

SMWELTEC PRODUCT

***SHIELD METAL ARC WELDING***

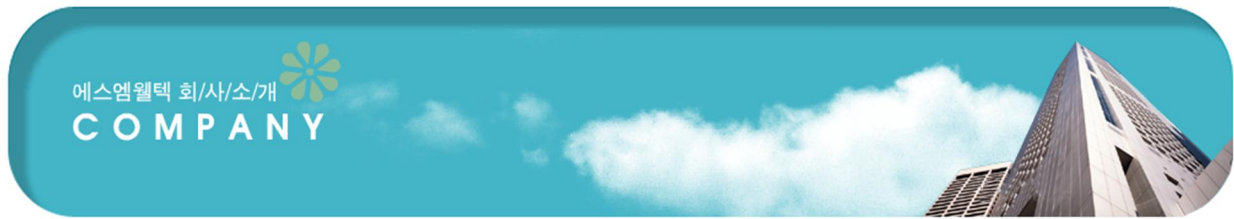
***SMAW***

**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 Co., Ltd.**

[www.smweltec.co.kr](http://www.smweltec.co.kr)

SMWELTEC Technical forum: <http://cafe.daum.net/sammiwelding>

### List of Welding Consumables:

\* 주) 제품 MSDS 는 홈페이지 용접봉 기술자료 참조

## **SMW-6013**

### **CLASSIFICATION**

Carbon Steel	DIN1913	AWS	A5.1	E6013
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### **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 occur in boiler, tank and pipeline construction as well as in steel structures and mechanical engineering. Low spatter losses and easy slag removal. The out-of-position 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 %
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### **CURRENT**

AC/DCRP
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### **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
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## **SMW-6013V**

### **CLASSIFICATION**

Carbon Steel	DIN1913	AWS	A5.1	E6013
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### **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 construction as well as for structural engineering. The electrode produces weld seams which are both neat in appearance and free from notches. The slag is easy to remove even from narrow "V" angles and rusty work pieces. Weldable also in the vertical-up position.

### **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 %
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### **CURRENT**

AC/DCRP
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### **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
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## **SMW-7016**

### **CLASSIFICATION**

Carbon Steel	DIN1913	AWS	A5.1	E7016
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### **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-position 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 %
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### **CURRENT**

AC/DCRP
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### **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
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## **SMW-308L**

### **CLASSIFICATION**

Stainless Steel	DIN8556	AWS A5.4	E308L-16
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### **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°C up to +350°C. 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°C. On air and oxidizing gases scale resistant up to 800°C. 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 %
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### **CURRENT**

AC/DCRP
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### **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
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## **SMW-309L**

### **CLASSIFICATION**

Stainless Steel	DIN8556	AWS A5.4	E309L-16
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### **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 for 18/8 cladding. Soft fusion, nice aspect of the bead, self releasing slag.

### **APPLICATION**

Rutile-basic electrode for joint welding heat-resistant steels up to 1050°C. working temperature. Also suitable for the root pass in welding stainless clad metal, for the first layer on overlay work on carbon or low alloyed 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 %
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### **CURRENT**

AC/DCRP
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### **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
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## **SMW-309MoL**

### **CLASSIFICATION**

Stainless Steel	DIN8556	AWS A5.4	E309MoL-16
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### **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 to its 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 austenitic to ferritic steels as well as for moderating layer at clad sheet. The weld metal is heat and scale resistant up to 1050°C. Due to the excellent welding properties and the good mechanical values, particularly 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 %
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### **CURRENT**

AC/DCRP
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### **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
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## **SMW-310**

### **CLASSIFICATION**

Stainless Steel	DIN8556	AWS A5.4	E310-16
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### **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 austenitic structure for joint welding heat-resistant Cr- and CrNi-steels. The weld metal has a very high resistance to hot cracking. Working temperature 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 %
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### **CURRENT**

AC/DCRP
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### **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
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## **SMW-316L**

### **CLASSIFICATION**

Stainless Steel	DIN8556	AWS A5.4	E316-16
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### **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 %
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### **CURRENT**

AC/DCRP
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### **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
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## **SMW-Cast**

### **CLASSIFICATION**

Special Alloy	DIN 8573	E Ni-BG11
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### **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 resistant welding. All iron welding joint and repair.

### **APPLICATION**

Shield 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 spheroidal 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 porosity-free 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
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### **HARDNESS**

160 HB

### **MECHANICAL PROPERTIES OF WELD METAL**

Tensile strength : 480-500 N/mm <sup>2</sup>	Elongation : 10-15 %
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### **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 thermal shock resistant up to 850°C. Depending on the high elongation(35%) the alloy is suitable for ductile buffer layers on cold and heating old hardfacings and joining 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 manganese, High chrome, Dissimilar metal). Multi-layer Hardsurfacing welding(Bottom buffer layers and Impact proof). 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/mm<sup>2</sup>) is superior to all other alloys used for welding purposes with regard to resistance to cracking, High chromium and high nickel thermal shock resistant up to 450°C. Furthermore the weld metal is heat and acid-resistant the alloy is suitable for high carbon steel and joining 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 manganese, High chrome, Dissimilar 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 Joining 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°C). 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 surfacings on austenitic manganese steel. In spite of its hardness, the welding material is tough and not susceptible 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°C). 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 casing 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 pulverisers.

\* 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 achieved with wear-resistant 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-resistant facing. hot and cold knife, hot liner, 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-resistant facing. hot and cold knife, hot liner, 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°C over) abrasive(corrosion) mineral wear, excellent results have been achieved with wear-resistant 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, Guiding 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°C (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 alloyed 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, Guiding 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

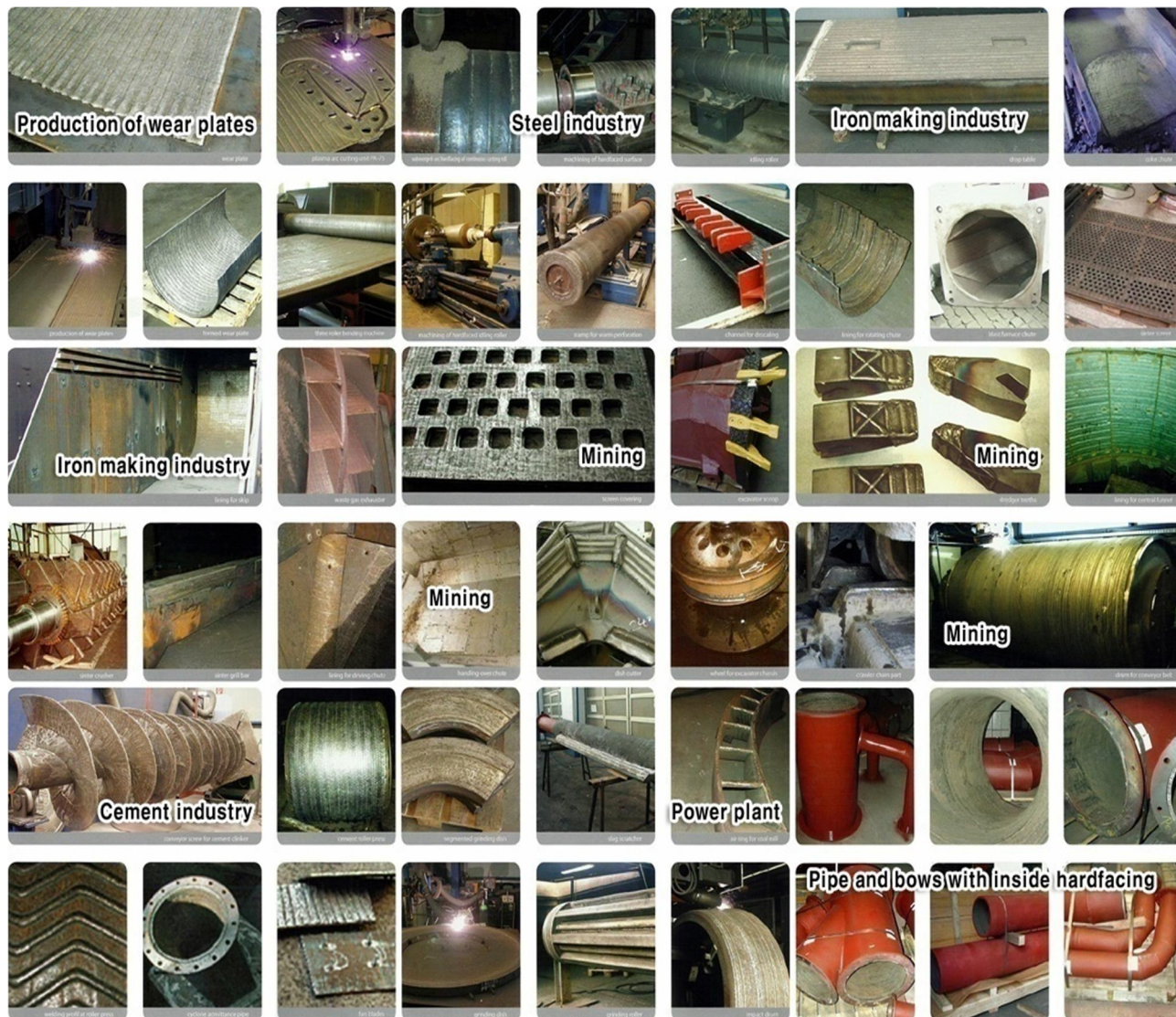
### **AVAILABLE DIAMETER AND WELDING PARAMETERS**

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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