



GARGWELD™

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WELDING
CONSUMABLES



Strongest
Possible



Garg Inox Ltd.

“Evolution is a law of nature. It’s the dynamics of life which make the world go round.”

Established in 1995, GARG INOX LTD. is a Multinational company who’s been dedicated to serve the industry with world class, top of the line Ferrous & Non-Ferrous Wires. GIL follows strict standards of ISO 9001:2008 and is a government certified Export House having Sales Offices in the USA, U.K. and Turkey. GIL has a production capacity of 48,000 tons annually from four production units in Bahadurgarh & Pune. We have been selling our product under the brand name GARGWIRE™ with an annual turnover of over 90 million US Dollars.

As evolution is the essence of live, the natural course has lead to the birth of GARGWELD™ the new brand name from Garg Inox. Welding electrode is the coveted product to be produced under this brand name at Bahadurgarh, Haryana. The produce will be at par with the best in the world with the best financial viability.

So from “We make the wire you desire” to being “strongest possible” is a dream come true for the company!



INTRODUCTION

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Mild Steel Welding Electrodes MILDTROD TM 01-02	High Tensile and High Recovery Welding Electrodes HIGHTROD TM 01-02	Cutting and Gouging Welding Electrodes CUTTINGROD TM GOUGETROD TM 03-04	Deep Penetration Steel Welding Electrodes PIPETROD TM 05-06
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Stainless Steel Welding Electrodes GGINOX TM 17-24	Hardfacing Welding Electrodes HARDTROD TM 25-28	Cast Iron Welding Electrodes LOCASTTROD TM 29-30	Non-Ferrous Welding Electrodes BRONZTROD TM 31-32
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MILD STEEL, HIGH TENSILE & HIGH RECOVERY WELDING ELECTRODES



Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
MILDPROD 100	IS: 814-04 : ER4211 AWS, A5.1 : E6013 BSEN : E38AR12 DIN : E4322R312	A light medium coated rutile base all position, general purpose electrode operates even at low OCV, smooth and pleasant arc with low smoke and self lifting slag.	Light- structural work, storage tank, rail coaches and wagons, truck bodies & general repair and maintenance work.	C – 0.09 Max. Mn – 0.35-0.50 Si – 0.30 Max.	YS, Re : 40-45 kgf/mm ² UTS, Rm : 44-55 kgf/mm ² Elongation A5 : 22% Min. CVN Impact 27°C : 70J Min.	AC/DC±	Standard	
MILDPROD 105	IS : 814-04 : ER4221X AWS, A5.1 : E6013 BSEN : E38AR12 DIN : E4322R322	A medium coated rutile base all position, versatile electrode operates even at low OCV, smooth and pleasant arc with self lifting slag, low spatter, smooth finish and X-ray weld.	Steel structures, bridges, storage tank, rail coaches, pipe lines, boilers, ships & wagons etc.	C – 0.09 Max. Mn – 0.40-0.55 Si – 0.30 Max. S – 0.030 Max. P – 0.030 Max.	YS, Re : 40-45 kgf/mm ² UTS, Rm : 44-55 kgf/mm ² Elongation A5 : 23% Min. CVN Impact 0°C : 50J Min.	AC/DC±	Standard	
MILDPROD 110	IS : 814-04 : ER4221X AWS, A5.1 : E6013 BSEN : E38AR12 DIN : E4322R322	A medium-heavy coated rutile type, premium quality electrode, produces excellent welding properties and radiographic weld with controlled impurities level.	Steel-structure, boilers, ship-building, pressure vessel, bridges, pipe lines, storage tank etc.	C – 0.08 Max. Mn – 0.45-0.60 Si – 0.30 Max. S – 0.025 Max. P – 0.030 Max.	YS, Re : 40-45 kgf/mm ² UTS, Rm : 44-55 kgf/mm ² Elongation A5 : 24% Min. CVN Impact 0°C : 70J Min.	AC/DC±	Standard	
MILDPROD 115	IS : 814-04 : ERR4221X AWS, A5.1 : E6013 BSEN : E38ORR12 DIN : E4322RR(C)6	A heavy coated rutile base, premium quality radiographic weld electrode, produces very less spatter, smooth arc and weld finish and self lifting slag and easy strike and re-strike props.	Heavy- structure boilers, sheet metal work, automobiles, locomotive, pressure vessels, bolting stock and repair work etc.	C – 0.08 Max. Mn – 0.45-0.60 Si – 0.30 Max. S – 0.025 Max. P – 0.030 Max.	YS, Re : 40-45 kgf/mm ² UTS, Rm : 44-55 kgf/mm ² Elongation A5 : 24% Min. CVN Impact 0°C : 70J Min.	AC/DC±	Standard	
HIGHTROD 100	IS : 814-04 : ERR5222JX AWS, A5.1: E7014 BSEN : E42ORR23 DIN : E5132RR11110	A heavy coated iron powder and rutile base all position electrode, designed for medium strength and radiographic quality weld deposit more than 110% and operates at high current and at low OCV with self lifting slag.	Heavy steel work, bridges, cranes, locomotive, storage tank, pressure vessels, girders, tanks and machine parts etc.	C – 0.08 Max. Mn – 0.60-0.75 Si – 0.30 Max. S – 0.030 Max. P – 0.030 Max.	YS, Re : 46-54 kgf/mm ² UTS, Rm : 55-65 kgf/mm ² Elongation A5 : 22% Min. CVN Impact 0°C : 55J Min.	AC/DC+	Standard	
HIGHTROD 200	IS : 814-04 : ERR524KX AWS, A5.1 : E7024 BSEN : E42ORR63 DIN : E5132RR11160	Super heavy coated iron powder and rutile base electrode designed for down hand position welding with combination of high deposit, faster welding and X-ray weld.	Heavy structure work, bridge girders, crane, earth moving equipment, ship building, boilers etc.	C – 0.08 Max. Mn – 0.70-0.85 Si – 0.30 Max. S – 0.030 Max. P – 0.030 Max.	YS, Re : 46-54 kgf/mm ² UTS, Rm : 55-65 kgf/mm ² Elongation A5 : 22% Min. CVN Impact 0°C : 60J Min.	AC/DC+	Standard	

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CUTTING AND GOUGING
WELDING
ELECTRODES

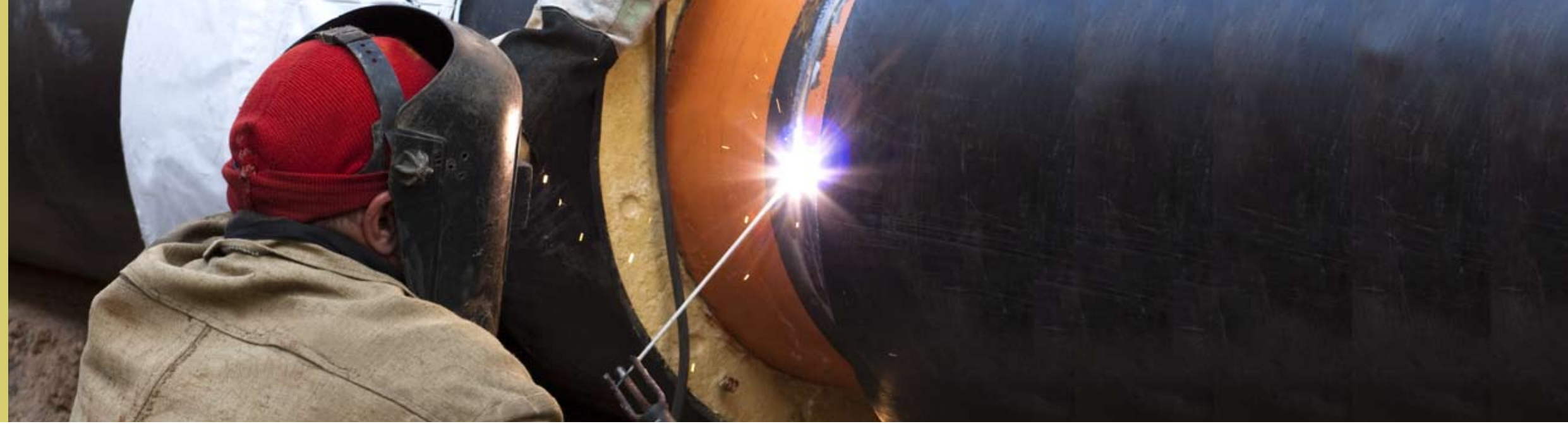


Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
CUTTINGTROD	--	A medium coated electrode design to produce smooth cutting and piercing of metal in all position and withstand high current.	Cutting of carbon steel, stainless steel and non-ferrous metals..	--	--	AC/DC-	Standard	
GOUGETROD	--	A special coating in electrode to produce smooth groove in metals in all position and withstand high current without overheating	Gouging and chamfering of carbon steels, alloys and non-ferrous metals.	--	--	AC/DC-	Standard	

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DEEP PENETRATION STEEL WELDING ELECTRODES



Brand	Classification	Product Description	Principal Application		Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
PIPETROD 60	AWS, A5.1 : E6010-P1 BSEN : E38 3C21 DIN : E4343C4	A light coated cellulosic type electrode operates in all positional welding in root run to give friable slag and radiographic weld and good toughness properties at sub zero temperature.	Root pass welding of pipelines, tubes, storage tanks, pressure vessel etc.		C – 0.12 Max. Mn – 0.40-0.55 Si – 0.30 Max. S – 0.030 Max. P – 0.030 Max.	YS, Re : 40-45 kgf/mm ² UTS, Rm : 48-55 kgf/mm ² Elongation A5 : 24% Min. CVN Impact (-)30°C : 40J Min.	AC/DC-	Dry Pack	
PIPETROD 70A	AWS, A5.1 : E7010-A1 BSEN : E Mo B 42	A light coated cellulosic type 0.50% Mo electrode operates in all positional welding in root run with forceful arc, like spray. Gives friable slag and radiographic weld and good strength at elevated temperature.	Root pass welding of pipelines, tubes, storage tanks, pressure vessel, metals like A209, 250 etc.		C – 0.12 Max. Mn – 0.45 Si – 0.30 Max. S – 0.020 Max. P – 0.025 Max. Mo – 0.50	YS, Re : 44-52 kgf/mm ² UTS, Rm : 54-60 kgf/mm ² Elongation A5 : 24% Min. CVN Impact 0°C : 80J Min.	AC/DC-	Dry Pack	
PIPETROD 70G	AWS, A5.1 : E7010-G BSEN : E 42 3C 21 DIN : E 51 43 C4	A light coated cellulosic type electrode with force full arc operates in all positional welding in root run to give friable slag and radiographic weld. Contains Ni and Mo. Good toughness properties at sub zero temperature.	Root pass welding of pipelines, tubes, storage tanks, pressure vessel etc.		C – 0.12 Max. Mn – 0.40-0.55 Si – 0.30 Max. S – 0.030 Max. P – 0.030 Max Ni – 1.20 Mo – 0.25	YS, Re : 40-45 kgf/mm ² UTS, Rm : 48-55 kgf/mm ² Elongation A5 : 24% Min. CVN Impact (-)50°C : 40J Min.	AC/DC-	Dry Pack	

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LOW HYDROGEN STEEL WELDING ELECTRODES



Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position	
LHTROD16	IS:814-04:EB5426H2X AWS, A5.1 : E7016 BSEN : E422B31H5 DIN : E51 44B 1026	A basic coated low hydrogen electrode produces tough and ductile weld metal suitable for heavy sections of mild, medium and high tensile steels subjected to dynamic loading. Electrode is also suitable for cast iron.	General repair, ship, heavy duty structure, earth moving equipment, rotary kiln shell, grey cast iron etc.	C – 0.08 Max. Si – 0.40 P – 0.025	Mn – 1.0-1.20 S – 0.025	YS, Re : 44-54 kgf/mm ² UTS, Rm : 52-58 kgf/mm ² Elongation A5 : 24% Min. CVN Impact (-)30°C : 40J Min. H2 = 5ml/100gm Max. Re-dry : 300°C, 1hr.	AC70/DC+	Standard	
LHTROD18	IS:814-04:EB5426H3JX AWS, A5.1 : E7018 BSEN : E423B32H5 DIN : E51 44B 1026	A basic coated low hydrogen iron powder electrode deposits, tough, ductile and radiographic weld metal suitable for heavy steel sections under restraint and joint subjected to dynamic loading. DE is more than 110%.	General fabrication, ship, heavy duty structure, earth moving equipment, rotary kiln shell, pressure vessel, boiler, blast furnace.	C – 0.08 Max. Si – 0.40 P – 0.025	Mn – 1.1-1.40 S – 0.025	YS, Re : 44-54 kgf/mm ² UTS, Rm : 52-60 kgf/mm ² Elongation A5 : 25% Min. CVN Impact (-)30°C : 50J Min. H2 = 4ml/100gm Max. Re-dry : 300°C, 1hr.	AC70/DC+	Standard	
LHTROD18S	IS:814-04:EB5629H3JX AWS, A5.1 : E7018-1 BSEN : E424B32H5 DIN : E51 55B 1029(H)	A basic coated low hydrogen iron powder electrode deposits, very tough, ductile and radiographic weld metal suitable for heavy and rigid structure steels subjected to dynamic loading high impact at sub-zero temp., DE is more than 110%.	Carbon steel, pressure vessel, penstock, boiler, heavy duty structure, earth moving equipment, rotary kiln shell, blast furnace, low alloy steel etc.	C – 0.08 Max. Si – 0.35 P – 0.020	Mn – 1.3-1.50 S – 0.020	YS, Re : 44-54 kgf/mm ² UTS, Rm : 52-58 kgf/mm ² Elongation A5 : 26% Min. CVN Impact(-)46°C : 40J Min. H2 = 3ml/100gmMax. Re-dry : 300°C, 2hrs.	AC70/DC+	Standard	
LHTROD H4R	IS:814-04:EB5426H3JX AWS, E7018-1 H4R BSEN : E424B32H5 DIN : E51 44B 1026	A basic coated low moisture pick-up in flux coating, electrode designed to deposits, tough, ductile and radiographic weld metal, suitable for sea shore applications. Deposit is resistant to porosity and HIC.	Offshore fabrication, ship, heavy duty structure, pressure vessel, boiler, penstocks etc.	C – 0.08 Max. Si – 0.35 P – 0.025	Mn – 1.1-1.40 S – 0.025	YS, Re : 46-52 kgf/mm ² UTS, Rm : 52-58 kgf/mm ² Elongation A5 : 26% Min. CVN Impact (-)46°C : 50J Min. H2 = 3ml/100gm Max. Re-dry : 300°C, 1hr.	AC70/DC+	Standard	
LHTROD NACE	IS:814-04:EB5426X3JX AWS, A5.1 : E7018 BSEN : E423B32H5 DIN : E51 44B 1026	Basic coated low hydrogen, highly impurity controlled electrode designed to deposits, tough, ductile and radiographic weld metal, suitable for NACE applications (SSC). Deposit is resistant to porosity and HIC.	Offshore fabrication, ship, heavy duty structure, pressure vessel, boiler, penstocks etc.	C – 0.07 Max. Si – 0.30 Max. P – 0.01	Mn – 1.10-1.25 S+Sn-0.01	YS, Re : 42-52 kgf/mm ² UTS, Rm : 52-58 kgf/mm ² Elongation A5 : 26% Min. CVN Impact (-) 30°C : 60J Min. H2 = 3ml/100gm Max. Re-dry : 300°C, 2hrs.	AC70/DC+	Standard	

WEATHER RESISTANT STEEL WELDING ELECTRODES



Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position	
LOAROD W2	IS:1395:E55BG 129Fe AWS, A5.5 : E8018-W2 BSEN : E50 0ZB3H5	A basic coated low hydrogen all position, corten steel electrode deposits weld metal containing 0.60% Cr, 0.70Ni% and 0.60% Cu. Weld metal displays excellent atmospheric corrosion resistant properties.	Corten steel, steel for chemical application, petrochemical industries, railways, weather resistant steel, atmospheric corrosion resistant steel etc.	C – 0.09 Max. Si – 0.40 Ni – 0.70 S – 0.025	Mn – 0.90 Max. Cr – 0.60 Cu – 0.60 P – 0.025	YS, Re : 50-56 kgf/mm ² UTS, Rm : 58-65 kgf/mm ² Elongation A5 : 24% Min. CVN Impact (-)20°C : 50J Min. H2 = 5ml/100gm Max. Re-dry : 300°C, 2hrs.	AC70/DC+	Standard	
LOAROD D1	IS:1395:E55B D 129Fe AWS, A5. : E9018-D1	Basic coated low hydrogen Manganese base corrosion resistant electrode for railways application smooth and pleasant arc with self lifting slag.	Corten steel, steel for chemical application, off shore work, high pressure mud piping, railways, weather resistant steel.	C – 0.07 Si – 0.45 Mo – 0.35	Mn – 1.50 Ni – 0.60 S&P – 0.025	YS, Re : 55-64 kgf/mm ² UTS, Rm : 66-75 kgf/mm ² Elongation A5 : 20% Min. CVN Impact 0°C : 100J Min. H2 = 4ml/100gm Max. Re-dry : 350°C, 2hrs.	AC70/DC+	Standard	



CRYOGENIC STEEL WELDING ELECTRODES

Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
LOAROD C1	AWS, A5.5 : E8018-C1 BSEN : E46 6 2NiB 32 DIN : EY46 87 2Ni B H5	A low alloy steel electrode yielding 2.5%Ni in the weld metal suited for fine grained steel and low alloy Ni base steel, displays high fracture toughness at minus 60°C.	Containers and pipes for liquefied gases (propane & butane), storage tanks, offshore fabrication etc.	C – 0.05 Si – 0.40 S – 0.01 Mn – 0.80 Ni – 2.40% P – 0.015	YS, Re : 50-56 kgf/mm ² UTS, Rm : 58-65 kgf/mm ² Elongation A5 : 24% Min. CVN Impact (-) 60°C : 50J Min. H2 = 3ml/100gm Max. Re-dry : 350°C, 2hrs.	AC70/DC+	Standard	
LOAROD C2	AWS, A5.5 : E8016-C2 BSEN : E468 3Ni B	A low alloy steel electrode yielding 3.5%Ni in the weld metal, specially designed for fine grained steel and low alloy Ni base steel, displays high fracture toughness at sub zero temperature down to minus 80°C.	Containers and pipes for liquefied gases (propane, butane, CO ₂ , ethylene), valves and tanks, offshore fabrication etc.	C – 0.05 Si – 0.40 S – 0.01 Mn – 0.80 Ni – 3.40% P – 0.015	YS, Re : 50-56 kgf/mm ² UTS, Rm : 58-64 kgf/mm ² Elongation A5 : 24% Min. CVN Impact (-) 80°C : 45J Min. H2 = 3ml/100gm Max. Re-dry : 350°C, 2hrs.	AC70/DC+	Standard	
LOAROD C3	AWS, A5.5 : E8016-C3 BSEN : E468 1Ni B	Basic coated low hydrogen electrode designed for sub zero applications and weld deposit combined with strength and good toughness properties.	Containers and pipes for liquefied gases, storage tank, distillers in coke oven batteries, petrochemical industries.	C – 0.06 Si – 0.30 P – 0.020 Mo – 0.20 Mn – 1.0 S – 0.020 Ni – 1.0	YS, Re : 50-56 kgf/mm ² UTS, Rm : 58-64 kgf/mm ² Elongation A5 : 24% Min. CVN Impact (-) 60°C : 45J Min. H2 = 4ml/100gm Max. Re-dry : 300°C, 2hrs.	AC70/DC+	Standard	

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CREEP RESISTANT STEEL WELDING ELECTRODES



Brand	Classification	Product Description	Principal Application		Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
LOAROD A1	IS:1395:E49B-A1 26 AWS, A5.5 : E7018-A1 BSEN : E Mo B42	Low hydrogen basic coated electrode design to produce weld of 0.50% Mo, used where creep rupture strength is required at elevated temperature up to 550°C preheat and PWHT at 620°C is required of weld.	C-Mo steel up to service temp. 500°C. Boiler, pressure vessels, tubes and pipes of similar composition.		C – 0.08 Max. Mn – 0.90 Max. Si – 0.40 Max. Mo – 0.50 S – 0.030 Max. P – 0.030 Max.	YS, Re : 45-52 kgf/mm ² UTS, Rm : 52-58 kgf/mm ² Elongation A5 : 24% Min. CVN Impact 27°C : 120J Min. H2 = 4ml/100gm Max. Re-dry : 300°C, 2hrs.	AC70/DC+	Standard	
LOAROD B2	IS:1395:E55B-B2 26Fe AWS, A5.5 : E8018-B2 BSEN : E Mo B42	Low hydrogen electrode for creep resistant steel deposits weld metal, contains Cr 1.20%, and Mo 0.50% and works at elevated temperature up to 650°C and PWHT-690°C 1hr. min.	Creep resistant steel in boilers, power plant, petrochemical and steel ASTM A182-F2, F11, F12, A387-2,11 etc.		C – 0.09 Max. Mn – 0.90 Max. Si – 0.50 Max. Cr – 1.20 Mo – 0.50 S – 0.025 Max. P – 0.025 Max.	YS, Re : 46-54 kgf/mm ² UTS, Rm : 55-65 kgf/mm ² Elongation A5 : 22% Min. CVN Impact 27°C : 40J Min. H2 = 4ml/100gm Max. Re-dry : 300°C, 2hrs.	AC70/DC+	Standard	
LOAROD B3	IS:1395:E63B-B3 26Fe AWS, A5.5 : E9018-B3 BSEN : E Cr Mo 2 B42	Low hydrogen electrode for creep resistant steel deposits weld metal, contains Cr 2.20%, and Mo 1.0% and works at elevated temperature up to 650°C. Inter-pass temp. 180°C and PWHT-690°C 1hr. min.	Creep resistant steel in boilers, power plant, chemical and steel ASTM A182-F22, A234, WP22, A387-21, 22 etc.		C – 0.09 Max. Mn – 0.90 Max. Si – 0.50 Max. Cr – 2.20 Mo – 0.90 S – 0.025 Max. P – 0.025 Max.	YS, Re : 55-64 kgf/mm ² UTS, Rm : 65-72 kgf/mm ² Elongation A5 : 20% Min. CVN Impact 27°C : 40J Min. H2 = 3ml/100gm Max. Re-dry : 300°C, 2hrs.	AC70/DC+	Standard	
LOAROD B3L	IS:395:E63B-B3L26Fe AWS, A5.5 : E9018-B3L BSEN : E Cr Mo 2LB42 DIN : E Cr Mo 2 B 20+	Low hydrogen low carbon electrode for creep resistant steel deposits weld metal, contains Cr 2.20%, and Mo 1.0% and resistant to SSCC in wet sour environment. Works at elevated temperature up to 650°C.	Creep resistant steel in boilers, power plant, chemical and steel ASTM A182-F22, A234, WP22, A387-21, 22 etc.		C – 0.05 Max. Mn – 0.90 Max. Si – 0.50 Max. Cr – 1.20 Mo – 0.50 S – 0.025 Max. P – 0.025 Max.	YS, Re : 48-58 kgf/mm ² UTS, Rm : 58-68 kgf/mm ² Elongation A5 : 21% Min. CVN Impact 27°C : 40J Min. H2 = 3ml/100gm Max. Re-dry : 300°C, 2hrs.	AC70/DC+	Standard	
LOAROD B6	AWS, A5.5 : E8018-B6 BSEN : E Cr Mo5B42	Electrode depositing fine grained weld of Cr 5% and Mo 0.50%, for similar grade creep resistant steel. Service at elevated temp. 600°C with corrosion resistance in superheated steam, hot H ₂ gas and high Sulphur crude oils.	Boiler super-heaters, heat exchangers piping, pressure vessels in oil refineries. Materials ASTM; A 387-5, A335-P5 etc.		C – 0.06 Mn – 0.85 Si – 0.35 S – 0.020 Max. P – 0.020 Max. Cr – 5.0 Mo – 0.52	YS, Re : 46-54 kgf/mm ² UTS, Rm : 55-65 kgf/mm ² Elongation A5 : 22% Min. CVN Impact 27°C : 70J Min. H2 = 4ml/100gm Max. Re-dry : 300°C, 2hrs.	AC70/DC+	Standard	

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LOW HYDROGEN STEEL WELDING ELECTRODES



Brand	Classification	Product Description	Principal Application		Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
LHTROD16	IS:814-04:EB5426H2X AWS, A5.1 : E7016 BSEN : E422B31H5 DIN : E51 44B 1026	A basic coated low hydrogen electrode produces tough and ductile weld metal suitable for heavy sections of mild, medium and high tensile steels subjected to dynamic loading. Electrode is also suitable for cast iron.	General repair, ship, heavy duty structure, earth moving equipment, rotary kiln shell, grey cast iron etc.		C – 0.08 Max. Si – 0.40 P – 0.025 Mn – 1.0-1.20 S – 0.025	YS, Re : 44-54 kgf/mm ² UTS, Rm : 52-58 kgf/mm ² Elongation A5 : 24% Min. CVN Impact (-)30°C : 40J Min. H2 = 5ml/100gm Max. Re-dry : 300°C, 1hr.	AC70/DC+	Standard	
LHTROD18	IS:814-04:EB5426H3JX AWS, A5.1 : E7018 BSEN : E423B32H5 DIN : E51 44B 1026	A basic coated low hydrogen iron powder electrode deposits, tough, ductile and radiographic weld metal suitable for heavy steel sections under restraint and joint subjected to dynamic loading. DE is more than 110%.	General fabrication, ship, heavy duty structure, earth moving equipment, rotary kiln shell, pressure vessel, boiler, blast furnace.		C – 0.08 Max. Si – 0.40 P – 0.025 Mn – 1.1-1.40 S – 0.025	YS, Re : 44-54 kgf/mm ² UTS, Rm : 52-60 kgf/mm ² Elongation A5 : 25% Min. CVN Impact (-)30°C : 50J Min. H2 = 4ml/100gm Max. Re-dry : 300°C, 1hr.	AC70/DC+	Standard	
LHTROD18S	IS:814-04:EB5629H3JX AWS, A5.1 : E7018-1 BSEN : E424B32H5 DIN : E51 55B 1029(H)	A basic coated low hydrogen iron powder electrode deposits, very tough, ductile and radiographic weld metal suitable for heavy and rigid structure steels subjected to dynamic loading high impact at sub-zero temp., DE is more than 110%.	Carbon steel, pressure vessel, penstock, boiler, heavy duty structure, earth moving equipment, rotary kiln shell, blast furnace, low alloy steel etc.		C – 0.08 Max. Si – 0.35 P – 0.020 Mn – 1.3-1.50 S – 0.020	YS, Re : 44-54 kgf/mm ² UTS, Rm : 52-58 kgf/mm ² Elongation A5 : 26% Min. CVN Impact(-)46°C : 40J Min. H2 = 3ml/100gmMax. Re-dry : 300°C, 2hrs.	AC70/DC+	Standard	
LHTROD H4R	IS:814-04:EB5426H3JX AWS, E7018-1 H4R BSEN : E424B32H5 DIN : E51 44B 1026	A basic coated low moisture pick-up in flux coating, electrode designed to deposits, tough, ductile and radiographic weld metal, suitable for sea shore applications. Deposit is resistant to porosity and HIC.	Offshore fabrication, ship, heavy duty structure, pressure vessel, boiler, penstocks etc.		C – 0.08 Max. Si – 0.35 P – 0.025 Mn – 1.1-1.40 S – 0.025	YS, Re : 46-52 kgf/mm ² UTS, Rm : 52-58 kgf/mm ² Elongation A5 : 26% Min. CVN Impact (-)46°C : 50J Min. H2 = 3ml/100gm Max. Re-dry : 300°C, 1hr.	AC70/DC+	Standard	
LHTROD NACE	IS:814-04:EB5426X3JX AWS, A5.1 : E7018 BSEN : E423B32H5 DIN : E51 44B 1026	Basic coated low hydrogen, highly impurity controlled electrode designed to deposits, tough, ductile and radiographic weld metal, suitable for NACE applications (SSC). Deposit is resistant to porosity and HIC.	Offshore fabrication, ship, heavy duty structure, pressure vessel, boiler, penstocks etc.		C – 0.07 Max. Si – 0.30 Max. P – 0.01 Mn – 1.10-1.25 S+Sn-0.01	YS, Re : 42-52 kgf/mm ² UTS, Rm : 52-58 kgf/mm ² Elongation A5 : 26% Min. CVN Impact (-) 30°C : 60J Min. H2 = 3ml/100gm Max. Re-dry : 300°C, 2hrs.	AC70/DC+	Standard	

STAINLESS STEEL WELDING ELECTRODES



Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position	
GGINOX 308	IS-5206 : E 19.9 R26 AWS, A5.4 : E308-16 BSEN : E 19 9 R32	Stainless steel electrode yielding a weld metal of 18Cr and 9Ni. Deposited metal shows good resistant to cracking, corrosion and scaling up to 800°C. Ferrite control ensures good cracking resistance of deposited metal.	Welding grades-AISI 304, 308, 308L and similar grades. Storage tank, pipes, furniture's, dairy equipment.	C – 0.04 Si – 0.90 Max. Ni – 9.20 P – 0.030 Max.	Mn – 1.50 Cr – 19.0 S – 0.020 Max.	YS, Rp0.2% : 45 kgf/mm ² UTS, Rm : 57-65 kgf/mm ² Elongation A5 : 35% Min. CVN Impact RT : 100J Min. FN : 4 – 8 (WRC)	AC/DC+	Plastic Pack	
GGINOX 308L	IS-5206 : E 19.9L R26 AWS, A5.4 : E308L-16 BSEN : E 19 9 R32 DIN : E 19 9 L R 23	Stainless steel electrode yielding a weld metal of 18Cr and 9Ni and carbon 0.03. Deposited metal shows controlled ferrite, good resistant to cracking, corrosion and scaling up to 850°C. Low carbon ensures inter-granular corrosion resistance.	Welding grades-AISI 301, 302, 304, 308 and similar grades. Storage tank, pipes, furniture's, dairy equipment.	C – 0.03 Max. Si – 0.90 Max. Ni – 9.20 P – 0.030 Max.	Mn – 1.50 Cr – 19.0 S – 0.020 Max.	YS, Rp0.2% : 42 kgf/mm ² UTS, Rm : 55-65 kgf/mm ² Elongation A5 : 35% Min. CVN Impact RT : 100J Min. FN : 3 – 7 (WRC)	AC/DC+	Plastic Pack	
GGINOX 308L15	S-5206 : E 19.9 B26 AWS, A5.4 : E308L-15 BSEN : E 19 9 B22	Semi-basic coated stainless steel electrode yielding a weld metal of 18Cr and 9Ni. Deposited metal shows good resistant to cracking, corrosion and scaling up to 850°C. Good impact prop.	Welding grades-AISI 301, 302, 304, 308 and similar grades. Storage tank, pipes, furniture's, dairy equipment.	C – 0.03 Max. Si – 0.60 Max. Ni – 9.20 P – 0.030 Max.	Mn – 1.50 Cr – 19.0 S – 0.020 Max.	YS, Rp0.2% : 45 kgf/mm ² UTS, Rm : 57-65 kgf/mm ² Elongation A5 : 35% Min. CVN Impact (-)196°C : 35J Min. FN : 3 – 6 (WRC)	DC+	Plastic Pack	
GGINOX 307	IS-5206: E19.9 MnR26 AWS, A5.4 : E307-16 BSEN : E 19 9 MnR32	A work hardening multipurpose stainless steel electrode yielding a weld metal of 18Cr, 8Ni and 5Mn. Deposited is Austenitic Manganese stainless steel (non magnetic) metal shows good resistance to abrasion and wear up to 850°C.	Welding SS to carbon steel, crusher cones, crusher hammer, rail crossing and as buffer layer.	C – 0.07 Si – 0.90 Max. Ni – 8.20 P – 0.030 Max.	Mn – 5.50 Cr – 19.0 S – 0.020 Max.	YS, Rp0.2% : 47 kgf/mm ² UTS, Rm : -66.0 kgf/mm ² Elongation A5 : 35% Min. CVN Impact RT : 50J Min. Hardness : 170-250BHN Work hardness : 450BHN	AC/DC+	Plastic Pack	
GGINOX 309	IS-5206 : E 23.12R26 AWS, A5.4 : E309-16 BSEN : E 23 12 R32	Rutile base stainless steel electrode yielding a weld metal of 23Cr and 12Ni. Deposited metal shows good resistance to corrosion and oxidation in service up to 1100°C. Ferrite control ensures good cracking resistance of deposited metal.	Welding grades-AISI 309 similar grades and carbon steel to SS, cladding etc.	C – 0.05 Si – 0.90 Max. Ni – 12.0 P – 0.030 Max.	Mn – 1.50 Cr – 23.0 S – 0.020 Max.	YS, Rp0.2% : 46kgf/mm ² UTS, Rm : 60-66 kgf/mm ² Elongation A5 : 35% Min. CVN Impact RT : 100J Min. FN : 7– 12 (WRC)	AC/DC+	Plastic Pack	
GGINOX 309L	IS-5206 : E 23.12LR26 AWS, A5.4 : E309L-16 BSEN : E 23 12L R32	Rutile base stainless steel extra low carbon electrode ensures inter-granular corrosion resistance and yielding a weld metal of 23Cr and 12Ni. Deposited radiographic quality metal shows good resistance to corrosion and oxidation in service up to 1100°C.	Welding grades-AISI 309 similar grades and carbon steel to SS, cladding etc.	C – 0.03 Si – 0.90Max. Ni – 12.0 P – 0.030 Max.	Mn – 1.50 Cr – 23.0 S – 0.020 Max.	YS, Rp0.2% : 42 kgf/mm ² UTS, Rm : 55-64 kgf/mm ² Elongation A5 : 35% Min. CVN Impact RT : 100J Min. FN : 6 – 10 (WRC)	AC/DC+	Plastic Pack	

STAINLESS STEEL WELDING ELECTRODES



Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position	
GGINOX 309Mo	IS-5206 : E 23.12.2R26 AWS, A5.4 : E309Mo-16 BSEN : E 23 12 R32	Austenitic stainless steel electrode yielding a weld metal of 23Cr, 12Ni and 2Mo. The high alloy and ferrite content ensures the resistance to hot cracking in dissimilar steel and difficult to weld materials.	Welding grades-AISI 316, 309, 309Mo, low alloy steel. Dissimilar grades. Buffer on low, hardenable steel before welding with 316, armor plate etc.	C – 0.04 Si – 0.90 Max. Ni – 12.0	Mn – 1.50 Cr – 23.0 Mo – 2.20	YS, Rp0.2% : 55 kgf/mm ² UTS, Rm : 64-70 kgf/mm ² Elongation A5 : 32% Min. CVN Impact RT : 100J Min. FN : 10 – 15 (WRC)	AC/DC+	Plastic Pack	
GGINOX 309Mo15	IS-5206 : E23.12.2B20 AWS, A5.4 : E309Mo-15 BSEN : E 19.9 R32	A low carbon basic coated austenitic stainless steel electrode yielding a weld metal of 23Cr, 12Ni and 2Mo. The high alloy and ferrite content ensures the resistance to hot cracking in dissimilar steel and difficult to weld materials.	Welding grades-AISI 309, 309Mo, low alloy steel. Dissimilar grades. Buffer on low, hardenable steel before welding with 316, armor plate etc.	C – 0.04 Si – 0.90 Max. Ni – 12.0	Mn – 1.50 Cr – 23.0 Mo – 2.20	YS, Rp0.2% : 55 kgf/mm ² UTS, Rm : 64-70 kgf/mm ² Elongation A5 : 32% Min. CVN Impact RT : 100J Min. FN : 10 – 15 (WRC)	DC+	Plastic Pack	
GGINOX 309Cb	IS-5206:E23.12CbR26 AWS, A5.4 : E309Nb-16 BSEN : E23.12Nb R32	Stainless steel electrode yielding a columbium stabilized weld metal of 18Cr and 9Ni. Deposited metal shows excellent resistance to inter-granular cracking and good strength at elevated temperature 1100°C.	Welding grades-AISI 309Cb, and similar steel. Joining of 347 to low alloy, carbon steel. Buffer on low and hardenable steel.	C – 0.04 Si – 0.90 Max. Ni – 12.0	Mn – 1.50 Cr – 23.0 Nb – 0.85	YS, Rp0.2% : 45 kgf/mm ² UTS, Rm : 57-65 kgf/mm ² Elongation A5 : 35% Min. CVN Impact RT : 100J Min. FN : 10-15 (WRC)	AC/DC+	Plastic Pack	
GGINOX 310	IS-5206 : E 25.20 R26 AWS, A5.4 : E310-16 BSEN : E25 20 R32	Stainless steel electrode yielding a fully austenitic weld metal of 25Cr and 20Ni. Deposited metal shows good resistant to hot cracking under restraint and oxidation and scaling up to 1200°C.	Welding similar steel, wrought and cast form. Straight chrome and dissimilar steel Hydro-generation and polymerization plant, gas turbine combustion chamber parts, furnace parts etc.	C – 0.10 Si – 0.70 Max. Ni – 20.5 P – 0.025 Max	Mn – 1.50 Cr – 25.5 S – 0.020 Max.	YS, Rp0.2% : 55 kgf/mm ² UTS, Rm : 60-68 kgf/mm ² Elongation A5 : 30% Min. CVN Impact RT : 40J Min. FN : 0 (WRC)	AC/DC+	Plastic Pack	
GGINOX 316	IS-5206 : E19.12.2R26 AWS, A5.4 : E316-16 BSEN : E 19 12 2 R32	Stainless steel electrode yielding a weld metal of 18Cr and 12Ni and 2.5Mo. Radiographic quality deposited metal shows good creep strength and resistant to scaling up to 850°C. Ferrite control ensures good cracking resistance of deposited metal.	Welding grades-AISI 316. Equipments in chemical industries, pulp and paper industries, paint and die industries.	C – 0.04 Si – 0.90 Max. Ni – 12.20 S&P – 0.03 Max.	Mn – 1.50 Cr – 18.50 Mo – 2.5	YS, Rp0.2% : 42 kgf/mm ² UTS, Rm : 56-65 kgf/mm ² Elongation A5 : 32% Min. CVN Impact RT : 100J Min. FN : 4 – 8 (WRC)	AC/DC+	Plastic Pack	
GGINOX 316L	IS-5206 :E19.12.2LR26 AWS, A5.4 : E316L-16 BSEN : E 19 12 2LR32	Stainless steel electrode yielding a weld metal of 18Cr and 12Ni and 2.5Mo. Radiographic quality deposited metal shows good creep strength resistance and inter-granular corrosion in severe environments like hot acids, resistance to chloride pitting corrosion and scaling up to 850°C.	Best suitable in urea. Welding grades-AISI 316, 316L, 317. Equipments in chemical industries, pulp and papers industry, paint and die industries, fertilizers etc.	C – 0.03 Si – 0.90Max. Ni – 12.40 S&P – 0.025 Max.	Mn – 1.50 Cr – 18.50 Mo – 2.4	YS, Rp0.2% : 42 kgf/mm ² UTS, Rm : 54-63 kgf/mm ² Elongation A5 : 35% Min. CVN Impact RT : 100J Min. FN : 4 – 7 (WRC)	AC/DC+	Plastic Pack	

STAINLESS STEEL WELDING ELECTRODES



Brand	Classification	Product Description	Principal Application		Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
GGINOX 316L(NF)	Nearest to, IS-5206 : E19.12.2LR26 AWS, A5.4 : E316L-16	Stainless steel electrode yielding a fully austenitic weld metal of modified version of 316L, 18Cr and 14Ni and 2.5Mo. Deposited metal structure shows good strength and resistance to corrosion in urea.	Welding grades-AISI 316. Equipments in chemical industries, pulp and paper industries, paint and die industries.		C – 0.03 Si – 0.90 Max. Ni – 14.0 S&P – 0.025 Mn – 1.50 Cr – 18.50 Mo – 2.20	YS, Rp0.2% : 45 kgf/mm ² UTS, Rm : 58-65 kgf/mm ² Elongation A5 : 35% Min. CVN Impact (-)196°C : 40J FN : <1 (WRC)	AC/DC+	Plastic Pack	
GGINOX 318	IS : E19.12.2NbR26 AWS, A5.4 : E318-16 BSEN : E 19 12 3Nb R32	Stainless steel electrode yielding a weld metal of 18Cr and 13Ni and 2.5Mo and niobium stabilized, radiographic quality deposited metal shows good resistance to inter crystalline corrosion, chemical corrosion, and hot cracking. Metal has excellent creep strength up to 850°C.	Best suitable in paper mill, bleaching plant, acid plants, equipments in chemical industries.		C – 0.04 Si – 0.90 Max. Ni – 13.0 S&P – 0.030 Mn – 1.50 Cr – 18.50 Mo – 2.5 Nb – 0.8	YS, Rp0.2% : 45 kgf/mm ² UTS, Rm : 56-65 kgf/mm ² Elongation A5 : 32% Min. CVN Impact RT : 70J Min. FN : 5 –8 (WRC)	AC/DC+	Plastic Pack	
GGINOX 347	IS-5206 : E 19.9NbR26 AWS, A5.4 : E347-16 BSEN : E 19.9Nb R32	A low carbon rutile type electrode deposits 19Cr, 9Ni stabilized weld metal produces good crack resistant properties at elevated temperatures and restricts carbide precipitation up to 400°C, so inter-granular corrosion.	Welding grades-AISI 304, 308, 347, 321 and similar grades. Storage tank, chemical equipment, food, soap industries etc.		C – 0.04 Si – 0.90 Max. Ni – 9.40 Mn – 1.50 Cr – 19.2 Nb – 0.65	YS, Rp0.2% : 45 kgf/mm ² UTS, Rm : 57-65 kgf/mm ² Elongation A5 : 35% Min. CVN Impact RT : 100J Min. FN : 6 –10 (WRC)	AC/DC+	Plastic Pack	
GGINOX DUPLEX	AWS, A5.4 : E2209-16 BSEN : E22 9 3 NLR32	Duplex stainless steel electrode yielding a weld metal of duplex metal structure, contains approximately 40% ferrite and rest is austenite. The electrode is designed to weld similar grade of materials and metal shows excellent combination of strength and chloride induces pitting and stress corrosion cracking resistance.	Offshore plate form pipe work. Pipelines transporting chloride bearing products and sour gases. Cast pumps, valve bodies and sea water handling equipment.		C – 0.04 Si – 0.70 Max. Ni – 8.5-10.5 N – 0.8-0.20 S&P – 0.025 Mn –1.70 Cr – 21.5-23.5 Mo – 2.5-3.5 Cu – 0.75 Max.	YS, Rp0.2% : 65 kgf/mm ² UTS, Rm : 78-86 kgf/mm ² Elongation A5 : 25% Min. CVN Impact RT : 75J Min. FN : 35 –45 (WRC)	AC/DC+	Plastic Pack	
GGINOX DUPLEX S	AWS, A5.4 : E2553-16 BSEN : E2593CuNLR32	A rutile coated super duplex stainless steel electrode yielding a weld metal of 25Cr, 9Ni, 3Mo, 2Cu and 0.2N with extra low carbon, a super duplex metal structure, contains approximately 50% ferrite and rest is austenite. The electrode is designed to weld similar grade of materials and metal shows excellent resistance to (CSCC).	Offshore plate form pipe work. Pipelines transporting chloride bearing products and sour gases. Cast pumps, valve bodies and sea water handling equipment chemical and petrochemical industries.		C – 0.03 Ni – 8.0-9.5 N – 0.20 S&P – 0.025 Cr – 24.5-26.5 Mo-3.0-3.5 Cu – 1.75 PRE - 42	YS, Rp0.2% : 65 kgf/mm ² UTS, Rm : 78-88 kgf/mm ² Elongation A5 : 20% Min. CVN Impact RT : 60J Min. FN : 42-55 (WRC) PRE: (Pitting Resistance Equivalent) =%Cr + 3.3 X %Mo + 0.20 X %N	AC/DC+	Plastic Pack	
GGINOX ARMORED		Stainless steel basic coated electrode yielding a weld metal of 18Cr and 9Ni, 5Mn and 2Mo. Deposited metal shows good strength and impact properties. Specially used in armored steel welding where ballistic impact having importance.	Welding of armored steels of various grades.		C – 0.04 Si – 0.90 Max. Ni – 9.20 Mo – 2.2 Mn – 1.50 Cr – 19.0 S&P – 0.025	YS, Rp0.2% : 45 kgf/mm ² UTS, Rm : 57-65 kgf/mm ² Elongation A5 : 30% Min. CVN Impact RT : 100J Min.	AC/DC+	Plastic Pack	

STAINLESS STEEL WELDING ELECTRODES



Brand	Classification	Product Description	Principal Application		Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
GGINOX 410	AWS, A5.4 : E410-16 BSEN : E 13 R 32	Rutile coated stainless steel electrode for welding of ferritic and martensitic steel, yielding a martensitic weld metal of 13Cr and is of hardening type. Hardness and stress can be reduced by pre-heating and post heating. Deposited metal shows good resistance to cavitations, abrasion, corrosion and oxidation.	Ferritic, martensitic chrome steel and steel castings. Surfacing of turbine parts made of straight chrome 13% Cr. Pump parts, valve seats and oil refinery equipment.		C – 0.10 Max. Mn – 1.0 Max. Si – 0.90 Max. Cr – 12.8 S – 0.025 Max. P – 0.030 Max.	UTS, Rm : 54 kgf/mm ² Elongation A5 : 20% Min.	AC/DC+	Plastic Pack	
GGINOX 410NiMo	AWS : E410NiMo-16 BSEN : E13.4 B 62	Rutile coated stainless steel electrode for welding of ferritic and martensitic steel, yielding a alloyed martensitic weld metal of 12Cr, 4.5Ni, 0.5Mo and is of hardening type. Deposited metal shows excellent resistance erosion, pitting and impact.	Surfacing of casting of similar composition. High pressure valves and valve seats. Surfacing of turbine parts. Chemical and petrochemical industries.		C – 0.04 Max. Mn – 1.0 Max. Si – 0.90 Max. Cr – 11.0-12.5 Ni – 4.5 Mo – 0.5 S&P – 0.025	UTS, Rm : 75 kgf/mm ² Elongation A5 : 15% Min. As welded hardness : 350BHN	AC/DC+	Plastic Pack	
GGINOX 430	AWS, A5.4 : E430-16 BSEN : E 17 R 32	Stainless steel electrode yielding straight chrome weld metal of 17% Cr . Deposited metal shows good resistance to corrosion and heat.	Welding grades-AISI 430 and similar grades. Equipments in chemical and food industries, automobile.		C – 0.10 Max. Mn-1.0 Max. Si – 0.60 Max. Cr – 17.5 S – 0.025 Max. P – 0.030 Max.	Hardness : 300BHN (As welded)	AC/DC+	Plastic Pack	

HARDFACING WELDING ELECTRODES



Brand	Classification	Product Description	Principal Application		Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position	
HARDTROD700	--	A heavy coated high alloyed hard-facing electrode, deposits chrome carbide, hardening type of weld metal displays good abrasion resistant and low Co-efficient of friction. Retains hardness at elevated temp. 600°C.	Fan blades, buckets, scrapers, coal chutes, road rippers, screw conveyors, cement grinder rings etc.		C – 3.0 Si – 0.60 Mo – 1.0	Mn – 0.60-1.0 Cr – 28.0	Hardness : 750BHN. Approx. (Single layer)	AC/DC+	Standard	
HARDTROD GR	--	A medium heavy coated, graphite base hard-facing electrode, deposits air hardening type of weld, extremely resistant to abrasion and metal to metal wear and the weld metal structure designed to displays good resistance to scratching abrasion and grinding abrasion such as caused by hard stone particles on oil-expeller worms.	Oil-expeller worms, concrete mixer blades, screw conveyors, muller tyres, scraper blades, cement die rigs, excavator teeth.		C – 2.0-3.0 Si – 3.0	Mn – 0.60-1.0 Cr – 4.50	Hardness : 500 – 600BHN (on 3 layers)	AC/DC±	Standard	
HARDTROD Mn	--	A basic coated hard-facing electrode, deposits work hardening type of weld contains 12% Mn. The as welded hardness is approx. 200BHN which increases up to 500BHN when exposed to severe impact condition. Deposited metal is extremely hard and non-machinable suitable for reconditioning of manganese steel parts.	Rock crusher jaws, crusher hammers, manganese steel rail crossings, bucket teeth and lips, cement grinding rings, austenitic manganese steel castings.		C – 1.0 Si – 0.75	Mn – 12.0-14.0 Ni – 0.50	Hardness : As welded : 170 – 220BHN Work hardened : 400 – 500BHN (3 layers deposits)	AC/DC+	Standard	

CAST IRON WELDING ELECTRODES



Brand	Classification	Product Description	Principal Application		Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position	
LOCAST	--	An economical, machinable high strength cast iron electrode for welding of oil, dirt, greased cast iron parts. The deposits provide porosity free crack resistant and good machinability, suitable for joining of cast iron to steel with proper colour match.	Heavy cast iron, machine base, oil and greased parts, cast iron dies, gear box housing etc.		C – 1.0 Si – 0.70	Mn – 1.0 Ni – 5.0	Hardness : 200BHN	AC/DC+	Standard	
LOCAST FeNi	AWS, A5.15 : ENiFe-CI	An all position machinable cast iron electrode, deposits Nickel Iron alloy and suited for repair and maintenance work. Deposit shows greater bonding strength and ductility to absorb impurities and produce sound joint.	Casting machinery parts, bearing blocks, cast to steel, foundry castings etc.		C – 1.80 Ni – 55.0	Si – 1.30 Fe – Bal.	UTS, Rm : 38 kgf/mm ² Hardness : 170 - 200BHN	AC/DC+	Dry Pack	
LOCAST Ni	AWS, A5.15 : ENi-CI	An all position machinable cast iron electrode, deposits pure Nickel, highly ductile and soft structure. Electrode produces very soft arc and operates at low current, suited for repair and maintenance work.	Repair of broken castings, joining cast iron to steel, filling of cavities etc.		C – 1.50 Fe – 2.0	Si – 1.0 Ni – Bal	UTS, Rm : 34 kgf/mm ² Hardness : 140 - 160BHN	AC/DC+	Dry Pack	
LOCAST NiCu	AWS, A5.15 : ENiCu-B	An all position machinable cast iron electrode, deposits Copper and Nickel, highly ductile and good bonding strength and defect free structure. The weld deposit has good colour match with cast iron.	Filling of casting defects, cast iron machinable components, gears and re-building parts etc.		C – 0.50 Si – 0.60 Fe – 3.0	Mn – 2.5 Ni – 65 Cu – Bal.	UTS, Rm : 36 kgf/mm ² Hardness : 150 - 180BHN	AC/DC+	Dry Pack	



NON-FERROUS WELDING ELECTRODES

Brand	Classification	Product Description	Principal Application		Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
BRONZTROD	AWS, A5.6 : ECu Sn	A light coated all position, electrode for welding of copper and bronze. Core wire is phosphor bronze, produces weld of porosity free, dense and machinable.	Bearing surfaces, valve seats, ship propeller, galvanized iron, impeller bushes, malleable iron.		Cu – 92-96 Sn – 4 - 6 Mn – 0.55 P – 0.30 Max.	UTS, Rm : 30 kgf/mm ² Elongation A5 : 20%	DC+	Dry Pack	
BRONZTROD AC	AWS, A5.6 : ECu Sn-A	A light coated all position type electrode for welding of copper and bronze. Core wire is phosphor bronze, produces weld of porosity free, dense and machinable.	Bearing surfaces, valve seats, ship propeller, galvanized iron, impeller bushes, malleable iron, dissimilar metals.		Cu – 92-96 Sn – 4 - 6 Mn – 0.55 P – 0.30 Max.	UTS, Rm : 30 kgf/mm ² Elongation A5 : 20%	AC/DC+	Dry Pack	

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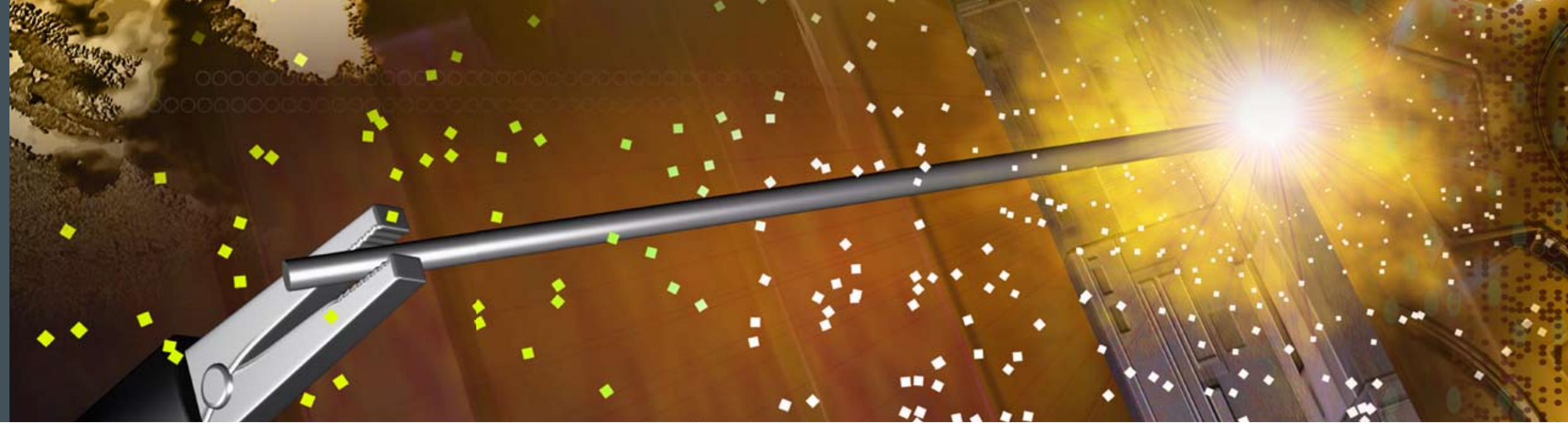
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RECLAMATION & MAINTENANCE WELDING ELECTRODES



Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
REPAIROD 10	--	A specially designed low heat input electrode, operates at low current and voltage and so reduces warp age, distortion and stresses. Weld is of radiographic quality and smooth bead finish.	Ducts, bus body, tanks, pipe line furniture, machine guard, thin sheets etc.	--	YS, Re : 40 kgf/mm ² UTS, Rm : 48 kgf/mm ² Elongation A5 : 24%. CVN Impact at 0°C : 50J	AC/DC±	Length: 350mm Dry Pack	
REPAIROD NH	--	A basic coated low alloy electrode, designed to retain very low moisture in the coating so it produces refined structure with low hydrogen.	Hammer bases, columns, rams, bogies, pipelines, tubes, storage tanks, pressure vessel etc.	--	YS, Re : 46 kgf/mm ² UTS, Rm : 58 kgf/mm ² Elongation A5 : 26% CVN Impact at (-)50C : 40J	AC/DC+	Length: 350mm Dry Pack	
REPAIROD 210	--	A low heat all purpose, electrode designed to weld 301, 302, 304, 308, 347 type of steel. Weld bead smooth and resistance to inter-granular corrosion, heat and scaling. Extra low 'C' eliminates carbide precipitation.	Chemical industries, dairy equipment, kitchen, food processing, distilleries.	--	UTS, Rm : 58 kgf/mm ² Elongation A5 : 36%	AC/DC+	Length: 350mm Dry Pack	
REPAIROD 220	--	Extra low carbon, low heat input electrode for welding of 316, 316L, 317, 318. Radiographic weld deposit is resistance to acid pitting, scaling, heat and corrosion.	Chemical tanks, plating tanks, hospital equipment, hydraulic and steam turbine blades, paper and fertilizer industries.	--	UTS, Rm : 58 kgf/mm ² Elongation A5 : 36%	AC/DC+	Length: 350mm Dry Pack	
REPAIROD 230	--	A low heat input electrode for overlaying and joining of all types of similar and dissimilar steels. Weld metal shows high strength and resistance to heat and corrosion up to 1100°C.	Valves, shafts, alloy steel pump, furnace parts, kiln cooler plates, heat treatment boxes.	--	UTS, Rm : 64 kgf/mm ² Elongation A5 : 36%	AC/DC+	Length: 350mm Dry Pack	
REPAIROD 240	--	Low heat input electrode produces weld of high alloy of chrome and nickel and good for high temperature applications up to 1200°C.	Valves, shafts, alloy steel pump, furnace parts, heat exchanger, joining unknown SS parts.	--	UTS, Rm : 68 kgf/mm ² Elongation A5 : 32%	AC/DC+	Length: 350mm Dry Pack	

RECLAMATION & MAINTENANCE WELDING ELECTRODES



Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
REPAIROD 260	--	A low heat input manganese base high alloy fully austenitic weld deposit electrode for joining and overlaying steels. Tough and work hardness type.	Crusher hammers, jaw crusher, shovel, excavator, drag line buckets, points and crossings.	--	UTS, Rm : 65 kgf/mm ² Elongation A5 : 32% As weld hardness : 175BHN Work hardened : 450 BHN	AC/DC+	Length: 350mm Dry Pack	
REPAIROD 680	--	A low heat input high alloy versatile electrode, for welding of difficult to weld steel, unknown steels. Deposit is tough and resistant to wear and crack.	Dissimilar and difficult steels, tools and dies, mining equipment, gear and pinion, shafts etc.	--	UTS, Rm : 85 kgf/mm ² Elongation A5 : 25%	AC/DC+	Length: 350mm Dry Pack	
REPAIROD H30S	--	A low heat, spatter free electrode to protective coating, resists impact on ferrous parts. Deposit is strong and tough and wear resistant and as buffer layers.	Crane wheels, sprockets, gears and pinions, hammers, carrier and track rollers,	--	Hardness : 275 – 340BHN	AC/DC+	Length: 350mm Dry Pack	
REPAIROD HRW	--	A work hardening type of low heat electrode operates at low amperage and deposit is wear and impact resistant, used for overlay and build-up in austenitic manganese steels.	Wear plates, crusher rollers, sprockets, chain links, bucket teeth, jaw crusher, crusher hammers, shovel track pads.	--	Hardness : As deposited – 180BHN Work hardened –500BHN	AC/DC+	Length: 350mm Dry Pack	
REPAIROD H35	--	A heavy coated S.S core wire, rich in chromium carbide low heat electrode produce weld of high resistant in abrasion and impact and retains hardness at elevated temperature and used where erosion, abrasion and impact are major factors.	Wear plates, conveyor screws, scrapers, dozer blades, sand pump castings, ID fans.	--	Hardness : 57 – 60HRc	AC/DC+	Length: 350mm Dry Pack	
REPAIROD H60	--	Low heat, heavy coated, air hardening type electrode, deposits weld of abrasive wear resistant type of metal for use of carbon steel, manganese steel and malleable iron.	Buckets, shovels, excavating equipments, scrapers, plow shares, tie temping tools, oil expellers, jaw crusher, hammers.	--	Hardness : 57 – 60HRc	AC/DC+	Length: 350mm Dry Pack	

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RECLAMATION & MAINTENANCE WELDING ELECTRODES



Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
REPAIROD HR60	--	Super heavy coated special purpose arcing electrode designed to produce globular transfers of metals. Metal displays high coefficient of friction resistance and provides extremely good bonding of droplets on sugar cane rollers. The rough droplets on rolls increases cane crushing rate and so yield.	Sugar cane crusher rollers etc.	--	Hardness : 58 – 62HRc	DC+	Length: 450mm	
REPAIROD HCO	--	An advanced super alloy, heavy coated electrode, rich in various alloying elements in weld deposit, shows very high resistance to abrasion and erosion at elevated temperature up to 700°C.	Coal burner nozzle tips, slurry pumps, coal pusher shoes, sinter handling equipment, clinker chains conveyor, augers, billet guides conveyor, hot slag conveyors.	--	Hardness : 63 – 68HRc	AC/DC+	Length: 350mm Dry Pack	
REPAIROD C1	--	A low heat input electrode design to seal contaminated surface in oily, dirty, greasy cast iron.	Foundry defects, machine frames, motor and valve bodies, oxidized cast iron furnace equipment, machine tools.	--	UTS, Rm : 45 kgf/mm ²	AC/DC+	Length: 350mm Dry Pack	
REPAIROD C2	--	A low heat input, nickel alloy cast iron electrode for repair welding of cast iron parts, shows good colour match and machinability.	Compressors, foundry defects, housings, machine beds, bearing blocks, motor covers.	--	UTS, Rm : 40 kgf/mm ² Hardness : 160 – 200BHN	AC/DC+	Length: 350mm Dry Pack	
REPAIROD C3	--	A low heat input, pure nickel cast iron electrode for repair welding of cast iron parts, shows good colour match and soft machinability.	Engine blocks, cast iron gears and pulley, motor/generator/pump castings, impellers, glass moulds etc.	--	UTS, Rm : 34 kgf/mm ² Hardness : 140 – 170BHN	AC/DC+	Length: 350mm Dry Pack	
REPAIROD C4	--	A low heat input, nickel copper cast iron electrode for repair welding of cast iron parts, shows colour match and machinability and good crack resistant.	Pump rotors and housings, worn out gear teeth, valves, cast iron to steels etc.	--	UTS, Rm : 36 kgf/mm ² Hardness : 150 – 180BHN	AC/DC+	Length: 350mm Dry Pack	

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RECLAMATION & MAINTENANCE WELDING ELECTRODES



Brand	Classification	Product Description	Principal Application		Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
REPAIROD GAUGE	--	A heavy coated gauging type electrode operates in all positional welding with smooth and force full arc, ideal for gauging and chamfering of carbon steel, iron, SS and other metals without any supplementary items and oxygen.	Grooving and chamfering of cast irons and steels and non-ferrous. Preparing sections prior to welding or machining, back gouging for sealing.		--	--	AC/DC-	Length: 350mm Dry Pack	
REPAIROD INC.	--	A low heat input high alloy deposit electrode for welding of all steels including heat treatable types, difficult to weld types and unknown composition. Suitable for nickel alloys and dissimilar composition. Deposits withstand stresses produced by thermal cycle or strains caused by weld shrinkage in massive sections and retain weld properties at elevated temperature.	Rotary kiln tyres, cryogenic equipment, heat treatment equipment like retorts, racks, trays, tongs, guide shoes in tube mill etc. Earth moving equipment		--	UTS, Rm : 65 kgf/mm ² Elongation A5 : 24%	AC/DC+	Length: 350mm Dry Pack	
REPAIROD HAC	--	A special heavy coated super alloys electrode for re-building of components used for handling hot metals or work under high temperature condition. Deposit resist distortion, stresses, warp age etc from static and dynamic loads at elevated temperature and retains the weld properties in different media, oxidizing acids, mixed acids, salts and chloride bearing compounds in normal and at elevated temp. particularly used for nickel alloys, hastalloys, iliums and dissimilar steels.	Hot forging components, shear blades, hot trimming dies, die stamps, pickling/ plating tanks, acid pipe lines, pumps, guide shoes of hot rolling mill, tube mill, offshore, furnace etc.		--	UTS, Rm : 65 kgf/mm ² Elongation A5 : 20% Hardness : As welded : 20HRc Work hardened : 46HRc	AC/DC+	Length: 350mm Dry Pack	
REPAIROD BRON	--	A low heat input, all positional unique electrode operates in AC/DC, produces exceptional sound weld, machinable and colour match with bronze. Versatile electrode for joining and overlaying steels, cast irons and bronze etc. Weld having low co-efficient of friction.	Bearing surfaces, castings, impellers, pump castings, marine components, gear teeth, dissimilar metals etc.		--	UTS, Rm : 32 kgf/mm ² Elongation A5 : 15% Hardness : As welded : 80HRb Work hardened : 90HRb	AC/DC+	Length: 350mm Dry Pack	

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STAINLESS STEEL MIG WELDING WIRE

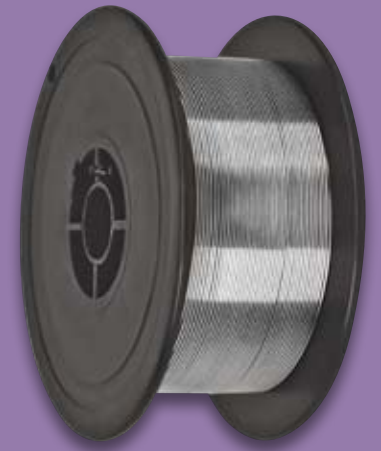


Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
HIVER MIG308L	AWS, A5.9 : ER308L EN12072 : W 19 9L <i>Approved by RDSO Class M1 & M2</i>	Stainless steel Mig wire of 18Cr and 9Ni and carbon 0.02. Weld shows good resistant to cracking, corrosion and scaling and low carbon ensures inter-granular corrosion resistance.	Welding grades-AISI 301, 302, 304, 308 and low carbon and similar grades.	C – 0.02 Si – 0.40 Ni – 9.20 Mn – 1.65 Cr – 19.0	UTS, Rm : 62 kgf/mm ² Elongation A5 : 35% Min. Shielding gas : Ar+2%CO ₂ , 16-21 l/min Ar+2%O ₂ , 16-21 l/min	DC+	12.5kg Spool	
HIVER MIG308LSi	AWS, A5.9 : ER308LSi EN12072 : W 19 9LSi	Stainless steel Mig wire of 18Cr and 9Ni. High Si provides better arc and weld metal flow, also used for Nb/Ti stabilized grades provided service temperatures are below 400°C.	Welding grades-AISI 301, 302, 304, 308, 347, 321 and low carbon and similar grades.	C – 0.02 Si – 0.80 Ni – 10.0 Mn – 1.65 Cr – 19.0 S&P – 0.020	UTS, Rm : 62 kgf/mm ² Elongation A5 : 35% Min. Shielding gas : Ar+2%CO ₂ , 16-21 l/min Ar+2%O ₂ , 16-21 l/min FN: 4	DC+	12.5kg Spool	
HIVER MIG309	AWS, A5.9 : ER309L EN12072 : G 23 12L <i>Approved by RDSO Class M4</i>	Stainless steel Mig wire of 24Cr and 13Ni and carbon 0.04. The high alloy level and high ferrite content enable weld to tolerate dilution of carbon and low alloy steel without hot cracking.	Buffer layer on carbon and low alloy steel, joining of clad steel and dissimilar joints.	C – 0.04 Si – 0.40 Ni – 13.0 Mn – 1.65 Cr – 23.5 S&P – 0.020	UTS, Rm : 68 kgf/mm ² Elongation A5 : 32% Min. Shielding gas : Ar+2%CO ₂ , 16-21 l/min Ar+2%O ₂ 16-21 l/min FN: 10	DC+	12.5kg Spool	
HIVER MIG309LSi	AWS, A5.9 : ER309LSi EN12072 : G 23 12LSi	Stainless steel Mig wire of 24Cr and 13Ni and carbon 0.02. The high alloy level and high ferrite content enable weld to tolerate dilution of carbon and low alloy steel without hot cracking. High Si provides better arc and bead appearance.	Buffer layer on carbon and low alloy steel, joining of clad steel and dissimilar joints. 309L and equivalent steels.	C – 0.02 Si – 0.80 Ni – 13.0 Mn – 1.8 Cr – 23.5 S&P – 0.020	UTS, Rm : 68 kgf/mm ² Elongation A5 : 32% Min. Shielding gas : Ar+2%CO ₂ , 16-21 l/min Ar+2%O ₂ , 16-21 l/min FN: 10	DC+	12.5kg Spool	
HIVER MIG309 MoL	AWS, A5.9 : ER309MoL EN12072 : G 23 12 2	Austenitic stainless steel Mig wire of 24Cr and 12Ni and 2.5Mo weld. The high alloy level and high ferrite content enable weld to tolerate dilution from dissimilar and difficult to weld steels without hot cracking.	Buffer layer on carbon and low alloy steel, joining of clad steel and dissimilar and difficult joints.	C – 0.02 Si – 0.40 Ni – 13.0 Mn – 1.65 Cr – 23.5 Mo – 2.6	UTS, Rm : 68 kgf/mm ² Elongation A5 : 32% Min. Shielding gas : Ar+2%CO ₂ , 16-21 l/min Ar+2%O ₂ , 16-21 l/min FN: 12	DC+	12.5kg Spool	
HIVER MIG316L	AWS, A5.9 : ER316L EN12072 : G19 12 3L	Austenitic stainless steel Mig wire of 19Cr and 12Ni and 2.5Mo acid resistant weld deposit.	Welding of 316, 316L, Nb or Ti stabilized steel with service temperature below 400°C.	C – 0.02 Si – 0.40 Ni – 12.0 Mn – 1.65 Cr – 18.5 Mo – 2.6	UTS, Rm : 62 kgf/mm ² Elongation A5 : 35% Min. Shielding gas : Ar+2%CO ₂ , 16-21 l/min Ar+2%O ₂ , 16-21 l/min FN: 5	DC+	12.5kg Spool	

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STAINLESS STEEL MIG WELDING WIRE



Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
HIVER MIG316LSi	AWS, A5.9 : ER316L EN12072 : G19 12 3L	Austenitic stainless steel Mig wire of 19Cr and 12Ni and 2.5Mo acid resistant weld deposit. The high Si in the wire gives better arc and good bead appearance.	Welding of 316, 316L, Nb or Ti stabilized steel with service temperature below 400°C.	C – 0.02 Si – 0.80 Ni – 12.0 Mn – 1.65 Cr – 18.5 Mo – 2.6	UTS, Rm : 62 kgf/mm ² Elongation A5 : 35% Min. Shielding gas : Ar+2%CO ₂ , 16-21 l/min Ar+2%O ₂ , 16-21 l/min FN: 5	DC+	12.5kg Spool	
HIVER MIG310	AWS, A5.9 : ER310 EN12072 : G 25 20	A fully austenitic stainless steel Mig wire for welding of 25Cr/20Ni, used for corrosion and oxidation resistance at elevated temperature.	Welding of similar grade, difficult to weld steels such as armour plate and ferritic stainless steel.	C – 0.10 Si – 0.40 Ni – 20.5 Mn – 1.65 Cr – 25.5	UTS, Rm : 62 kgf/mm ² Elongation A5 : 35% Min. Shielding gas : Ar+2%CO ₂ , 16-21 l/min Ar+2%O ₂ , 16-21 l/min	DC+	12.5kg Spool	
HIVER MIG312	AWS, A5.9 : ER312 EN12072 : G 29 9	A austenitic ferritic stainless steel Mig wire contains 29Cr/9Ni and weld having FN 40 and displays good strength, resistance to oxidation and hot cracking.	Welding of similar grade, difficult to weld steels and dissimilar steels, buffer layer before hard facing with chrome carbide.	C – 0.10 Si – 0.40 Ni – 9.5 Mn – 1.75 Cr – 29.5	UTS, Rm : 76 kgf/mm ² Elongation A5 : 35% Min. Shielding gas : Ar+2%CO ₂ , 16-21 l/min Ar+2%O ₂ , 16-21 l/min	AC/DC+	12.5kg Spool	
HIVER MIG347	AWS, A5.9 : ER347 EN12072 : G 19 9Nb	A stabilized grade austenitic stainless steel Mig wire used for welding of stabilized grade stainless steel. Weld shows good resistance to inter-granular corrosion at elevated temp.	Welding of similar grade, stabilized grade steels.	C – 0.03 Si – 0.40 Ni – 9.5 Mn – 1.55 Cr – 19.5 Nb – 0.6	UTS, Rm : 76 kgf/mm ² Elongation A5 : 35% Min. Shielding gas : Ar+2%CO ₂ , 16-21 l/min Ar+2%O ₂ , 16-21 l/min	AC/DC+	12.5kg Spool	
HIVER MIG2209	AWS, A5.9 : ER2209 EN12072 : G 22 9 3 LN	A ferritic-austenitic type Mig wire deposits weld of 23Cr, 9Ni, 3Mo and Nitrogen and FN 35, displays resistance to pitting corrosion, stress corrosion cracking in chloride and H2S media.	Welding of similar grades.	C – 0.02 Ni – 9.5 N – 0.18 Cr – 22.5 Mo – 3.0	UTS, Rm : 76 kgf/mm ² Elongation A5 : 35% Min. Shielding gas : Ar+2%CO ₂ , 16-21 l/min Ar+2%O ₂ , 16-21 l/min	AC/DC+	12.5kg Spool	

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STAINLESS STEEL TIG WELDING WIRE



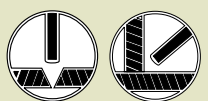
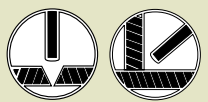
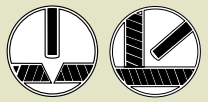
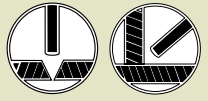
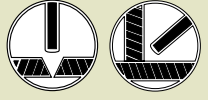
Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
HIVER TIG308L	AWS, A5.9 : ER308L EN12072 : W 19 9L	Stainless steel Tig wire of 18Cr and 9Ni and carbon 0.02. Weld, X-ray quality, shows good resistance to cracking, inter-granular corrosion and scaling.	Welding grades-AISI 301, 302, 304, 308, stabilized grades (321,347) and low carbon and similar grades..	C – 0.02 Si – 0.40 Ni – 9.20	Mn – 1.65 Cr – 19.0	UTS, Rm : 60 kgf/mm ² Elongation A5 : 35% Min. Shielding gas : Ar – 99.99%, 6-12 l/min.	DC- 5.0kg Tube	
HIVER TIG308LSi	AWS, A5.9 : ER308LSi EN12072 : W 19 9LSi	Stainless steel Tig wire of 18Cr and 9Ni. High Si provides better arc and weld metal flow, also used for Nb/Ti stabilized grades provided service temperatures are below 400°C.	Welding grades-AISI 301, 302, 304, 308, 347, 321 and low carbon and similar grades.	C – 0.02 Si – 0.80 Ni – 10.0	Mn – 1.65 Cr – 19.0	UTS, Rm : 60 kgf/mm ² Elongation A5 : 35% Min. Shielding gas : Ar – 99.99%, 6-12 l/min.	DC- 5.0kg Tube	
HIVER TIG309L	AWS, A5.9 : ER309L EN12072 : G 23 12L	Stainless steel Tig wire of 24Cr and 13Ni and carbon 0.02. The high alloy level and high ferrite content enable weld to tolerate dilution of carbon and low alloy steel without hot cracking.	Buffer layer on carbon and low alloy steel, joining of clad steel and dissimilar joints.	C – 0.02 Si – 0.40 Ni – 13.0	Mn – 1.65 Cr – 23.5	UTS, Rm : 68 kgf/mm ² Elongation A5 : 32% Min. Shielding gas : Ar – 99.99%, 6-12 l/min. FN: 10	DC- 5.0kg Tube	
HIVER TIG309LSi	AWS, A5.9 : ER309LSi EN12072 : G 23 12LSi	Stainless steel Tig wire of 24Cr and 13Ni and carbon 0.02. The high alloy level and high ferrite content enable weld to tolerate dilution of carbon and low alloy steel without hot cracking. High Si provides better arc and bead appearance.	Buffer layer on carbon and low alloy steel, joining of clad steel and dissimilar joints. 309L and equivalent steels.	C – 0.02 Si – 0.80 Ni – 13.0	Mn – 1.8 Cr – 23.5	UTS, Rm : 68 kgf/mm ² Elongation A5 : 32% Min. Shielding gas : Ar – 99.99%, 6-12 l/min. FN: 11	DC- 5.0kg Tube	
HIVER TIG309MoL	AWS, A5.9 : ER309MoL EN12072 : G 23 12 2	Austenitic stainless steel Tig wire of 24Cr and 12Ni and 2.5Mo weld. The high alloy level and high ferrite content enable weld to tolerate dilution from dissimilar and difficult to weld steels without hot cracking.	Buffer layer on carbon and low alloy steel, joining of clad steel and dissimilar and difficult joints	C – 0.02 Si – 0.40 Ni – 13.0	Mn – 1.65 Cr – 23.5 Mo – 2.6	UTS, Rm : 68 kgf/mm ² Elongation A5 : 32% Min. Shielding gas : Ar – 99.99%, 6-12 l/min. FN: 12	DC- 5.0kg Tube	
HIVER TIG316L	AWS, A5.9 : ER316L EN12072 : G19 12 3L	Austenitic stainless steel Tig wire of 19Cr, 12Ni and 2.5Mo acid resistant weld deposit.	Welding of 316, 316L, Nb or Ti stabilized steel with service temperature below 400°C.	C – 0.02 Cr – 18.5 Mo – 2.6	Mn – 1.65 Ni – 12.0	UTS, Rm : 62 kgf/mm ² Elongation A5 : 35% Min. Shielding gas : Ar – 99.99%, 6-12 l/min. FN: 5	DC- 5.0kg Tube	

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STAINLESS STEEL TIG WELDING WIRE



Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position	
HIVER TIG316LSi	AWS, A5.9 : ER316L EN12072 : G19 12 3L	Austenitic stainless steel Tig wire of 19Cr, 12Ni and 2.5Mo acid resistant weld deposit. The high Si in the wire gives better arc and good bead appearance.	Welding of 316, 316L, Nb or Ti stabilized steel with service temperature below 400°C.	C – 0.02 Cr – 18.5 Mo – 2.6	Si – 0.80 Ni – 12.0	UTS, Rm : 62 kgf/mm ² Elongation A5 : 35% Min. Shielding gas : Ar – 99.99%, 6-12 l/min. FN: 5	DC-	5.0kg Tube	
HIVER TIG310	AWS, A5.9 : ER310 EN12072 : G 25 20	A fully austenitic stainless steel Tig wire for welding of 25Cr/20Ni, used for corrosion and oxidation resistance at elevated temperature.	Welding of similar grade, difficult to weld steels such as armour plate and ferritic stainless steel.	C – 0.10 Si – 0.40 Ni – 20.5	Mn – 1.65 Cr – 25.5	UTS, Rm : 72 kgf/mm ² Elongation A5 : 35% Min. Shielding gas : Ar – 99.99%, 6-12 l/min.	DC-	5.0kg Tube	
HIVER TIG312	AWS, A5.9 : ER312 EN12072 : G 29 9	A austenitic-ferritic stainless steel Tig wire contains 29Cr/9Ni and weld having FN 40 and displays good strength, resistance to oxidation and hot cracking	Welding of similar grade, difficult to weld steels and dissimilar steels, buffer layer before hard-facing with chrome carbide.	C – 0.10 Si – 0.40 Ni – 9.5	Mn – 1.75 Cr – 29.5	UTS, Rm : 76 kgf/mm ² Elongation A5 : 35% Min. Shielding gas : Ar – 99.99%, 6-12 l/min. FN – 40	DC-	5.0kg Tube	
HIVER TIG347	AWS, A5.9 : ER347 EN12072 : G 19 9Nb	A stabilized grade austenitic stainless steel Tig wire used for welding of stabilized grade stainless steel. Weld shows good resistance to inter-granular corrosion at elevated temp.	Welding of similar grade, stabilized grade steels.	C – 0.03 Si – 0.40 Ni – 9.5	Mn – 1.55 Cr – 19.5 Nb – 0.65	UTS, Rm : 62 kgf/mm ² Elongation A5 : 35% Min. Shielding gas : Ar – 99.99%, 6-12 l/min. FN – 7	DC-	5.0kg Tube	
HIVER TIG2209	AWS, A5.9 : ER2209 EN12072 : G 22 9 3 LN	A ferritic-austenitic type Tig wire deposits weld of 23Cr, 9Ni, 3Mo and Nitrogen and FN 35, displays resistance to pitting corrosion, stress corrosion cracking in chloride and H2S media.	Welding of similar grades.	C – 0.02 Ni – 9.5 N – 0.18	Cr – 22.5 Mo – 3.0	UTS, Rm : 76 kgf/mm ² Elongation A5 : 35% Min. Shielding gas : Ar – 99.99%, 6-12 l/min. FN- 35	DC-	5.0kg Tube	



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