

Super Optimal 6013

Features and Applications

- Rutile type medium coated electrode, used for the welding of large structures and process pipe work in the shipbuilding and construction industries where precise fit-ups are difficult to achieve. SUPER OPTIMAL 6013 is a superior quality electrode designed to give high impact toughness properties.

Standards

AWS A5.1: E6013
EN ISO 2560-A: E38 0 R 12

Mechanical Properties

Yield Strength N/mm ²	≥380
Tensile Strength N/mm ²	470-540
Elongation %	≥24

Chemical Composition

C	Si	Mn	P	S
0.07	0.20	0.50	0.03	0.03

Welding Positions



Current Type

AC/DC (±)

Manufacturer's Approvals

Approvals on request

Product Information

5.0kg Vaccum Inner Pack / 20.0kg Master Pack

Part No.	Diameter	Length	Current
7601	2.5mm	350mm	60-80
7602	3.2mm	350mm	110-135
7603	4.0mm	350mm	160-180
7604	5.0mm	35mm	180-230

Super Optimal 7018 S

Features and Applications

- Basic heavy coated, electrode for producing tough and crack-free welded joints even on steels having a carbon content up to 0.40%. Good operating characteristics when positional welding. Weld metal has good toughness properties down to -50°C. Ultimate mechanical properties in 7018-1 group.

Standards

AWS A5.1: E7018-1 H4
EN 499: E 42 5 B 32 H5
EN ISO 2560: E 42 5 B 32 H5

Mechanical Properties

Yield Strength N/mm ²	450
Tensile Strength N/mm ²	550-620
Elongation %	30

Chemical Composition

C	Si	Mn	P	S
0.07	0.30	1.40	0.025	0.020

Welding Positions



Current Type

AC/DC (+)

Manufacturer's Approvals

Approvals on request

Product Information

5.0kg Vaccum Inner Pack / 20.0kg Master Pack

Part No.	Diameter	Length	Current
7605	2.5mm	350mm	60-80
7606	3.2mm	350mm	110-135
7607	4.0mm	350mm	140-180

Super Optimal 6010

Features and Applications

- Cellulosic coated deep penetration electrode for welding of pipes and pipelines in all positions using conventional and stove pipe techniques. Characterised by a deeply penetrating, forceful and spray type arc. Excellent arc striking/re-striking. It is suitable for welding root passes, fill and cover passes.

Standards

AWS : A5.1 : E6010
 EN ISO 2560-A : E38 3 C 21
 EN 499 : E 38 3 C 21

Mechanical Properties

Yield Strength N/mm ²	400
Tensile Strength N/mm ²	470
Elongation %	30

Chemical Composition

C	Si	Mn
0.10	0.20	0.60

Welding Positions



Current Type

AC/DC (+)

Manufacturer's Approvals

Approvals on request

Product Information

5.0kg Vaccum Inner Pack / 20.0kg Master Pack

Part No.	Diameter	Length	Current
7405	2.5mm	350mm	40-70
7406	3.2mm	350mm	70-100
7407	4.0mm	350mm	100-140

Super Optimal 7016

Features and Applications

- Basic coated, low hydrogen electrode for producing tough and crack-free welded joints. Good operating characteristics when positional welding. Excellent for joints access making electrodes suitable for root joint welding. Weld metal has good toughness properties down to -50°C. Suitable for most heavy industries.

Standards

AWS A5.1 : E7016 - H4
 EN ISO 2560-A : E 42 5 B 1 2 H5
 EN 499 : E 42 5 B 12 H5

Mechanical Properties

Yield Strength N/mm ²	450
Tensile Strength N/mm ²	550-620
Elongation %	30

Chemical Composition

C	Si	Mn	S	P
0.07	0.30	1.30	0.020	0.025

Welding Positions



Current Type

AC/DC (+)

Manufacturer's Approvals

Approvals on request

Product Information

5.0kg Vaccum Inner Pack / 20.0kg Master Pack

Part No.	Diameter	Length	Current
7412	2.5mm	350mm	50-80
7413	3.2mm	350mm	90-130
7414	4.0mm	350mm	130-170

Super Optimal 7024

Features and Applications

- High efficiency, iron powder electrode designed for outstanding deposition rates with efficiency of approximately 140-150%. Excellent arc stability, soft fusion, fine ripples, self releasing slag, very low spatter. Suitable for heavy steel structures, storage tanks, bridge girders, earth moving equipment fabrication, etc.

Standards

AWS A 5.1 : E 7024
 ISO 2560-A : E 42 0 RR 53
 EN 499 : E 42 0 RR 53

Mechanical Properties

Yield Strength N/mm² >400
 Tensile Strength N/mm² 510-600
 Elongation % 24

Chemical Composition

C	Si	Mn	S	P
0.10	0.40	0.90	0.020	0.025

Welding Positions



Current Type

AC/DC (-)

Manufacturer's Approvals

Approvals on request

Product Information

5.0kg Vaccum Inner Pack / 20.0kg Master Pack

Part No.	Diameter	Length	Current
7415	3.2mm	350mm	120-150
7416	4.0mm	350mm	150-190
7417	5.0mm	350mm	180-230

Cutting/Gouging

Features and Applications

- Ideal for cutting, grooving and gouging steels, stainless steel, copper alloy, cast iron and cast steels

Standards

Mechanical Properties

Chemical Composition

Welding Positions



Current Type

AC/DC (-)

Manufacturer's Approvals

Approvals on request

Product Information

5.0kg Vaccum Inner Pack / 20.0kg Master Pack

Part No.	Diameter	Length	Current
7420S	3.2mm	350mm	150-200
7421S	4.0mm	350mm	200-250
7422S	5.0mm	350mm	300-350

Superhard 650

Features and Applications

- High alloyed air hardening type electrode depositing non-machineable weld metal, the deposit is free from Cracks, porosities and slag inclusions. Recommended for rock drills, drill bits, coal cutter blades, bulldozer blades, excavator teeth, bucket lips and other metal to metal wear.

Standards

DIN 8555 : E6-UM-60-S

Mechanical Properties

Hardness 58-60 HRC

Chemical Composition

C	Si	Mn	Cr	Fe
0.50	0.60	0.60	7.50	Balance

Welding Positions



Current Type

AC/DC (+)

Manufacturer's Approvals

Approvals on request

Product Information

5.0kg Vacuum Inner Pack / 20.0kg Master Pack

Part No.	Diameter	Length	Current
7423S	2.5mm	350mm	90-120
7424S	3.2mm	350mm	140-180
7425S	4.0mm	350mm	180-230

Supercast Ultima

Features and Applications

- Nickel electrode for welding of grey cast iron, malleable iron, cast iron and for welding on fatigued casted parts. For rectification of castings. Ferrocast ultima gives perfect welding results, even with low amperages. The arc is smooth and intensive, low spatters with easy removal of slag.

Standards

AWS A 5.15 : ENI-CI

Mechanical Properties

Hardness 165 HB (approximately)
Tensile Strength N/mm² 450

Chemical Composition

C	Si	Mn	Ni	Fe & Others
1.00	0.50	0.35	97.50	Balance

Welding Positions



Current Type

AC/DC (+)

Manufacturer's Approvals

Approvals on request

Product Information

2.0kg Vacuum Inner Pack with Plastic Tube / 10.0kg Master Pack

Part No.	Diameter	Length	Current
7430S	2.5mm	350mm	50-70
7431S	3.2mm	350mm	70-90
7432*	4.0mm	350mm	100-130

*Supplied on 1.0kg Packet

Supercast NiFe

Features and Applications

- Graphite basic coated electrode with a Ferro-Nickel alloy deposit for joining and repairing nodular cast iron. Deposit homogeneous and highly resistant against cracks. Particularly recommended for dissimilar welding of cast iron to steels and constructions of cast iron.

Standards

AWS A 5.15 : E NiFe-C1
DIN 8573 : E NiFe- 1 BG11

Mechanical Properties

Yield Strength N/mm² >480
Hardness 190 HB

Composition

Ni
56.0

Welding Positions



Current Type

AC/DC (+)

Manufacturer's Approvals

Approvals on request

Product Information

2.0kg Vaccum Inner Pack with Plastic Tube / 10.0kg Master Pack

Part No.	Diameter	Length	Current
7434S	2.5mm	350mm	60
7435S	3.2mm	350mm	80
7436S	4.0mm	350mm	120

Super Optimal 308L-17

Features and Applications

- Low carbon Rutile-silica-coated 19Cr, 10Ni austenitic stainless steel electrode with controlled ferrite approximately 6-8% for maximum resistance to cracking and corrosion. Core wire is 308LER. Coating with very low moisture pick up. Soft fusion without spatters, easy slag removal and exceptional weld bead.

Standards

AWS A 5.4 : E 308L-17
DIN 8556 : E 19 9 LR 23
EN 1600 : E 19 9 L R 32

Mechanical Properties

ISO- V J RT 60
Tensile Strength N/mm² 610
Elongation % 38

Composition

C	Si	Mn	Cr	Ni	Mo	S	P
0.03	0.90	0.80	19.00	9.50	0.10	0.010	0.025

Welding Positions



Current Type

AC/DC (+)

Manufacturer's Approvals

Approvals on request

Product Information

2.0kg Vaccum Inner Pack with Plastic Tube / 10.0kg Master Pack

Part No.	Diameter	Length	Current
7438S	2.5mm	350mm	50-70
7439S	3.2mm	350mm	70-100
7440S	4.0mm	350mm	100-140

Super Optimal 309L-17

Features and Applications

- Rutile type low carbon MMA electrode for joining dissimilar steels (austenitic to ferritic steels) and for cladding of austenitic steels. Weld metal consists of austenite with approximately 15% delta ferrite. Cladding on unalloyed and low-alloy steels are corrosion resistant in the first layer.

Standards

AWS A 5.4 : E 309L- 17
 DIN 8556 : E 23 12 LR 23
 EN 1600 : E 23 12 LR 12

Mechanical Properties

ISO- V J RT	60
Tensile Strength N/mm ²	600
Elongation %	>35

Chemical Composition

C	Si	Mn	Cr	Ni	Mo	S	P
0.03	0.90	0.90	23.80	12.80	0.10	0.012	0.020

Welding Positions



Current Type

AC/DC (+)

Manufacturer's Approvals

Approvals on request

Product Information

2.0kg Vaccum Inner Pack with Plastic Tube / 10.0kg Master Pack

Part No.	Diameter	Length	Current
7442S	2.5mm	350mm	60-80
7443S	3.2mm	350mm	80-120
7444S	4.0mm	350mm	110-150

Super Optimal 309 MOL-17

Features and Applications

- Low carbon Rutile-basic coated 23Cr 12Ni 2Mo stainless steel type electrode, used to weld on AISI 309 & 316L stainless steels and for dissimilar joints between construction, mild steels and stainless steels. Intermediate layer for a 316 L type cladding.

Standards

AWS A 5.4 : E 309 LMO- 17
 DIN 8556 : E 23 13 2 LR 23
 EN 1600 : E 23 13 2 LR 12

Mechanical Properties

ISO- V J RT	65
Tensile Strength N/mm ²	600
Elongation %	35

Chemical Composition

C	Si	Mn	Cr	Ni	Mo	S	P
0.03	0.90	1.00	23.50	13.10	2.50	0.012	0.015

Welding Positions



Current Type

AC/DC (+)

Manufacturer's Approvals

Approvals on request

Product Information

2.0kg Vaccum Inner Pack with Plastic Tube / 10.0kg Master Pack

Part No.	Diameter	Length	Current
7446S	2.5mm	350mm	50-80
7447S	3.2mm	350mm	80-110
7448S	4.0mm	350mm	100-140

Super Optimal 316-17

Features and Applications

- Rutile-silica-coated Mo containing austenitic stainless steel electrode with approx 6-8% ferrite. Coating with very low moisture pick-up. Soft fusion, without spatters, very easy slag removal, exceptional bead appearance, easy restriking.

Standards

AWS A 5.4 : E 316- 17
DIN 8556 : E 19 12 3 R 23
EN 1600 : E 19 12 3 R 32

Mechanical Properties

ISO- V J RT	60
Tensile Strength N/mm ²	590
Elongation %	38

Chemical Composition

C	Si	Mn	Cr	Ni	Mo	S	P
0.04	0.90	0.80	18.50	11.60	2.30	0.015	0.025

Welding Positions



Current Type

AC/DC (+)

Manufacturer's Approvals

Approvals on request

Product Information

2.0kg Vaccum Inner Pack with Plastic Tube / 10.0kg Master Pack

Part No.	Diameter	Length	Current
7450S	2.5mm	350mm	50-70
7451S	3.2mm	350mm	70-100
7452S	4.0mm	350mm	100-140

Super Optimal 312-17

Features and Applications

- Electrode for high strength joint welding and surfacings of similar and equal steels or cast steels, for joint welding tensile unalloyed steels, tempered and tool steels, high manganese steels, spring steels and joints between dissimilar steels with high alloyed stainless steels.

Standards

AWS A5.4 : E 312-17

Mechanical Properties

Yield Strength N/mm ²	>500
Tensile Strength N/mm ²	>800
Elongation %	>20

Chemical Composition

C	Si	Mn	Cr	Ni	S	P
0.10	0.90	1.00	29.00	9.00	0.012	0.015

Welding Positions



Current Type

AC/DC (+)

Manufacturer's Approvals

Approvals on request

Product Information

2.0kg Vaccum Inner Pack with Plastic Tube / 10.0kg Master Pack

Part No.	Diameter	Length	Current
7454S	2.5mm	350mm	50-80
7455S	3.2mm	350mm	80-110
7456S	4.0mm	350mm	110-150