

"NOBLE - Characterized by all Excellent Qualities"

ISO 9001
BUREAU VERITAS
Certification



1828



UKAS
QUALITY
MANAGEMENT

Excluding Design

008

NSIC - CRISIL

SE 2B



NOBLE TM
ELECTRODES



The company, **Noble Electrodes Private Limited** was established on October 30, 1995 and commenced commercial production on February 16, 1997.

We are engaged in manufacturing of quality **Welding Consumables** of various size and type.

Our quality management system is in accordance with the requirements of **ISO 9001-2008** since 2003.

Our certain products are approved by Bureau of Indian Standards (**ISI**), Director of Boilers (**IBR**), Gujarat State Electricity Corporation (**GSEC**), Indian Register of Shipping (**IRS**), Bureau Veritas (**Marine Division**), **GWSSB** etc.

Our company is rated by **CRISIL** and awarded '**SE 2B**' status consistently.



PRODUCTS

MANUAL METAL ARC WELDING ELECTRODES

ITEM	Equivalent Classification/coding • AWS • BIS	ITEM	Equivalent Classification/coding • AWS • BIS
Noble-6013	• E 6013 • ER 4111	Noble-310	• E 310-16 • E 25.20R 26
Noble-MS	• E 6013 • ER 4111	Noble-312	• E 312-16 • E 29.90 R 26
Noble-X	• E 6013 • ER 4212 X	Noble-316L	• E 316L-16 • E 19.12.2LR 26
Noble-S	• E 6013 • ER 4221 X	Noble-316LF	• E 316L-16 (Nr) • E 19.12.2LR 26(Nr)
Noble-SS	• E 6013 • ERR 4222 X	Noble-317L	• E 317L-16 • E 19.12.3LR 26
Noble-7016	• E 7016 • EB 5426 H ₃ X	Noble-318	• E 318-16 • E 19.12.2NbR 26
Noble-7018	• E 7018 • EB 5426 H ₃ JX	Noble-347	• E 347-16 • E 19.9 NbR 26
Noble-7018-1	• E 7018-1 • EB 5426 H ₃ JX	Noble-410	• E 410-15 • E 13R 10
Noble-7018-A1	• E 7018 A1 • E 49BA 126Fe	Noble-430	• E 430-15 • E 17R 10
Noble-8018-B2	• E 8018 B2 • E55 BB 226Fe	Noble-FeNi (55% & 36%)	• E Ni Fe Cl
Noble-8018-B6	• E 8018 B6 • E41 BB 626Fe	Noble-CuNi	• E Ni Cu B
Noble-8018-B8	• E 8018 B8 • E41 BB 826Fe	Noble- Ni	• E Ni Cl
Noble-8018-G	• E 8018 G • E55 BG 129Fe	Noble-NM	• Cast Iron- Non MachinableFe
Noble-9018-B3	• E 9018 B3 • E63 BB 326Fe	Noble-HF	• Hard Facing
Noble-9018-G	• E 9018 G • E63 BG 129Fe	Noble-HF5	• Hard Facing
Noble-11018M	• E 11018 M • E76 BM 329Fe	Noble-HF(LH)	• Hard Facing (Low Hydrogen)
Noble-308L	• E 308L-16 • E 19.9LR 26	Noble-300R	• Hard Facing
Noble-308H	• E 308H-16 • E 19.9R 16	Noble-600LH	• Hard Facing
Noble-309L	• E 309L-16 • E 23.12LR 26	Noble-Mn	• Hard Facing
Noble-309Cb	• E 309Nb-16 • E 23.12Nb R 26	Noble-Chrome Carbide	• Hard Facing
Noble-309Mo	• E 309Mo-16 • E 23.12.2R 26	Noble-Cut Rod	• Cutting Rod

MIG WIRE

ER70S-6, ER70S-2 & STAINLESS STEEL

TIG WIRE

ER70S-2 & STAINLESS STEEL

FLUX CORED WIRE

E71T-1 & STAINLESS STEEL

SAW WIRE

EL-8, EM-12K, EH-14 & FLUXES

NOBLE – MS

Mild Steel General Purpose Electrodes



CODING

IS - 814 : ER4111

AWS - A 5.1: E6013

Characteristics: Noble – MS is a medium coated Rutile type, all position general-purpose electrode which gives uniform deposition, smooth arc characteristics and good re-striking properties. The electrode operates on AC as well as DC power source.

Applications: For all kind of mild steel structures like ship hulls, tanks & vessels, bridges, railway wagons, steel frames & grills, truck bodies etc.

Mechanical Properties

	Required Values (As per IS - 814)
Yield Strength, N/mm ²	330 Min.
Tensile Strength, N/mm ²	410 – 540
% Elongation	20 Min.
Impact (CVN) at 27 ⁰ C	47 J Min.

If moist, Re-Dry electrodes at 120⁰C for 1 Hour.

Weld Metal Chemistry (%)

C	Mn	Si	P	S
0.12 max	0.30 - 0.60	0.40 max	0.04 max	0.04 max

Current Condition

Size (mm)	Current (Amp.): AC, DC (±)
2.50 x 350	60 – 90
3.15 x 350 / 450	100 – 140
4.00 x 450	140 – 200
5.00 x 450	180 – 250

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CODING

IS - 814 : ER4212X

AWS - A5.1 : E6013

Characteristics : Noble – X is a medium coated electrode for radiographic quality welds. It produces uniform and finely rippled welds of superior finish. The special features of this electrode are smooth and steady arc, negligible spatters and self-detaching slag. The electrode operates on AC as well as DC(-) power.

Applications : Noble – X is suitable for the welding of medium & high tensile steels such as cross country pipe-line, pressure vessels, storage tanks, wagon building, construction equipments, furnace shells, bridges, auto components, ship hulls, cranes, girders etc.

Mechanical Properties

	Required Values (As per IS - 814)
Yield Strength, N/mm ²	330 Min.
Tensile Strength, N/mm ²	410 - 540
% Elongation	22 min.
Impact (CVN) at 0°C	47 J min.

If moist, Re-Dry electrodes at 120°C for 1 Hour.

Weld Metal Chemistry (%):

C	Mn	Si	P	S
0.12 max	0.70 max	0.35 max	0.040 max	0.040 max

Current Condition

Size (mm)	Current (Amp.) AC, DC (-)
3.15 x 350/450	90-130
4.00 x 450	130-180

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NOBLE – 7018

Mild Steel low hydrogen type Radiographic
Quality Electrodes



CODING

IRS : 3Y40HH

AWS - A5.1: E7018

Characteristics : Noble – 7018 is a heavy coated iron powder type electrode which gives a smooth arc, good penetration and very less spatters. It is easy to operate in all position except vertical downward for radiographic quality weld. It produces uniform and finely rippled weld of superior finish. The weld metal is extremely ductile and crack resistant. The Effective electrode efficiency is more than 110%. The electrode operates on AC (70 V OCV) as well as DC (+) power.

Applications : Noble – 7018 is suitable for the welding of high tensile steels such as blast furnace steel work, pressure vessels, storage tanks, wagon building, pipe lines, furnace shells, bridges, ship hulls, root runs in heavy joints etc.

Mechanical Properties

	Required Values (As per IRS Part-2)
Yield Strength, N/mm ²	400 Min.
Tensile Strength, N/mm ²	510 - 690
% Elongation	22 min.
Impact (CVN) at -20°C	47 J min.

If moist, Re-Dry electrodes at 250°C for 2 Hours.

Weld Metal Chemistry (%):

C	Mn	Si	P	S	Ni	Cr	Mo	V
0.10 max	1.60 max	0.75 max	0.035 max	0.035 max	0.30 max	0.20 max	0.30 max	0.08 max

Current Condition

Size (mm)	Current (Amp.) AC, DC (+)
2.50 x 350	70-100
3.15 x 350 / 450	100-140
4.00 x 450 / 350	140-180
5.00 x 450	170-240

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NOBLE – 308L

Low Carbon Stainless Steel Electrodes



CODING

AWS- A5.4 : E308L - 16

Characteristics : NOBLE – 308L is a Rutile base, low carbon, radiographic quality, 18-8 stainless-steel electrode for resistance to corrosion and cracking. It gives High arc stability and low spatter losses. The resulted weld metal has excellent creep strength and other mechanical properties. It works on AC (70 V OCV)/DC (+).

Applications : NOBLE – 308L is suitable for the welding of stainless steel types 301L, 302L, 304L and 308L with very low carbon content. It is suitable for Building up surfaces on centrifugal pump impellers and shafts, valve faces, seats, chemical plants, steel furniture etc.

Mechanical Properties

	Required Values (As per AWS - A5.4)
Tensile Strength, N/mm ²	520 Min.
% Elongation	35 Min.

If moist, Re-Dry electrodes at 250°C for 1 Hour.

Weld Metal Chemistry (%):

C	Mn	Si	Ni	Cr	Mo	S	P
0.04 max	2.5 max	0.90 max	8 - 11	18 - 21	0.5 max	0.03 max	0.04 max

Current Condition

Size (mm)	Current (Amp.) AC, DC (+)
2.50 x 350	50 – 80
3.15 x 350	80 – 100
4.00 x 350	100 – 135
5.00 x 350	135-180

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NOBLE - 70S - 6

METAL INERT GAS (MIG) WIRE



CODING

AWS - A5.18 : ER70S-6

Characteristics : NOBLE – 70S-6 contains high level of manganese and Silicon de oxidizers which can tolerate medium to heavy mill scale or rusty surface. It provides X-ray quality weld with smooth bead appearance. It provides stable arc, low spatter levels and good feedability.

Applications : NOBLE – 70S-6 is suitable for the welding of Frame Fabrication, Pressure Vessels, Automotive Structures, Pipe Fabrication, Farm equipments, General Fabrication, Construction Equipment, Railcar construction and repair etc.

Applications : Welding with Co_2 gas and $\text{Ar} + \text{Co}_2$ gas mixture.

Mechanical Properties

Mechanical Tests	Required Values (As per AWS-A5.18)
Tensile Strength, N / mm^2	480 Min.
Yield Strength, N / mm^2	400 Min.
% Elongation	22 Min.
Impact (CVN) at -30°C	27 J Min.

Chemical composition requirements of Wire

Elements	C%	Mn%	Si%	S%	P%	Cu%	Ni%	Cr%	Mo%	V%
Range	0.06-0.15	1.40-1.85	0.80-1.15	0.035 max	0.025 max	0.50 max	0.15 max	0.15 max	0.15 max	0.03 max

Packing Specifications & Current Condition :

Size (mm)	Current Condition (DC+)	Voltage (V)	Gas Flow Rate L/min.
0.80	70-220	16-24	10-20
1.00	100-250	18-28	10-25
1.20	150-300	24-34	15-25
1.60	150-350	24-36	15-30

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