5-2.5	0.90	22-25	12-14	0.75

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength : 520 Mpa Elongation : 25-30 %

CURRENT

AC/DCRP

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Length/mm
3.2 mm	80-110	350
4.0 mm	110-140	350
5.0 mm	150-180	400

FORMS OF DELIVERY

5 Kg Box / 20kg Box

SMW-309MoL

CLASSIFICATION

Steinless Steel	DIN8556	AWS A5.4	E309MoL-16

GENERAL CHARACTERISTICS

SMWELTEC SMW-309MoL, Low carbon Rutile-basic coated 23Cr 12Ni 2Mo stainless steel type electrode, used to weld on 316L stainless steels and for dissimilar joints between construction / mild steels and stainless steels. Intermediate layer for a 316L type cladding. Due toits high level of delta ferrite also used as an universal repairing electrode in maintenance welding. Highly crack resistant. Soft fusion, nice aspect of the bead, slag lifts by itself.

APPLICATION

Special electrode for joint welding austenitc to ferritec steels as well as for moderating layer at clad sheet. The weld metal is heat and scale resistant uo to 1050℃. Due to the excellent welding properties and the good mechanical values, paticularly the elongation, this electrode is proved in repair welding of difficult weldable steels.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Mo
0.04	0.5-2.5	0.90	22-25	12-14	2.0-3.0

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength : 540 Mpa Elongation : 25-30 %

CURRENT

AC/DCRP

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Length/mm
3.2 mm	80-110	350
4.0 mm	110-140	350
5.0 mm	150-180	400

FORMS OF DELIVERY

5 Kg Box / 20kg Box

SMW-310

CLASSIFICATION

Steinless Steel	DIN8556	AWS A5.4	E310-16

GENERAL CHARACTERISTICS

SMWELTEC SMW-310, Rutile-basic electrode with a high temperature resistant austenitic stainless steel deposit. Resistant to corrosion and oxidation up to 1200°C, good resistance against hot cracks, easy slag removal and nice aspect of the weld beads. Principal applications:Construction of steam boilers, chemical installations, gas industry, ovens, thermal equipments.

APPLICATION

Rutile-basic coated electrode with a fully austeninc structure for joint welding heat-resistant Cr-and CrNi-steels. The weld metal has a very high resistance to hotcracking. Working temparature up to 1200°C.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Mo
0.08-0.20	0.5-2.5	0.90	25-28	20-22.5	0.75

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength : 550 Mpa Elongation : 25-30 %

CURRENT

AC/DCRP

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Length/mm
3.2 mm	80-110	350
4.0 mm	110-140	350
5.0 mm	150-180	400

FORMS OF DELIVERY

5 Kg Box / 20kg Box

SMW-316L

CLASSIFICATION

Steinless Steel	DIN8556	AWS A5.4	E316-16

GENERAL CHARACTERISTICS

SMWELTEC SMW-316L, Low carbon Rutile-basic-coated Mo containing austenitic stainless steel electrode with approx. 8% ferrite. Coating with very low moisture pick-up. Soft fusion without spatters, very easy slag removal,exceptional bead appearance, easy restriking. For welding and cladding on austenitic Cr-Ni-Mo stainless steels and clad plates. Applied for service temperatures from -120°C up to +400°C in the chemical and petrochemical industries, in refineries, in the food industries and for ship building to weld pipes, tanks, heat exchangers.

APPLICATION

Suitable for joint welding on corrosion resistant CrMiMo-steels with extremely low carbon content. Usable at working temperatures up to 400°C. On air and oxidizing gases scale resistant up to 800°C. The weld metal is capable of taking a high polish.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Mo
0.04	0.5-2.5	0.90	17-20	11-14	2.0-3.0

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength : 550 Mpa Elongation : 25-30 %

CURRENT

AC/DCRP

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Length/mm
3.2 mm	80-110	350
4.0 mm	110-140	350
5.0 mm	150-180	400

FORMS OF DELIVERY

5 Kg Box / 20kg Box

SMW-Cast

CLASSIFICATION

Special Alloy	DIN 8573	E Ni-BG11

GENERAL CHARACTERISTICS

SMWELTEC SMW-Cast Shield metal arc welding electrode (SMAW) with a graphite basic coating, recommended for cold welding and repairing of gray cast iron and nodular for crack resitant welding. All iron welding joint and repair.

APPLICATION

Sheiel metal arc welding with 92% Ni and C+Si+Mn+Fe for machinable cast iron cold welding as well as joint and repair welds on damaged gray iron castings and malleable cast iron components. It is suited especially for welding of spherodal cast iron.The chilling effect in the transition zones is reduced so that this can adequately be machined. The welding rod has excellent welding properties and produces prorefree and tight seams without notches. Only little spattering and easy slag removal.

WELDING METHOD KEY POINT

All welding before preheating and post heating.
All welding after hammer chipping.
All welding base metal low ampere slow to little heating.

TYPICAL ALL WELD METAL ANALYSIS (%)

C 1.5-2.0	Si 2-2.5	Mn 0.8-1.2	Ni 90-92%	Fe: Rest

HARDNESS

160 HB

MECHANICAL PROPERTIES OF WELD METAL

Tensile strength : 480-500 N/㎟ Elongation : 10-15 %

CURRENT

AC/DCRP

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Length/mm
3.2 mm	90-100	350
4.0 mm	130-140	350

FORMS OF DELIVERY

5 Kg Box / 20kg Box

SMW-4370

CLASSIFICATION

Special Alloy

GENERAL CHARACTERISTICS

SMWELTEC SMW-4370 is a additional chemical(V+Ti), high alloyed, shield metal arc welding electrode(SMAW). The austenitic weld deposit is corrosion resistant and high tensile strength, working hardening(self hardening, 42HRC), anti-magnetic and themal shock resistant up to 850℃. Depending on the high elongation(35%) the alloy is suitable for ductile buffer layers on cold and heating old hardfacings and joinning dissimilar and difficult to weld steels. Suitable for hardfacing high- manganese Delta ferrite content: 6.5 %.

APPLICATION

For shop doing all welding repairs(Iron steel factory, Cement factory, Mines, Quarries, Chemical, etc). Welding difficult steel(High carbon, High manganes, High chrome, Dissimlar metal). Multi-layer Hardsurfacing welding(Bottom buffer layers and Impact prrof). A variety of Hot roll, Chemical pipe, Hot forges die, Rails, Rails point, Coarse, Crusher(Jaws), Mill, Shell, Killen tire, Hot corrosion liner, Over head crane wheels, etc.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Mo	V+Ti	Fe
0.10	6-7.5	0.90	18-21	9-10	1.0-1.5	trace	balance

HARDNESS

Welding after 200-220HB Work Hardning 40-42HRC

CURRENT

AC/DCRP

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Length/mm
3.2 mm	80-110	350
4.0 mm	110-140	350
5.0 mm	150-180	400

FORMS OF DELIVERY

5 Kg Box / 20kg Box

SMW-29/9

CLASSIFICATION

Special Alloy

GENERAL CHARACTERISTICS

SMW-29/9 is a high alloyed, Shield metal Arc welding (SMAW) electrode. The ferrite and austenitic for joint welding weld deposit is corrosion resistant and high tensile strength(70~80Kg/㎟) is superior to all other alloys used for welding purposes with regard to resistance to cracking , High chromium and high nickel themal shock resistant up to 450℃. Furthermore the weld metal is heat and acid-resistant the alloy is suitable for high carbon steel and joinning dissimilar and difficult to weld steels

APPLICATION

For shop doing all welding repairs(Iron steel factory, Cement factory, Mines, Quarries, Chemical, etc). Welding difficult steel(High carbon, High manganes, High chrome, Dissimlar metal). A variety of Hot roll, Chemical pipe, Hot forges die, Rails, Rails point, Coarse, Crusher(Jaws), Mill, Shell, Killen tire, Hot corrosion liner, Over head crane wheels, Tool steels,,High speed tool steels, Shaft journal Joing and hardfacing , etc.

TYPICAL ALL WELD METAL ANALYSIS (%)

C	Mn	Si	Cr	Ni	Mo	Nb+Ti	Fe
0.10	1.5-2.5	0.90	28-31	8-11	0.75	trace	balance

HARDNESS

Welding after 220-250HB

CURRENT

AC/DCRP

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Length/mm
3.2 mm	80-110	350
4.0 mm	110-140	350

FORMS OF DELIVERY

5 Kg Box / 20kg Box

SMW-58

CLASSIFICATION

DIN 8555
Alloy- No : Special Alloy

GENERAL CHARACTERISTICS

SMW-58 is a Cr+Mo+Mn+W alloy. Shield metal arc welding electrode(SMAW) for hard-surfacing on parts that are exposed to corrosion and high abrasive mineral wear and high temperature(500℃). Use the SMW-307(under layer) for multi-layer welding. Non crack after welding. The weld metal is not machinable.

APPLICATION,

Lime coated electrode for hardfacings on Iron factory and Cement plant machine parts (repair & maintenance) which are subject to high friction wear. SMW-58 is also suitable for repairs on damaged hot and cold cutting tool, ID fan impeller, Press die etc. (This welding rod is often used when multi-layer welding.) and the protective lining with sur-facings on austenitic manganese steel. In spite of its hardness, the welding material is tough and not suscaptible to impact loads. In its natural state the workability of the weld is limited to grinding. Weaving should be limited to about five times electrode size. Where deposits of more than three or four layers are required, buffer layers should be used.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	Nb+Ti+V+B+N	Fe	
0.45-0.8	2.60	1.20-1.70	12-16	1.0-1.5	3-7	trace	basis	%

HARDNESS

57-61 HRC

CURRENT

AC/DCRP

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Length/mm
3.2 mm	100-120	350
4.0 mm	120-140	400
5.0 mm	140-160	400

FORMS OF DELIVERY

5 Kg Box / 20kg Box

SMW-60

CLASSIFICATION

DIN 8555
Alloy- No : Special Alloy

GENERAL CHARACTERISTICS

SMW-60 is a Cr+Mo+Mn+W alloy. Shield metal arc welding electrode(SMAW) for hard-surfacing on parts that are exposed to corrosion and high abrasive mineral wear and high temperature(500℃). Use the SMW-307(under layer) for multi-layer welding. Non crack after welding. The weld metal is not machinable.

APPLICATION,

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry, Food industry, Dredge ship ,. Dredging parts, Gravel pumps, Roll tire and table, Backup roll, Pinch roll, Table roll, Work roll, Spindles (Roll etc..) Screws, Hot liner, Crusher hammers, Drive tumblers ,Road Construction, Suction dredger, Inner cashing and bucket and impeller, Mixer parts.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	Nb+Ti+V+B+N	Fe	
1.75	2.72	1.30	10-12	1.10	1.0-1.2	trace	basis	%

HARDNESS

58-61 HRC

CURRENT

AC/DCRP

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Length/mm
3.2 mm	100-120	350
4.0 mm	120-140	400
5.0 mm	140-160	400

FORMS OF DELIVERY

5 Kg Box / 20kg Box

SMW-63

CLASSIFICATION

DIN 8555
Alloy- No : Special alloy

GENERAL CHARACTERISTICS

SMW-63 is a very high C-Cr-Mo-W alloyed, shieldmetal arc welding electrode(SMAW) for hard-surfacing, High temperature(600°C), Corrosion, High abrasive mineral wear. Use the SMW-307 (under layer) for multi-layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory , Mineral and brick industry , Mine industry Dredge ship, Pumps, Impeller screws, Track hopper, Wooden cutter knife, Coal bucket and hoppers , Conveyer screws, Coal crusher, cones , Liners , wear plates, Grinding roller , Crusher rolls, etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	V + B + Ti	Fe	
5.0-5.5	1.0-1.5	1.50	32-34	0.5-1.0	0.5-1.0	trace	balance	%

HARDNESS

60 – 62 HRC

CURRENT

AC/DCRP

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Length/mm
3.2 mm	100-120	350
4.0 mm	120-140	400
5.0 mm	140-160	400

FORMS OF DELIVERY

5 Kg Box / 20kg Box

SMW-CoCrA

CLASSIFICATION

DIN 8555
AWS A5.13 EcoCrA (Stellite 6)

GENERAL CHARACTERISTICS

SMW-CoCrA, Hardfacing electrode with a rutile-basic coating. Cobalt base deposit of « stellite grade 6 » type (Co-CrW). The deposit is highly resistant to metal-metal wear and to corrosion up to 800°C. High resistance to thermal and mechanical shocks. Good aptitude to polishing and to machining. Soft arc, easy to remove slag, regular and smooth weld profile.
General applications: Hardfacing of valves, valve seats and sealing surfaces, hot shear blades, hot pressing tools, beaters for coke pulverises.
* Note : "Stellite" is a trade mark of Deloro Stellite (Haynes International).

APPLICATION

Tough and high strength stellite alloy for surfacing if wear is attended by temperature shocks, impact load or corrosion. SMW-CoCrA is the mostly employed stellite alloy. Suitable for work pieces which are subject to impact load and wear under high temperatures. Insensitive to corrosion welding.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	W	Co	
1.01	1.12	1.58	29-31	4.56	balance	%

HARDNESS

42-45 HRC

CURRENT

AC/DCRP

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Length/mm
3.2 mm	100-120	350
4.0 mm	120-140	400
5.0 mm	140-160	400

FORMS OF DELIVERY

5 Kg Box / 20kg Box

SMW-720

CLASSIFICATION

DIN 8555
Special Alloy

GENERAL CHARACTERISTICS

SMF-720 is a hot and cold cutting edges on tool bodies made of low alloyed or un alloyed steels and for the lining of cold and cutting tools, excellent results have been achived with wear-ressistent hardfacing (for multi-layer) , self-shielded, slag- free flux cored wire electrode for hard-surfacing on parts that are exposed to high abrasive mineral wear. The weld metal is machinable.

APPLICATION

Hot forging die, PVC and resin pipe (screw, cylinder), Cutting edges on tool bodies, Wooden cutter knife, Hot and cold wear-ressistent facing. hot and cold knife, hot linner, Cement and Iron Steel high temperature abrasive mineral wear. Hammer crusher, Roll crusher, Schut.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Nb	W	Fe	
0.30-0.55	0.50	1.20	3.0-3.5	1.50	0.5-1.0	7-10	basis	%

HARDNESS

55 HRC

CURRENT

AC/DCRP

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Length/mm
3.2 mm	100-120	350
4.0 mm	120-140	400
5.0 mm	140-160	400

FORMS OF DELIVERY

5 Kg Box / 20kg Box

SMW-730

CLASSIFICATION

DIN 8555
Special Alloy

GENERAL CHARACTERISTICS

SMW-730 is a high Cr+Mo+W+Mn and Nb+V+Ti+B alloyed, shield metal arc welding electrode(SMAW) for hard-surfacing on parts that are exposed to high temperature (800~1000°C over) abrasive(corrosion) mineral wear, Non-crack after welding . Use the SMW-307(underlayer) for multi-layer welding. The weld metal is machinable.

APPLICATION

Hot forging die, PVC and resin pipe (screw, cylinder), Cutting edges on tool bodies, Wooden cutter knife, Hot and cold wear-ressistent facing. hot and cold knife, hot linner, Cement and Iron Steel high temperature abrasive mineral wear.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	V+Ti+Nb+B+N	Fe	
0.55	0.06	1.10	2.70	1.30	9.0	trace	basis	%

HARDNESS

48 HRC

CURRENT

AC/DCRP

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Length/mm
3.2 mm	100-120	350
4.0 mm	120-140	400
5.0 mm	140-160	400

FORMS OF DELIVERY

5 Kg Box / 20kg Box

SMW-732

CLASSIFICATION

DIN 8555
Special Alloy

GENERAL CHARACTERISTICS

SMW-732 is a high Cr+Mo+W+Mn and shield metal arc welding electrode(SMAW) for hard-surfacing on parts that are exposed to high temperature (800~1000℃ over) abrasive(corrosion) mineral wear, excellent results have been achived with wear-ressistent hardfacing (for multi-layer). Non-crack after welding . Use the SMW-307(underlayer) for multi-buffer layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory, Mineral and brick industry, Industry fixing machine surfacing, Hot liner, Mine industry, Hammer Crusher Rotor, Shut, Basket, PVC pipe resin(Screw and Cylinder/hightemperature) Less tire die and Cutter knife, Hot forging die, Hot cutter knife, Ciners, Cutting edges on tool bodies, Wooden cutter knife, Press die, Rubber factory bambari mixer, High temperature mixer part, Aluminium die casting etc. Continuous casting rolls, Back up rolls shaft, Auxiliary roll, Guilding rolls. Slabbing rolls, Bar mill rolls, Pinch rolls, Hot strip mill table rolls, each rolls hardsurfacing. Etc.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	V	Nb+B	Fe	
0.4~0.6	0.6~0.8	1.3~1.6	11~13	2.6~2.8	8~10	1.0~1.2	trace	basis	%

HARDNESS

56-60 HRC

CURRENT

AC/DCRP

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Length/mm
3.2 mm	100-120	350
4.0 mm	120-140	400
5.0 mm	140-160	400

FORMS OF DELIVERY

5 Kg Box / 20kg Box

SMW-733 (D322)

CLASSIFICATION

DIN 8555
Special Alloy

GENERAL CHARACTERISTICS

SMW-733(D322) is a high Cr+Mo+W+Mn and shield metal arc welding electrode(SMAW) for hard-surfacing on parts that are exposed to high temperature (800~1000°C over) abrasive(corrosion) mineral wear, Non-crack after welding . Use the SMW-307 (under-layer) for multi-buffer layer welding. The weld metal is not machinable.

APPLICATION

Cement factory, Iron Steel factory, Mineral and brick industry, Industry fixing machine surfacing, Hot liner, Mine industry, Hammer Crusher Rotor, Shut, Basket, PVC pipe resin(Screw and Cylinder/hightemperature) Less tire die and Cutter knife, Hot forging die, Hot cutter knife, Ciners, Cutting edges on tool bodies, Wooden cutter knife, Press die, Rubber factory bambari mixer, High temperature mixer part, Aluminium die casting etc. Continuous casting rolls, Back up rolls shaft, Auxiliary roll, Guilding rolls. Slabbing rolls, Bar mill rolls, Pinch rolls, Hot strip mill table rolls, each rolls hardsurfacing.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	V	Nb+Ti+B	Fe	
0.5~0.6	0.4~0.6	0.5~0.8	5~8	1.5~1.8	8~11	0.7~1.0	trace	basis	%

HARDNESS

59-61 HRC

CURRENT

AC/DCRP

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Length/mm
3.2 mm	100-120	350
4.0 mm	120-140	400
5.0 mm	140-160	400

FORMS OF DELIVERY

5 Kg Box / 20kg Box

SMW-738

CLASSIFICATION

DIN 8555
Special Alloy

GENERAL CHARACTERISTICS

SMW-738, Hardfacing electrode with a rutile-basic coating. Tungsten Cobalt base(W+Cr+Co+V). Deposit characterised by a good resistance to metal wear and oxidation resistant up to 800~1000℃ (Good behaviour to important thermal and mechanical shocks, use the SMW-307 for multi-layer welding.

APPLICATION

Cement factory, Iron Steel factory, Mineral and brick industry.
Coated electrode for the reinforcement of cutting edges on tool bodies made of low allyed or unalloyed steels and for the lining of cold and hot cutting tools(forging). ID Fan, Hot liner, Hot sigment, PVC pipe resin(Screw and Cylinder /hightemperature) Aluminium diecasting etc. Continuous casting rolls, The weld deposit can be heat treated like a tool of similar composition and by means of tempering a hardness of 63 HRC is achedved. The slag is easy to remove.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	Co	V	W	Nb	Fe	
0.7-1.0	0.52	1.20	3.8-4.5	1.50	5.0	1.0-1.5	18-21	0.5-1.0	balance	%

HARDNESS

62-65 HRC

CURRENT

AC/DCRP

AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Length/mm
3.2 mm	100-120	350
4.0 mm	120-140	400
5.0 mm	140-160	400

FORMS OF DELIVERY

5 Kg Box / 20kg Box

SMW-750

CLASSIFICATION

DIN 8555
Special Alloy

GENERAL CHARACTERISTICS

SMW-750 is a high tungsten alloyed, shield metal arc welding electrode(SMAW) for hard-surfacing on parts that are exposed to high temperature (1000-1200°C over) abrasive (corrosion) mineral wear, Non-crack after welding . Use the SMW-307(underlayer) for multi-layer welding. The weld metal is machinable.

APPLICATION

Cement factory, Iron Steel factory, Mineral and brick industry, Industry fixing machine surfacing, Hot liner, Mine industry, ID Fan, PVC pipe resin(Screw and Cylinder /hightemperature) Less tire die and Cutter knife, Hot forging die, Hot cutter knife, Ciners, Cutting edges on tool bodies, Wooden cutter knife, Press die, Rubber factory bambari mixer, High temperature mixer part, Aluminium die casting etc. Continuous casting rolls, Back up rolls shaft, Auxiliary roll, Guilding rolls. Slabbing rolls, Bar mill rolls, Pinch rolls, Hot strip mill table rolls, each rolls hardsurfacing.

TYPICAL ALL WELD METAL ANALYSIS

C	Si	Mn	Cr	Mo	W	V	Ti+Nb+B	Fe	
0.28	0.12	0.75	1.79	1.90	25-30	1.07	trace	basis	%

HARDNESS

62-65 HRC

CURRENT

AC/DCRP

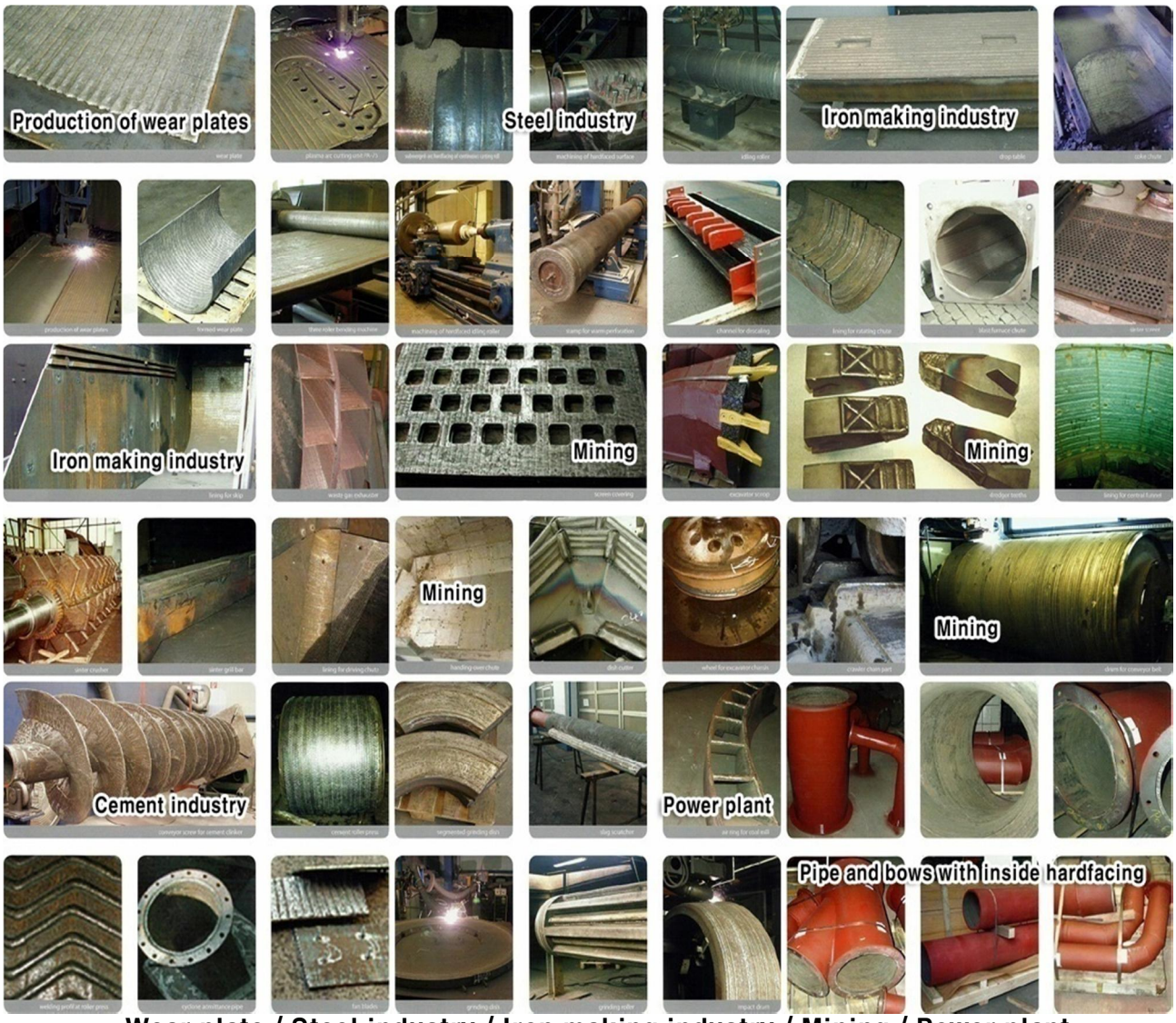
AVAILABLE DIAMETER AND WELDING PARAMETERS

Diameter	Ampere	Length/mm
3.2 mm	100-120	350
4.0 mm	120-140	400
5.0 mm	140-160	400

FORMS OF DELIVERY

5 Kg Box / 20kg Box

HARDSURFACING APPLICATION



Wear plate / Steel industry / Iron making industry / Mining / Power plant

Cement industry / Pipe and bows with inside hardfacing

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