



The Art of Welding

Metals
Ferro Alloys
Wires
Chemicals

PRODUCTS
BROCHURE
2017 - 2018



www.esweco.com

WELCOME

ESWECO

The Company

ESWECO is a major producer of welding materials and consumables that amount to almost 43,000 tons / year holding a market share of 60% across Egypt while exporting our products to 28 different countries.

ESWECO is part of HEDO Group Industries located in Alexandria, Egypt.



OUR PRODUCTS VARIETY

Our lines of welding materials & consumables products include:

- Mild Steels Electrodes
- Low-alloyed Electrodes
- Stainless Steel Electrodes
- Hardfacing Electrodes
- Cast Iron Alloys
- Submerged Arc Wire and Fluxes (SAW)
- Flux Cord Wire (FCAW)
- Special Electrodes
- Nickel Based Alloy
- MIG / MAG Wire (GMAW)



OUR PRODUCTS Quality

All ESWECO products are certified by international organizations includes Lloyds of Germany & England and the American Bureau of shipping. The Company holds ISO 9002 since 1996 and OHSAS 1800 since 2007 and employs 300 qualified professionals on both levels white and blue collars.

For a Solution Just Call

“We are committed to improve our products quality, and expand our range of products; to provide solutions to our customers that fulfill their needs and exceed their expectations.”

IBRAHIM HEDO
chairman



WORD **FROM** THE CHAIRMAN

Welcome to the world of welding consumables in Egypt, Middle East & Africa.

Our success attributes to our commitment to satisfy our customers and timely respond to their inquiries and requests. Since its establishment, the company contributes to the industrial development of the Egyptian welding sector via:

The effective participation and collaboration with TWI, England, in the form of establishing the Egyptian Welding Academy under the umbrella of HEDO Group.

A handwritten signature in black ink, appearing to read 'Ibrahim Hedo'.

Ibrahim Hedo

OUR PRODUCTS

Mild Steels Electrodes

ES 32.00

A5.1: E 6013
A 2560-A: E 38 0 RC 11

ES 32.00 is a rutile - cellulose coated electrode. It can be used in all positions including vertical - downwards travel. It is an easy to bend electrode, it brings great convenience to reach in difficult - to - reach areas. It has a good penetration respectively. The slag is easy to remove, coating is flexible so that it can be bended, suitable for welding of hardly reachable places, medium - thick coated and it is very easy to strike and re - strike, making it ideal for short welds ,root runs and tacking.

Mild Steels Electrodes

ES 45.00

A5.1: E 7018
A 2560-A: E 42 4 B 32 H 5

E S 45.00 is suitable for steel constructions and machines operating under dynamic forces. Pipe connections and ship building, boiler and pressure vessel manufacturing are among its application areas. It is recommended for the welding of high carbon, high strength low alloyed steels having high P and S content; high strength ship's plate of A-, D- and E- quality and vessel plates of 17 Mn 4 and 19 Mn 5 type. E S 45.00 can join steel casts and can be used in welding of thick parts. It is suitable for the root pass and welding in difficult positions. It gives excellent weld beads with high impact strength values at subzero temperatures. It is also very suitable for welding of galvanized plates.

Mild Steels Electrodes

ES 45.04

A5.1: E 7018
A 2560-A: E 42 4 B 32 H 5

ES 45.04 is a basic coated electrode engineered for high quality welds. Excellent strength and toughness properties also suitable for welding steels with low purity and high carbon content Good weld ability in out of position work except for vertical down. It is used particularly to weld rigidly restrained mass structures where high welding stresses are unavoidable. Weld metal has a high resistance to cracking, The slag is easy to remove and it gives very high quality, smooth weld beads. Deposits have very low hydrogen content, it has 125 % metal recovery, re-drying 300°C - 350°C min. 2 h.

Mild Steels Electrodes

ES 47.00

A5.1: E 7016-1H4R
EN 499: E42 5 B 12 H5

ES 47.00 is a basic coated electrode for high quality weld. It gives excellent quality, smooth and homogeneous weld beads with a very impurity (like P and S) content. It guarantees a yield strength value to 430 N / mm² for medium and high strength steels. Weld metal extremely ductile and crack resistant, thus especially suitable for rigid weldments with large seam large cross section. Good weld ability in all positions except vertical down. Metal recovery is about % 100, deposits have very low hydrogen content. Ø 2.50 or Ø 3.25 mm electrode selection in the root pass brings homogeneous weld beads due to full penetration, which brings great advantage in special welding applications.

Mild Steels Electrodes

ES 55.00

A5.1: E 7018-1
EN 499: E 46 5B 12H5

ES 55.00 is a basic coated electrode for high quality weld joints with highest strength. It is suitable for welding steels with low purity and high carbon content Weld metal has high impact strength at low temperatures ductile down to -60°C. Good weld ability in all position except vertical down. As the weld metal is very resistant to hot cracking. It is used particularly to weld rigidly restrained mass structures where high welding stresses are unavoidable. The slag is easy to remove and it gives very high quality, smooth weld beads. Deposit has very low hydrogen content, it has 125 % metal recovery, re-drying is 300°C, min 2 h.

OUR PRODUCTS

Mild Steels Electrodes

ES 7014

A5.1: E 7014
EN 499: E 42 0 RC 11

ES 7014 is a heavy coated rutile electrode. Weld metal has a high resistance to cracking in multiple applications. The slag is easy to remove, and it gives high quality, smooth weld beads, stable arc, low spatter, proper seam. It is easy to strike and re-strike and thus an ideal for tacking. It is an easy to use electrode. It has about 100 % metal recovery due to high iron powder in its coating.

Mild Steels Electrodes

ES 7016

A5.1: E 7016
EN 499: E 42 3B 12H10

ES 7016 is an LMA electrode for welding in all positions, excellent on AC in the vertical position. It has very good running characteristics, gives a low amount of spatter loss and a thin slag, which is easy to remove. The electrode is also characterized by good arc stability at low amperage. For root runs in single V joints welding on DC- is recommended because of the cooler weld pool. Redrying temperature, 350 °C, Redrying time, 2 hours, 105 Recovery.

Mild Steels Electrodes

ES 7024

A5.1: E 7024
EN 499: E 42 0 RR 53

ES 7024 is a heavy coated, high efficiency rutile iron powder electrode. It gives a metal recovery of about 165 % due to high iron powder content in its coating. It is particularly suitable for fillet welding of thick plates. It gives smooth weld bead appearance with a soft arc. The slag is easy to remove, resistant to high current, economical for flat fillet and gouging welding. Recovery 165.

Mild Steels Electrodes

ES 7024 GW

A5.1: E 7024
EN 499: E 42 0 RR 73

ES 7024 GW It is a heavy coated, high efficiency rutile iron powder electrode. It gives a metal recovery of about 180 % due to high iron powder content in its coating. It is particularly suitable for GRAVITY welding of thick plates. It gives smooth weld bead appearance with a soft arc. The slag is easy to remove. Recovery 180.

Mild Steels Electrodes

ES 7028

A 5.1: E 7028
EN 499: E 42 4 B 73 H5

ES 7028 High-recovery Iron Powder, LMA electrode, which gives extremely smooth filets of equal leg length and very low emission of fume and spatter. Preferably used for fillet and butt welds in Horizontal position. Also suited for vertical up welding. High deposition rate. High economic efficiency. low hydrogen contents in the deposit. Good slag removal. Re-drying in 300 - 350 °C min. 2 hr.

Mild Steels Electrodes

ES 7048

A5.1: E 7048
EN 499: E 51 4 B 61 H5

ES 7048 It is a basic coated electrode especially designed for welding in vertical downwards position. With a relatively large diameter electrode, at a very high travelling speed and high current. Thus, It can replace cellulose coated electrodes in some circumstances. Weld has a high resistance to cracking.

OUR PRODUCTS

Low-alloyed Electrodes

ES 7018-A1

A5.5: E 7018-A1H4R
EN 1599: E Mo B 4 2 H5

ES 7018 A1 Basic low-hydrogen electrode for 0.5 % Mo-alloyed boiler, plates, and tube steels. Approved in long term condition up to +550 °C service temperature. For high quality welds of long term stressed components with reliable mechanical properties under high and low temperature conditions. Crack resistant, tough and ageing resistant. Very low hydrogen content (acc. AWS condition HD < 4 ml/100 g). Metal recovery approx. 115

Low-alloyed Electrodes

ES 7018 W1

A5.5: E 7018-G

ES 7018-W1 Hydrogen controlled basic coated electrode for welding weathering steels. Weld metal relatively high resistance to atmospheric corrosion. very low level of diffusible hydrogen in welds. Weld metal gives radiographic quality.

Low-alloyed Electrodes

ES 7010-A1

A5.5: E 7010-A1
EN 499: E 42 3 Mo C 25

ES 7010-A 1 is a cellulose coated electrode, it has 0.50 % Mo content. Excellent molten pool control due to easily-removable slag and gaseous arc shilling eliminates porosity problems in weld beads which have good mechanical properties. In all positions, preferable for vertical down position, it enables notch-free, smooth weld beads of high penetrations.

Low-alloyed Electrodes

ES 7010-P1

A5.5: E 7010-P1
EN 499 : E 42 3 C 25

Higher strength cellulose coated stick electrode for vertical down welding on large pipelines . Particularly suitable for hot pass , filler and cover pass welding on higher strength pipe steel .

Low-alloyed Electrodes

ES 8010 P1

A5.5: E 8010-P1
EN 499: E 46 4 1 Ni C 25

ES 8010-P1 is an easy to strike cellulose coated electrode that provide the highest impact notch toughness values among our range of cellulose coated electrodes. Due to its higher mechanical properties, it is useful for the root and deposit pass of large diameter pipe connections having high yield strength. In all positions especially for vertical down position, it enables notch-free, smooth weld beads of high penetration. It enables excellent molten pool control due to easily-removable, low - volume slag.

OUR PRODUCTS

Low-alloyed Electrodes

ES 9010 G

A5.5: E 9010-G
EN 499: E 50 3 1 Ni C25

It is an easy to strike cellulose coated electrode that provide the highest impact notch toughness values among our range of cellulose coated electrodes. Due to its higher mechanical properties, it is useful for the root and deposit pass of large diameter pipe connections having high yield strength. In all positions especially for vertical down position, it enables notch-free, smooth weld beads of high penetration. Especially recommended for hot passes, filler and cap layers. Highly economical compared with vertical up welding. It enables excellent molten pool control due to easily-removable, low - volume slag.

Low-alloyed Electrodes

ES 7013 G

A5.5: E7013- G
EN 1599:1997: E Mo R 1 2

ES 7013- G Rutile electrode for 0.5% Mo-alloyed boiler, plates, and tube steels. Approved in long term condition up to +550 °C service temperature. Specifically preferred for thin walled welds up to 30 mm and root pass welding. It offers excellent striking and restriking characteristics, easy slag removal, smooth beads, AC/DC weldability and produces first class X-ray quality welds in all positions (except vertical down).

Low-alloyed Electrodes

ES 8013 B2

A5.5: E 8013-B2H4R
EN 1599: E CrMo 1 R 12

ES 8013 B2 It is a rutile coated electrode. It gives a Cr-Mo alloyed weld metal that is used in the welding of creep resistant pressure vessels and pipe steels operating under high temperatures. It is especially used for 13 CrMo 44 type steels that are frequently used in operating temperatures up to 570°C. It gives a root pass free of porosity with a minimum amount of spatter.

Low-alloyed Electrodes

ES 502 - 15

A5.5: E 8015-B6
EN 1599: E CrMo5 B 42 H5

ES 502 - 15 is an LMA electrode containing 5Cr0.5Mo for welding creep-resistant steels. It is especially suitable for pipe welding. The electrode runs with a quiet, stable arc and gives a minimum amount of spatter loss. A preheating and interpass temperature of 150-260°C is normally required. The mechanical properties stated here are after one hour of heat treatment at 740°C. Redrying temperature, 350°C , Redrying time, 2 hours, Recovery 115

Low-alloyed Electrodes

ES 8016 G

A5.5: E 8016-G
EN 499: E 46 4 1 Ni B 12 H5

ES 8016 G is a basic coated low hydrogen type electrode. it is used for welding heavy section of fine grained, high strength steel. It's running very smooth and easy slag removable, yielding a weld deposit containing 1.50% Mn and 0.7% Ni. it gives radiographic quality and low temperature service down to minus 60°C .

- Dry the electrodes at 350 - 400°C for 60 min before use.
- Keep the arc as short as possible

OUR PRODUCTS

Low-alloyed Electrodes

ES 8018 B2

A5.5: E 8018-B 2
EN 1599: E CrMo 1 B 42 H5

ES 8018 B2 is a basic coated electrode. It gives a CrMo alloyed weld metal that is used in the welding of creep resistant pressure vessels and pipe steels operating under high temperatures. HS - 5 is especially used for 13 CrMo 44 type steels that are frequently used in operating temperatures up to + 570 °C. It gives a root pass free of porosity with a minimum amount of spatter. Re-drying is 350°C - 400°C min 2 h.

Low-alloyed Electrodes

ES 8018 B3L

A5.5: E 8018-B 3LH4R

ES 8018 B3L is a basic coated electrode. It gives a CrMo alloyed weld metal that is used in the welding of creep resistant pressure vessels and pipe steels operating under high temperatures. ES 8018-B3L electrodes contain 2.25% Cr and 1% Mo alloy additions with low carbon content. The electrode is designed for welding 2.25% Cr - 1% Mo steels. The rod operates with a very stable arc and minimal spatter. The low carbon analysis of the weld metal contributes to its crack resistance. The addition of Cr and Mo provide for the excellent creep and stress rupture properties of weldments subjected to elevated temperature service. It gives a root pass free of porosity with a minimum amount of spatter. Re-drying is 350°C - 400°C min 2 h.

Low-alloyed Electrodes

ES 8018 B6

A5.5: E 8018-B6
EN 1599: E CrMo5 B 42 H5

ES 8018 B6 Basic coating electrode for the welding of steel at high temperature and applications containing high levels of hydrogen. Preferably used for the welding of X12CrMo5 (5CR 0.5Mo) steel. Approved to be used in long-term applications in service temperatures of up to 650°C. High resistance to cracks, very low contents of hydrogen (according to AWS regulation, HD ≤4ml/100g of welding metal). Good weldability in all welding positions, except descending vertical. The base metal is thermally treatable. Metallic yield of about 115%. Redrying temperature, 350°C, Redrying time, 2 hours, Recovery 115%

Low-alloyed Electrodes

ES 8018 B8

A5.5:E 8018 - B8
EN 1599:E CrMo5 B 42 H5

ES 8018 - B8 is designed to weld 5% Cr -0.5% Mo creep resisting steels such as ASTM A387 Grade 5, A213-T5 and A335-P5. These Electrode are normally used in pressure vessels and piping for high temperature service.

Low-alloyed Electrodes

ES 8018 C1

A5.5: E 8018-C 1
EN 499: E 46 8 2 Ni B 42 H5

OUR PRODUCTS

ES 8018 C1 is a heavily coated, Ni alloyed basic electrode. It is particularly useful for the welding of fine - grained steels and low alloy steels which have high impact resistance at low temperatures down to - 60 °C. It is used for the welding of joints which need to have high toughness values at low temperatures. It gives a weld metal that has an excellent corrosion resistance to sea water and to sulphur acid fumes. It has about 120 % metal recovery. Good weldability in all positions except vertical down. Preheating and inter - pass temperatures as well as post weld heat treatment re-drying is 350°C - 400°C min. 2 h.

Low-alloyed Electrodes

ES 8018 C2

A5.5: E 8018-C 2
EN 499 : E 46 8 3 Ni B

ES 8018 C2 It is a Ni alloyed basic coated electrode. It gives a Ni alloyed weld metal that is particularly useful for the welding of fine - grained steels and low alloy steels which have high impact resistance at low temperatures down to - 110 °C. Ductile and crack resistant metal deposit. Very low hydrogen content (< 5 ml / 100 g.). Easy handling in all position except vertical down. Preheating and inter-pass temperatures, as well as post weld heat treatment as required by base metal. Efficiency is approximately % 120. Re-drying is 350°C - 400°C min 2 h.

Low-alloyed Electrodes

ES 8018 C3

A5.5: E 8018-C3 H4R
EN 499: E 46 6 1 Ni B 42 H5

ES 8018 C3 is Ni - alloy , basic coated stick electrode with exceptional quality figures , in particular with high toughness and crack resistance for high - strength fine grained structural . Suitable for the temperature range from - 60°C to + 350°C.

Low-alloyed Electrodes

ES 8018 - GCu

A5.5: E 8018-G
EN 499: E 42 2 Z B 42

ES 8018 -GCu is a heavily coated, Ni-Cu alloyed basic electrode It gives a weld metal that has an excellent corrosion resistance to sea water and to flue gases. High mechanical properties with excellent crack resistance of restraint conditions. ES 8018 -GCu welds with a quite, stable arc giving very little spatter. Metal recovery approx. % 115, easy welded in all positions except vertical down. Deposit gave very low hydrogen content. Re-drying is 350°C-400°C min. 2 h.

Low-alloyed Electrodes

ES 8018 - GN

A5.5: E 8018-G
EN 499: E 46 5 Mn1Ni B 45 H5

ES 8018 GN is a basic electrode with very good welding characteristics. The electrode is of the AWS 8018 -G type and yields a weld metal alloyed with about 0.9 % Ni.

It meets the impact requirements down to - 50 °C . The coating is of the low - moisture absorption type and the diffusible hydrogen content is below 5 ml/100 g weld metal. It has about 120 % metal recovery. Good weldability in all positions except vertical down. Preheating and inter - pass temperatures as well as post weld heat treatment re-drying is 350°C - 400°C min. 2 h.

Low-alloyed Electrodes

OUR PRODUCTS

ES 8018 D1

A5.5: E 8018- D1
EN 757: E 55 6 1NiMo B 4 2 H5

ES 8018 -D1 is a basic coated electrode with high ductile and crack resistance; for high strength fine grained steels. Ductile down to - 60 °C. Resistant to aging. Easy to handle in all positions except vertical down. Preheating and inter pass temperatures, as well as post weld heat treatment as required by base metal. Deposits have very low hydrogen content. Re-drying is 300°C - 350°C min. 2 h.

Low-alloyed Electrodes

ES 9015 B9

A5.5: E 9015- B9
EN ISO 3580-B: E 6216-9C1MV

ES 9015 - B9 is designed to weld the modified steels T91, P91 or Grade 91, which are designed to provide improved creep strength, toughness fatigue and oxidation, and corrosion resistance at elevated temperatures.

Low-alloyed Electrodes

ES 9018 B3

A5.5: E 9018-B3
E 1599: E CrMo 2 B 42 H5

ES 9018 B3 is a basic coated electrode for joining and welding of great and creep resistant steels containing % 2.2 Cr + % 1.0 Mo that are exposed to operating temperatures up to +600°C. The weld metal has a high resistance to cracking.

ES 9018 B3 runs with a quite, stable arc giving a minimum amount of spatter and smooth weld beads. It is recommended to use the electrode in DC (+). Re-drying is 350°C - 400°C min. 2h

Low-alloyed Electrodes

ES 9018 B9

A5.5 : E 9018-B9
3580-A: E ZCrMoWVNb B42 H5

ES 9018 B9 Fully positional, highly basic, low hydrogen electrode for welding creep resisting steels. Excellent de-slag, re strike and general welder appeal. The addition of iron powder gives a recovery of ~110%.

Low-alloyed Electrodes

ES 9018 B92

A5.5: E 9018- B9
EN ISO 3580-A: E ZCrMoWVNb 9 0,5 2 B42 H5

ES 9018-B92 is a basic coated 9%Cr 0.5%Mo W-V-Nb-N electrode suitable for welding creep resistant steels like X10CrMoWVNb9-2, SA387 Gr92 Cl1 and Cl2, SA 182 Gr F92, SA 335 Gr P92, SA 213 Gr T92 and similar.
The weld metal chemistry is low in impurity elements. Excellent tensile strength at high temperature with operating temperature up to +650°C. Low diffusible hydrogen (HD<5ml/100g).

Low-alloyed Electrodes

ES 9018 D1

A5.5: E 9018-D1
EN 1599: E Mo B 42

ES 9018 -D1 is a basic coated electrode. AC/DC electrode for the welding of high tensile strength steels. It gives a weld metal that has good notch toughness down to - 60°C. Grain boundary cracking risk is very low.

OUR PRODUCTS

Low-alloyed Electrodes

ES 9018 GV

A5.5: E 9018 - G
EN 1599: E ZCrMoV1 B 4 2 H5

ES 9018 GV Basic electrode for highly stressed joint and production welds on GS-17CrMoV5-10 type high temperature cast steel used in the construction of steam turbines and valve casings. Approved in long-term condition up to +600 °C service temperature. High creep rupture strength thanks to the C, Cr, Mo and V-content. High fracture toughness, low hydrogen content, good welding characteristics. The deposit is heat treatable. Metal recovery approx. 115%.

Low-alloyed Electrodes

ES 10018 G

A5.5: E 10018-G
EN 757: E 62 6 Mn2NiCrMo B 42 H

ES 10018 -G Mn-Mo-Ni -alloyed basic electrode with high ductility and crack resistance for high-strength, quenched and tempered fine-grained constructional steels. Suitable for service temperatures at -60°C to +400°C. Weld metal recovery approx. 120%. Easily weldable in all positions except vertical-down. Preheat, Inter pass temperature and post weld heat treatment as required by the base metal. Very low hydrogen content (acc. AWS condition HD <4 ml/100 g weld metal).

Low-alloyed Electrodes

ES 10018 GV

A5.5: E 10018-G
EN 757: E 68 6 2NiMoV B 42 H5

ES 10018 -G V It is a basic coated electrode. It is used for the welding of un preheated or moderately preheated high strength steels with a yield strength of nearly 690 N / mm².

Low-alloyed Electrodes

ES 11018 GW

A5.5: E 11018-G
EN 757: E 75 6 CrMoV B 42 H5

ES 11018 -GW Application Fields and Properties hot work tool steels and 550-600 ° c as well as high operating temperatures similar to the origin of the alloy steel casting is an electrode used in alkaline type. Cr, Mo, V, W that



OUR PRODUCTS

Stainless Steel Electrodes

ES 307 B

A5.4: E 307- 15
EN 1600: E 18 8 Mn B 22

ES 307 B - IS a basic coated electrode, Austenitic stainless-steel electrode producing a weld metal with less than 5% ferrite. The tough weld metal has excellent crack resistance, even when welding steels with very poor weld-ability. Suitable for joining 12-14% manganese steel to itself or other steels. Also suitable for buffer layers before hardfacing, . Weld beads are highly resistant to oxidation at operating temperatures up to 850°C.

Stainless Steel Electrodes

ES 307 - 17

A5.4: E 307- 17
EN 1600 : E 18 9 Mn Mo R 32

ES 307 - 17 is a basic coated electrode with an alloyed core. Therefore it can tolerate higher current than ES 307 - 15. It gives a filler metal of the Cr-Ni-Mo type that is high (4.5 %) in Mn content. weld beads are highly resistant to impact, wearing and cracking due to heat effects shock, keep its toughness down to -100°C. It gives a fully austenitic, nonmagnetic weld metal. It has % 155 metal recovery. Re-drying is 300°C min. 2 h.

Stainless Steel Electrodes

ES 308L 15

A5.4: E 308L-15
EN 1600: E 19 9 L B 22

ES 308L 15 electrodes were developed for the welding of Type 304L stainless steels but can be used for many other stainless steels including Types 301, 302&304. They are used extensively for the welding of chemical plant equipment and may be used successfully for the welding of Types 321 and 347 stainless steels provided the service temperature is less than about 700°F (375°C). The basic coating of Arcaloy 308L-15 gives the highest resistance to cracking and excellent vertical welding characteristics. Operates on DC current only. This item is subject to Industry Alloy Surcharges.

Stainless Steel Electrodes

ES 308L 17

A5.4: E 308 L-17
EN 1600: E 19 9 L R 32

ES 308L 17 is an extra low carbon rutile coated electrode. It gives a filler metal of the Cr - Ni type. Excellent quality smooth weld beads are highly resistant to acids, inter granular corrosion at operating temperatures up to 350°C, and to oxidation up to 800°C. It gives a stable arc and the slag is easy remove. Re-drying is 300°C-350°C min. 2 h.

Stainless Steel Electrodes

ES 308-15 Mo

A5.4: E308 Mo-15
EN 1600: E 20 9 3 B 2 2

ES 308 Mo B IS a basic coated electrode. It gives a filler metal of the Cr-Ni-Mo type that is high (2.5%) in Mn content. Weld beads are highly resistant to sudden impact and cracking due to heat effect.

OUR PRODUCTS

Stainless Steel Electrodes

ES 308-17 Mo

A5.4: E308 Mo - 17
EN 1600: E 20 10 3 R 3 2

ES 308 Mo - 17 is an Rutile electrode of type E 20 10 3 / 308Mo. This electrode is designed for dissimilar joints and weld cladding.

ES 308 Mo offers a lower chromium and ferrite content than a 309MoL weld deposit with the result that carbon diffusion and Cr-carbide formation is reduced after post weld heat treatment and lower ferrite contents can be achieved in the second layer of 316L surfacing.

Suitable for service temperatures from -80°C to +300°C. Safety against formation of porosity due to the moisture resistant coating. is an extra low carbon rutile coated electrode. It gives a filler metal of the Cr - Ni type. Excellent quality smooth weld beads are highly resistant to acids, inter granular corrosion at operating temperatures up to 350°C, and to oxidation up to 800°C. It gives a stable arc and the slag is easy remove. Re-drying is 300°C-350°C min. 2 h

Stainless Steel Electrodes

ES 308 H16

A5.4: E 308 H-16
EN 1600: E199HR42

ES 308 H16 electrodes contain higher carbon over 308 for the welding of austenitic, high carbon 18% Cr " 8% Ni stainless steels such as AISI-304-H. The weld deposit of this electrode contains a 0.04 - 0.08% carbon, which provides higher tensile and creep strengths at elevated temperatures.

ES 308H16 electrodes have a high deposition rate resulting in excellent efficiency. This electrode may be used in all positions.

ES 308H16 electrodes may be used joint welds in construction parts for chemical engineering and cryogenic applications.

Stainless Steel Electrodes

ES 309 L

A5.4: E 309 L -17
EN 1600: E 23 12 LR 12

ES 309 L is a low carbon rutile coated electrode. It gives a filler metal of the Cr-Ni type. Weld beads are highly resistant to oxidation at operating temperatures up to 1000 °C. It can be used in all positions. The weld metal has a high resistance to cracking. Ferrite content is 12 %.

Stainless Steel Electrodes

ES 309 MoL

A5.4: E 309 MoL -17
EN 1600: E 23 12 2 LR 32

ES 309 MoL is a low carbon austenitic stick electrode with rutile coating . High crack resistance with hard- to weld materials, austenite- ferrite joints and weld claddings is achieved through the increased ferrite content (F N-20) in the weld metal. Particularly good fine welding properties and excellent. AC weld ability characterise this product. For operating temperatures up to +300 °C , for the first layer of weld cladding up to +400°C.

Stainless Steel Electrodes

ES 310

A5.4: E 310-17
EN 1600: E 25 20 R 32

ES 310 is a rutile coated fully austenitic electrode. It gives a high austenitic filler metal of the Cr-Ni type. Weld beads are highly resistant to oxidising temperatures up to 1150°C. Re-drying is 300°C min. 2 h.

OUR PRODUCTS

Stainless Steel Electrodes

ES 310 B

A5.4: E 310 -15
EN 1600: E 25 20 B 2 2

ES 310 B Basic electrode, core wire alloyed for analogous, heat resisting rolled, forged and cast steels e.g. in annealing plants, hardening plants, steam boiler construction, the crude oil industry and the ceramics industry. Joint welds in heat resisting CrSiAl steels exposed to sulphurous gases should be given a final layer deposited by means of ES 245.

Scaling resistant up to +1200 °C. Cryogenic resistance down to -196 °C. The service temperature range between +650 and +900 °C should be avoided owing to the risk of embrittlement

Stainless Steel Electrodes

ES 312

A5.4: E 312 -17
EN 1600: E 29 9 R 12

ES 312 is a rutile coated electrode. It gives a filler metal of the Cr-Ni type. Due to its high tensile and impact resistance, it is used for the joining and build up welding of steels with a high tendency to cracking. It is especially developed for maintenance and repair welding. Re-drying is 300°C min. 2 h.

Stainless Steel Electrodes

ES 316L 15

A5.4: E 316L- 15
EN 1600: E 19 12 3 B 52

ES 316L 15 is designed to give a weld deposit with a minimum ferrite number of 5 FN. Carbon content is 0.04% maximum and can be used to weld Type 304L stainless steel where the presence of molybdenum is not

Stainless Steel Electrodes

ES 316L 17

A5.4: E 316 L -17
EN 1600: E 19 12 3 LR 32

ES 316L 17 is a low carbon coated electrode. It gives a filler metal of the Cr-Ni-Mo type. Excellent quality smooth weld beads are highly resistant to acids and to inter granular corrosion at operating temperatures up to 350°C. It gives a stable arc and the slag is easy to remove. Re-drying is 300°C min. 2 h

Stainless Steel Electrodes

ES 318 17

A5.4: E 318- 17
EN 1600: E 19 12 3 Nb R 32

ES 318 17 It is a low carbon rutile coated electrode. It gives a filler metal of the Cr-Ni-Mo type. It can also be used in the welding of niobium or titanium stabilised AISI 318 or similar quality stainless steels. Excellent quality smooth weld beads are highly resistant to acids and to inter granular corrosion at operating temperatures up to 350°C. It gives a stable arc and the slag is easy to remove. Re-drying is 300°C min. 2 h

Stainless Steel Electrodes

ES 347

A5.4: E 347-17
EN 1600: E 19 9 Nb R 12

ES 347 is a low carbon rutile coated electrode. It gives a niobium stabilised, Cr-Ni type filler metal of AISI 304 or similar quality. It has an excellent strength especially in oxidising environments like nitric acid. Smooth weld beads are highly resistant to acids and to inter granular corrosion at operating temperatures up to 350°C. Re-drying is 300°C min. 2 h.

OUR PRODUCTS

Stainless Steel Electrodes

ES 410 B

A5.4: E 410-15
EN 1600: E 13 B 22

ES 410 B It is a basic coated electrode. % 13 Cr used in joint and filling welding of martensitic and martensitic-ferritic steels with 13 % Cr and steel casts. This electrode is also stronge at filling in the surfaces of gas, water and stream armatures. Electrodes should be dried for 2 hours at 150°C-200°C before use., Annealing at 750°C for 2 hours, cooling down to room temperature in the furnace re-drying at 150 °C - 200 °C /min.

Stainless Steel Electrodes

ES 410 NiMo

A5.4: E 410 Ni Mo 25
EN 1600: E 13 4 B 62

ES 410 NiMo It is a basic coated electrode for welding similar corrosion resisting, martensitic and martensitic-ferritic rolled, forged and cast steels. Used in the construction of hydro turbines, compressors and steam power plants, resistant to corrosion of water, steam and sea water atmosphere. Excellent slag removability and smooth bead appearance. Metal recovery approx. 130 % out-of-position weld ability, preheating and inter pass temperatures of heavy-wall components 100-160°C. Tempering temperature 580 - 620 °C. Electrodes should be dried for 2 hours at 150°C-200°C before use

Stainless Steel Electrodes

ES 430 B

A5.4: E 430-15
EN 1600: E 17 B 2 2

ES 430B Electrode with basic coating and low hydrogen level, good weld ability characteristics in all positions, except descending vertical. Mainly used for welding coats in surfaces of valves in contact with gas, water and vapour, allowing resistance to corrosion and wear. In machinery surfaces, it is recommended to keep at least two layers of welding. Similar junctions welded, stainless steel and chromium-bound steel, resistant to high temperatures present good polishing characteristics. Diffusible hydrogen <5ml/100g. Small hardness variation up to 500°C. Resistant to superficial oxidation up to 900°C.

Stainless Steel Electrodes

ES 2209

A5.4: E 2209-17
EN 1600: E 22 9 3 N L R 32

ES 2209 Is Rutile coated electrode designed for ferritic - austenitic duplex steels. filed of applications are in off- shore engineering and in the chemical industry. besides offering high mechanical strength and toughness, the weld metal is also noted for excellent resistance to stress corrosion cracking and pitting resistance. ES 2209 offers excellent positional weldability, and thus is perfectly suited for pipe welding besides the good wetting characteristics, slag removability resistance To prosity and reliable toughness down to - 20 °C

Stainless Steel Electrodes

ES 2209 B

A5.4: E 2209-15
EN 1600: E 22 9 3 N L B 22

ES 2209 B Is Basic coated electrode designed for ferritic - austenitic duplex steels. filed of applications are in off- shore engineering and in the chemical industry. besides offering high mechanical strength and toughness, the weld metal Is also noted for excellent resistance to stress corrosion cracking and pitting resistance. ES 2209 B offers excellent positional weldability, and thus is perfectly suited for pipe welding. besides the good wetting characteristics, slag removability resistance To prosity and reliable toughness down to - 60 °C.

OUR PRODUCTS

Hardfacing Electrodes

ES 250

EN 14700: E Fe 1
8555 : E1-UM-250

ES 250 Basic types , thick, has an electrode covered. The weld metal yield is approximately 110%.High abrasion resistance, sealing is good. Will not crack and pore, hot and cold can be hammered. Machinable weld seam. Moisture taken before using electrodes must be dried for 2 hours to 300 o C .

ES 250 Use for Rails, rail scissors, toothed wheels, driving wheels, sprockets, carrier rollers, shafts, transmission parts, clutch, etc.. fillet welds are used as wear-resistant parts.

Hardfacing Electrodes

ES 300

EN 14700: E Fe1
8555: E1-UM-300

ES 300 is a heavily coated basic electrode particularly used for wear conditions where impact stresses are considered. It gives a weld metal that is resistant to deformations of high rolling forces including metal-to-metal friction. Weld metal is air hardenable and can be machined with carbide cutting tools. Hardness varies with respect to the number of passes and cooling rate. It has about 115 % metal recovery.

Hardfacing Electrodes

ES 350

EN 14700: E Fe 1
8555: E1-UM-350

ES 350 is a heavily coated basic electrode particularly used for wear conditions where impact stresses are considered and Mn-Cr alloyed frogs. It gives a weld metal that is resistant to deformations of high rolling forces including metal -to-metal friction. Weld metal is air hard enable and can be machined with carbide cutting tools. Hardness varies with respect to the number of passes and cooling rate. It has about % 115 metal recovery. Re-drying is 300°C min. 2 h.

Hardfacing Electrodes

ES 400

EN 14700: EZ Fe 1
8555: E1-UM-400 G

ES 400 is An all position rutile/basic coated electrode that produces a machinable martensitic deposit if weld metal is not quenched, Designed for rolling, sliding and metal to metal wear resistance. Good restriking and low spatter. The electrode can be used with the drag or contact welding technique as well as out of position. It gives a weld metal that is resistant to deformations of high rolling forces including metal -to-metal friction. Weld metal is air hard enable and can be machined with carbide cutting tools. Hardness varies with respect to the number of passes and cooling rate. It has about % 115 metal recovery. Re-drying is 300°C min. 2 h.

Hardfacing Electrodes

ES 260

EN 14700: E Fe 4
8555 : E2-UM-60 Z

ES 260 is a basic coated electrode. It gives high oxidation resistant (up to 850°C) weld metals that also have a high wear resistance. It is resistant to wears of medium abrasions at high temperatures.

OUR PRODUCTS

Hardfacing Electrodes

ES 50 ST

EN 14700: E Fe 2
8555: E3-UM-50 ST

ES 50 ST is a hardfacing electrode for the repair welding of hot-working tools, hot trimming tools, punches and so on. The weld metal hardness can be increased by hardening and tempering, or by tempering alone. The weld metal can be step hardened. To avoid cracking, the preheat and interpass temperature should be at least 300°C and preferably 500°C.

Hardfacing Electrodes

ES 55 R

EN 14700: E Z Fe6
8555: E 6-UM-55 R

ES 55 R It is a basic coated electrode. Wear resistant weld metal has a high toughness value and exhibits a high resistance to cracking at operating conditions with high impact. The highest wear resistance is obtained after three passes. % 10 Cr content increases the wear resistance of the weld metal to the simpler forms of corrosive attack. The weld metal is resistant to softening up to 500°C. It can be machined by grinding. Re-drying is 300°C min 2 h.

Hardfacing Electrodes

ES 420

EN 14700: E Z Fe8
8555 : E 6-UM-55 RZ

ES 420 Heavily coated electrode that produces a martensitic deposit similar to AISI 420 stainless steel Designed for abrasion resistance under high corrosion conditions. The electrode coating permits the use of the drag or contact welding technique as well as positional welding if required. It can be machined by grinding. Re-drying is 300°C min 2 h.

Hardfacing Electrodes

ES 45 R

EN 14700: E Fe 7
8555 : E 5-UM-45 R

ES 45 R It is a rutile coated electrode. It gives a corrosion and wear resistant ferritic - martensitic stainless steel weld metal. It is used in hard facing applications where a hardness of 42-46 HRC is required. The metal is resistant to softening up to 500°C.

Hardness: 42 46 (HRC)

Hardfacing Electrodes

ES 600

EN 14700: E Fe 8
8555 : E 6-UM- 60 S

ES 600 It is a basic coated electrode. is an electrode with basic coating that deposits an ideal alloy for abrasion and medium/high impact demands. It can be applied in carbon cutters, bucket's lips, mill friezes' coating, prevention in manganese steels pieces (Hadfield), buckets' checking, jaws and crushers' cones.

Hardfacing Electrodes

ES 600 P

EN 14700: E Fe 8
8555: E 6-UM- 60 P

ES 600 P Is used for Final pass-welding of parts of earth-moving and mining equipment with high resistance to abrasion, as well as of parts of hard manganese steels .

Weld metal is resistant to abrasion

Re-drying: 300°C / 2h

OUR PRODUCTS

Hardfacing Electrodes

ES 650

14700: E Fe 8
8555 : E 6-UM- 60

ES 650 is indicated for hard coatings subjected to abrasion, combined with impact. The main applications are in the tool industry, mining and sugarcane industry, as well as work in hot and cold environments. The deposit is a martensitic alloy suitable for pressure and impact situations. Machining the weld metal by grinding.

Hardfacing Electrodes

ES 660

EN 14700: E Zfe 4
8555 : E6-UM-60

ES 660 is a general purpose, rutile coated hard facing electrode especially designed to use with small transformers having a relatively low open circuit voltage. It is resistant to softening up to 500°C. It gives a high abrasion resistant martensitic type weld metal with a medium toughness. Weld metal can not be machined.

Hardfacing Electrodes

ES 200 K

A5.13: E FeMn
EN 14700: E Fe 9
8555: E7-UM-200 K

ES 200 K deposits an austenitic-manganese steel alloy which work-hardens under impact and compressive stresses. The electrode is primarily used for surfacing and building up manganese steel components such as crusher jaws and hammers. The interpass temperature should be kept as low as possible.

Hardfacing Electrodes

ES 200 KA

A5.13: E FeMn-A
EN 14700: EZ Fe 9
8555: E7-UM-200 K

ES 200 KA is a high-recovery, austenitic-manganese steel electrode containing nickel. It produces a crack-resistant weld metal, which work-hardens under compressive stresses. It is intended for surfacing and building up Mn-steel components exposed to severe impact and moderate abrasion. Typical applications include crusher plates and rolls, bulldozer teeth, cones and mantels of rotary crushers, dredger buckets, rail crossings and so on. The interpass temperature should be kept as low as possible. It has about % 165 metal recovery. Re-drying is 300°C min. 2 h.

Hardfacing Electrodes

ES 250 KPR

EN 14700: E Fe 9
8555 : E7-UM-250 KPR

ES 250 KPR is indicated for coating of components subject to high impact with abrasion. The workmanship can be done in ferritic steel, as well in austenitic manganese steel and Manganese steel junction can be welded. Its main applications are in the cement industry, sugar industry, a line of rails and steel works in which work pieces are regenerated, as well as jaw-breaker, breaker pounding sidewalks and arms, alligators and cross pieces, roll axis, pushers conveyor belt and Clover cylinder engines.

OUR PRODUCTS

Hardfacing Electrodes

ES 29

EN 14700: E Fe 14
8555: E 10-UM-60 GRZ

ES 29 It is universally Applicable on parts predominantly subjected to grinding abrasion combined with light impact, such as conveyor screws, digging teeth mixer wings and sand pumps. It is also suited as a final layer on tough-hard deposits (E S 600) or high Mn-steel (E S 250 KPR) . Re-drying : 300-350°C / 2 h.

Hardness: 60 (HRC)

Hardfacing Electrodes

ES 33

A5.13: E FeCr-1
EN 14700: E Fe 15
8555: E10-UM-60 GZR

ES 33 is a basic coated electrode that is highly resistant to abrasion wear caused by coarse hard minerals. It has highly concentrated Chromium carbide in its structure.

ES 33 GRZ should be preferred for parts that are exposed to high impact. Preheating generally not required, metal recovery is approx. % 220. Re-drying is 300°C-350°C min 2 h.

Hardness: 60 - 62 HRC

Hardfacing Electrodes

ES 65 GRZ

EN 14700: E Fe 16
8555: E 10-UM-65 GRZ

ES 65 GRZ Super hardfacing electrode with very high contents of carbide forms (Mo,V,W,Nb)for deposits subject to extreme sliding mineral abrasion. Outstandingly suitable for deposits on weldments expected to withstand severe abrasion under high temperature stress. Typical applications include hardfacing on earth moving equipment and on wearing parts in the cement and brick making industries as well as on fire grate bars and fire grate teeth in the magnesite and iron & steel industry. Re-drying 300-350°C /min. 2 h.

Hardfacing Electrodes

ES 65 W

EN 14700: E Fe 4
8555 : E 4-UM-60 (65 W) S

ES 65 W It is a basic electrode. It gives a Mo alloyed, high speed steel type weld metal. Deposited metal retains its toughness properties at high temperature enabling the formation of high strength welds, particularly during the hard facing of cutting and punching tools. The deposit is highly resistant to friction, corrosion and impact. The weld metal deposit is equivalent to a high speed steel with increased Mo-content. Re- drying is 300°C-350°C min 2 h. To avoid cracking, the working temperature should be at least 300°C and preferably 400-500°C.

Hardfacing Electrodes

ES 60 T

EN 17400: E 3-UM-60 T
8555 : E Fe 16

ES 60 T is designed for welding worm tools of hot work steel such as high duty hot work tools, mandrels, dies and containers for metal tube and rod extrusion, hot impact extrusion tools, tools for the manufacture of hollow bodies, tools for the manufacture of screws, nuts, rivets and bolts; pressure die casting dies, forming dies, die inserts; hot shear blades.

OUR PRODUCTS

Hardfacing Electrodes

ES 60 GR

EN 14700: E Fe 15
8555 : E 10-UM-60 Z

ES 60 Z It is a basic coated electrode that is highly resistant to abrasion wear caused by fine or coarse hard minerals. Concentrated Cr and Nb carbides have been finely dispersed in its structure. In corrosive environments, it gives a better resistance to wear caused by fine minerals than hard faced structures having an ordinary chromium carbide structure.

Hardfacing Electrodes

ES 60 R

EN 14700: E Z Fe 6
8555 : E6 -UM-60 GPS

ES 60 R Is Provides a martensitic deposit with considerable retained austenite. General purpose electrode, a good compromise for metal-to-metal wear, moderate impact and mild abrasion. Can be used on carbon and low alloy steel parts. Re-drying: 300°C / 2h

Hardfacing Electrodes

ES 60 S

A5.13: E Fe 5 A
8555 : E4-UM-60 S

ES 60 S It is a mixed type Mo alloyed high speed steel electrode. Re-drying is 300°C min. 2 h.

Hardfacing Electrodes

ES 68

EN 14700: E Fe 5 B
8555 : E 4-UM-60

ES 68 It is a basic coated electrode. Molybdenum high - speed steel type designed for building up on items that are subject to EN 14700 severe abrasion and more than average impact; Preheating temperature 200°C - 300°C. Resistant to service temperatures of up to 500°C. Metal recovery % 135. Re-drying is 300°C min. 2 h.

Hardfacing Electrodes

ES 25 Ni

A 5.11: ENiCrMo-5
EN 14700: E Ni 2
8555: E23-UM-250 CKT

ES 250 Rutile basic covered, ~ 180% efficiency electrode. The weld metal to thermal shock, corrosion and abrasion resistant and extremely hard red is high. Improperly calm and spatter-free. Before using the electrodes must be dried for 2 hours to 200-250 ° C T.



OUR PRODUCTS

Cast Iron Alloys

ES Ni 55

A5.15: E NiFe-CI
EN 1071: E C NiFe CI 1
8573 : E NiFe 1 -BG 33

ES Ni 55 is a nickel cored electrode. It is used for the welding of all types cast irons and particularly for the joining of austenitic alloyed cast irons; called Ni resist.

It gives a very stable arc and a negligible amount of slag that can easily be removed. Weld metal can be easily machined and it has the same colour with that of the cast iron. It has excellent mechanical properties and it is very resistant to cracking. Welding should be made with short passes and each pass should be hammered by gently strikes when it is hot.

Cast Iron Alloys

ES Ni 99

A5.15: E Ni-CI
EN 1071 : E C Ni-CI 1
8573 : E Ni-BG 22

ES Ni 99 is a Nickel cored electrode. It enables welding with drop arc metal transfer. It is used for the welding of all types of cast irons especially for joint welding of grey cast iron, temper cast iron, s fero cast iron as well as the joint welding of cast iron to steel, stainless steel and monel metal Ni cored electrode. It gives a very stable arc and a negligible amount of slag that can easily be removed. Heat effected zone is very narrow. Porosity free weld metal can be easily machined. It has excellent resistant to cracking. Welding should be made with short passes and each pass should be made struck gently by a hammer when it is hot.

Cast Iron Alloys

ES EST

A5.15: E ST

ES EST is a Steel cored electrode. It is used for repairing of various of cast iron products

It is stable arc , easy slag removal and beautiful bead appearance

Preheat at 200 - 300 ° C .

The temperature to be applied varies in accordance with kind , shape and size of base metal. Gradual cooling is recommended after welding.



OUR PRODUCTS

Nickel Based Alloy

ES Ni 2

A5.11: ENiCrMo-5
EN 14700: E Ni 2
DIN 8555: E23-UM-250 CKT

ES N2 Rutile basic covered, ~ 180% efficiency electrode. The weld metal to thermal shock, corrosion and abrasion resistant and extremely hard red is high. Improperly calm and spatter-free. Before using the electrodes must be dried for 2 hours to 200-250 °C.

Nickel Based Alloy

ES Ni 60

A5.11: ENiCrMo-3
ENISO 14172: E Ni 6625 (NiCr22Mo9Nb)

ES NI 60 is Ni-based CrMoNb electrode for welding of Ni-alloys of the same or similar type as e.g. Inconel 625, for welding of 5% and 9% Ni steel.
The electrode is very suitable for welding of 254 SMO, i.e. UNS S31254 steel.

Nickel Based Alloy

ES Ni 70

A5.11: ENiCrFe-3
ENISO 14172:2006: E Ni 6082

ES Ni 70 Basic electrode, core wire alloyed, corresponding to DIN EL-NiCr 19 Nb for high-grade welding of nickel base alloys, high-temperature and creep resisting steels, heat resisting and cryogenic materials, low-alloyed problem steels and dissimilar joints. Ferritic-austenitic joints for service temperatures above +300°C or for applications where a post weld heat treatment is required .
High manganese of this weld deposit reduces the possibility of micro fissures but reduces creep strength which limits its usage up to 900°F (482°C) .
Excellent welding characteristics in all positions except vertical-down, easy slag removal, high resistance to porosity, absence of undercuts, high degree of purity. Electrode and weld metal meet highest quality requirements.

Special Electrodes

ES GOUG

ES GOUG is heavy coated special electrode for gouging in and joint preparation of all types of steel, cast iron, aluminium and non-ferrous metal for which the oxy-acetylene method is not applicable. It is a general purpose electrode especially used before repair and maintenance welding applications. It is very easy to use, for arc start, it is held perpendicular and then leaned 15° and pulled forward. It should not be pushed into the work more than half the coating thickness. If the groove is not deep enough the process should be repeated after the work piece has cooled.

Special Electrodes

ES CUT

ES CUT It is an heavy coating special electrode for cutting in and piercing of all types of steel, cast iron, aluminium, stainless steels and non-ferrous metal. It is a general purpose electrode especially used before repair and maintenance welding applications. Ark start and welding is easy with this electrode and it can be used with high current, it is gives easy arc start. This electrode should be positioned perpendicular to the work.

OUR PRODUCTS

Submerged Arc Wire and Fluxes (SAW)

ES 1L

A5.17 : EL12
EN 756: S1

ES 1L is a copper-coated, mild steel wire for submerged arc welding.

It can be combined with the following fluxes:, E S Flux 140 ,E S Flux 161, E S Flux 171 and ES Flux 181.

Submerged Arc Wire and Fluxes (SAW)

ES 1MK

A5.17 : EM 12 K
EN 756 : S2 Si

ES 1 M K is killed, medium manganese alloyed, copper-coated steel wire for submerged arc welding in medium and high strength structural steels.

It can be combined with the following fluxes: ES Flux 161, ES Flux 171 and E S Flux 181.

Submerged Arc Wire and Fluxes (SAW)

ES Flux 140

EN 760 : SF MS 1 88 AC

ES Flux 140 is a fused, acid flux specially designed for welding in combination with mild steel electrodes ES 1L or ES 1M.

It is designed for use in the single- and multi-pass butt welding of mild and medium tensile steels with impact requirements down to a minimum of -20°C.

ES Flux 140 is of the manganese-silicate type with high current-carrying capacity on both AC and DC .
Density 1.5 kg/dm³ , Basicity index 0.7

Submerged Arc Wire and Fluxes (SAW)

ES Flux 161

EN 760: SA FB 1 65 DC

ES Flux 161 is designed for the single-wire, multi-run butt welding of mild, medium and high tensile steels with impact strength requirements down to -40°C/-60°C.

Submerged Arc Wire and Fluxes (SAW)

ES Flux 171

EN 760: SA AB 1 67 AC H5

ES Flux 171 is a basic agglomerated flux designed for fillet welding and for the single and multipass butt welding of mild, medium and high tensile steels .

Submerged Arc Wire and Fluxes (SAW)

ES Flux 181

EN 760: SA AR 1 97 AC

ES Flux 181 is an acid agglomerated Si- Mn alloying flux designed for applications where dilution of base metal is high in fillet welding and butt welding of thin and medium thick plates with small number of passes.

OUR PRODUCTS

Flux Cord Wire (FCAW)

ES 71T1C

A5.20: E 71T-1C
EN 17632-A: T 42 2 P C 1

ES 71T1C Is used for all positions welding of machinery, ship building, bridges. Impact values of weld metal are good.

ES 71T1C is a flux cored wire which has been designed to get a good usability in all position for wide range of welding currents. With its quiet and smooth arc, its slag detachability is very good.

Flux Cord Wire (FCAW)

ES 71T1M

A5.20: E 71T-1M-9M
EN 17632-A : T 42 2 P M 1 H10

ES 71T1M Can be used on mild and high tensile steel in single and multi- pass applications. Ship building, machinery, bridge, structural fabrication and building.

ES 71T1M is a rutile-type flux cored wire to be used with Ar+CO₂ gas provide an exceptionally smooth and stable arc with a fast freezing slag system, this wire is ideal for welding flat, vertical up, vertical down. Bead shape and appearance are excellent in all position welding.



OUR PRODUCTS

MIG / MAG Wire (GMAW)

ES SG2

A5.18: ER70S-6
EN 440: G3Si1
8559 : SG 2

Copper-coated, manganese-silicon-alloyed solid wire for the of non-alloy steels, such as general structural, pressure-vessel and ship steels, as well as fine-grained carbon-manga-nese steels for the same purpose, with a mini-mum yield strength of less than 420 MPa.

ES SG2 welded with pure CO2 as the shielding gas.

MIG / MAG Wire (GMAW)

ES SG3

A5.18: ER70S-6
EN 440: G4Si1E N 440: G4Si 1
8559: SG 3

A copper coated electrode for gas metal arc welding. Slightly higher silicon and manganese alloyed than ES SG2



OUR CERTIFICATION

A highly motivated and experienced team of 300 members, guided by the insights of its management allowed us to obtain ISO 9002 certification since 1996 (currently ISO 9001) and obtain OHSAS 1800 certification since 2007. Our products always have been able to acquire many accreditations from various international classification societies including Lloyds Register of Shipping (LRS), Germanischer Lloyd (GL) and American Bureau of Shipping (ABS).



We are committed to improve our products quality,
and expand our range of products; to provide solu-
tions to our customers that fulfill their needs and
exceed their expectations.



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