

 **STAR GOLD**[®]
WELDING ELECTRODES
Think Welding Think Star Gold



IS : 814



CM/L - 5497991



ADHUNIK ELECTRODES

AN ISO 9001-2015 CERTIFIED COMPANY

INTRODUCTION:

The company ADHUNIK ELECTRODES is situated at Rhino Industrial Park, Gouripur, Amingaon, North- Guwahati (ASSAM). Our company is a small scale unit Register with MSME under UDYAM Registration Number: UDYAM-AS-03-0007058.

The company was started by dynamic business family and establish in the year 2007 to manufacture Manual Arc Welding Electrodes.

The companies objectives is to fulfill the need of Welding Electrodes in various Industrial sectors like Oil & Gas, Power, Fertilizer, Construction, Fabrication, Pipe lines etc. etc.

To keep pace with rapid industrial growth, the demand of Arc Electrodes is also growing phenomenally. Our vision is to provide support for the Industrial growth, by producing and supplying quality products at economical prices.

We are certified for the Quality Management System as per ISO: 9001:2015.

To maintain the quality of the product, we follow the various National and International Standards like B.I.S, C.I.B(Assam), R.D.S.O, A.W.S, B.S, A.B.S. and B.V. to ensure the quality. For that our company is fully equipped with latest manufacturing machinery and facilities. The manufacturing process and finished products testing is well controlled and governed by qualified and well experienced personnel's team. Our STAR GOLD range of Electrodes : MILD STEEL, HARD FACING, CAST IRON, LOW HYDROGEN, STAINLESS STEEL as well as LOW HEAT input type of Electrodes.

We are firmly committed to the welding technology, quality and the customer satisfaction.



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Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
STAR GOLD XL	IS: 814-04 : ER4211X 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	
STAR GOLD S	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	
STAR GOLD SS	IS : 814-04 : ER4221X AWS, A5.1 : E6013 BSEN : E38AR12 DIN : E4322R322	A 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	



Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
STAR GOLD CUTTING ROD	---	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	
STAR GOLD GOUGING ROD	---	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	



Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
STAR GOLD 6010	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	
STAR GOLD 7010	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	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	
STAR GOLD 7010-G	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	



Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
STAR GOLD 7016	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. Mn – 1.0-1.20 Si – 0.40 S – 0.025 P – 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	
STAR GOLD 7018	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. Mn – 1.1-1.40 Si – 0.40 S – 0.025 P – 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	
STAR GOLD 7018-1	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. Mn – 1.3-1.50 Si – 0.35 S – 0.020 P – 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	
STAR GOLD 7018 -1H4R	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. Mn – 1.1-1.40 Si – 0.35 S – 0.025 P – 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	
STAR GOLD NASE	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. Mn – 1.10-1.25 Si – 0.30 Max. S+Sn-0.01 P – 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	

Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
STAR GOLD 8018W2	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. Mn – 0.90 Max. Si – 0.40 Cr – 0.60 Ni – 0.70 Cu – 0.60 S – 0.025 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	
STAR GOLD 9018D1	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 Mn – 1.50 Si – 0.45 Ni – 0.60 Mo – 0.35 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.	AC/DC±	Standard	

NON-FERROUS WELDING ELECTRODES

Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
STAR GOLD BRONG	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 Mn – 0.55 Sn – 4 - 6 P – 0.30 Max.	UTS, Rm : 30 kgf/mm ² Elongation A5 : 20%	DC+	Dry Pack	
STAR GOLD BRONG 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 Mn – 0.55 Sn – 4 - 6 P – 0.30 Max.	UTS, Rm : 30 kgf/mm ² Elongation A5 : 20%	AC/DC+	Dry Pack	

Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)		All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
STAR GOLD 8018C1	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+	Dry Pack	
STAR GOLD 8016C2	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, CO2, 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+	Dry Pack	
STAR GOLD 8016C3	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+	Dry Pack	



CREEP RESISTANT STEEL WELDING ELECTRODES

Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
STAR GOLD 7018 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	
STAR GOLD 8018 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	
STAR GOLD 9018 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	
STAR GOLD 9018 B3L	IS:395:E63B-B3L26Fe AWS, A5.5 : E9018-B3L BSEN : E Cr Mo2LB42 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	
STAR GOLD 8018 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 H2 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	

STAINLESS STEEL WELDING ELECTRODES






Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
STAR GOLD 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 Mn – 1.50 Si – 0.90 Max. Cr – 19.0 Ni – 9.20 S – 0.020 Max. P – 0.030 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	
STAR GOLD 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. Mn – 1.50 Si – 0.90 Max. Cr – 19.0 Ni – 9.20 S – 0.020 Max. P – 0.030 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	
STAR GOLD 308L-15	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. Mn – 1.50 Si – 0.60 Max. Cr – 19.0 Ni – 9.20 S – 0.020 Max. P – 0.030 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)	AC/DC+	Plastic Pack	
STAR GOLD 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 Mn – 5.50 Si – 0.90 Max. Cr – 19.0 Ni – 8.20 S – 0.020 Max. P – 0.030 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	
STAR GOLD 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 Mn – 1.50 Si – 0.90 Max. Cr – 23.0 Ni – 12.0 S – 0.020 Max. P – 0.030 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	

Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
STAR GOLD 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 Mn – 1.50 Si – 0.90Max. Cr – 23.0 Ni – 12.0 S – 0.020 Max. P – 0.030 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	
STAR GOLD 309 Mo	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 Mn – 1.50 Si – 0.90 Max. Cr – 23.0 Ni – 12.0 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	
STAR GOLD 309 Mo-15	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 Mn – 1.50 Si – 0.90 Max. Cr – 23.0 Ni – 12.0 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	
STAR GOLD 309 Nb	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 Mn – 1.50 Si – 0.90 Max. Cr – 23.0 Ni – 12.0 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	
STAR GOLD 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 restrain and oxidation and scaling up to 1200°C.	Welding similar steel, wrought and cast form. Straight chrome and dissimilar steel Hydro-gener- ation and polymerization plant, gas turbine combustion chamber parts, furnace parts etc.	C – 0.10 Mn – 1.50 Si – 0.70 Max. Cr – 25.5 Ni – 20.5 S – 0.020 Max. P – 0.025 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	

STAINLESS STEEL WELDING ELECTRODES

Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
STAR GOLD 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 Mn – 1.50 Si – 0.90 Max. Cr – 18.50 Ni – 12.20 Mo – 2.5 S&P – 0.03 Max.	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	
STAR GOLD 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 Mn – 1.50 Si – 0.90Max. Cr – 18.50 Ni – 12.40 Mo – 2.4 S&P – 0.025 Max.	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	
STAR GOLD 316(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 Mn – 1.50 Si – 0.90 Max. Cr – 18.50 Ni – 14.0 Mo – 2.20 S&P – 0.025	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	
STAR GOLD 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 Mn – 1.50 Si – 0.90 Max. Cr – 18.50 Ni – 13.0 Mo – 2.5 S&P – 0.030 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	
STAR GOLD 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 Mn – 1.50 Si – 0.90 Max. Cr – 19.2 Ni – 9.40 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	

STAINLESS STEEL WELDING ELECTRODES





Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
STAR GOLD 2209	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 Mn – 1.70 Si – 0.70 Max. Cr – 21.5-23.5 Ni – 8.5-10.5 Mo – 2.5-3.5 N – 0.8-0.20 Cu – 0.75 Max. S&P – 0.025	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	
STAR GOLD 2553	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 Cr – 24.5-26.5 Ni – 8.0-9.5 Mo-3.0-3.5 N – 0.20 Cu – 1.75 S&P – 0.025 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	
STAR GOLD 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 chrome13% 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	
STAR GOLD 410 NiMo	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	
STAR GOLD 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	

Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
STAR GOLD 300	---	A medium heavy coated hard-facing electrode, deposits air hardening type of weld and the weld metal displays good toughness and ability withstand heavy impact loads. Resistance to rolling and sliding friction is excellent.	Gear shafts, pinion teeth, pulleys, rolling stock tyres, excels, couplings, wheel rim etc.	C – 0.22 Max. Mn – 0.60-1.0 Si – 0.45 Cr – 1.30 Max.	Hardness : 270-340BHN	AC/DC+	Standard	
STAR GOLD 400	---	A medium heavy coated hard-facing electrode, deposits air hardening machinable type of weld and the weld metal displays toughness and resistance to abrasive wear.	Gear, sprocket, shovels, punching dies, cam, brake shoes, shear blades, conveyor parts etc.	C-0.20-40 Max. Mn – 0.60-1.0 Si-0.45 Cr-2.6-3.4 Max.	Hardness : 350-450 BHN (2 – 3 layers)	AC/DC+	Standard	
STAR GOLD 500	---	A medium heavy coated hard-facing electrode, deposits air hardening non-machinable type of weld and the weld metal, displays moderate toughness and resistance to severe abrasion.	Cold punching dies, drill bits, cane and bamboo cutting knives, jaw crusher, crusher hammers, conveyor parts etc.	C – 0.55. Mn – 0.80-1.2 Si – 0.65 Cr – 6.0 Mo – 0.45	Hardness : 500-600BHN (1 – 2 layers)	AC/DC+	Standard	
STAR GOLD 550	---	Heavy coated hard-facing electrode, deposits air hardening type of weld and the weld metal displays severe abrasion and moderate impact resistance. Smooth burning characteristics and deposited metal is non- machinable.	Jaw crusher, crusher hammer, heavy earth moving equipment, conveyor parts, cane cutting knives, paper cutting knives, punches.	C – 0.60 Mn – 0.60-1.0 Si – 0.65 Cr – 7.5 Mo – 0.45	Hardness : 550-650BHN (1 – 3layers)	AC/DC+	Standard	
STAR GOLD 600	---	A medium heavy coated hard-facing electrode, deposits air hardening type of weld and the weld metal displays good toughness and ability to withstand heavy impact loads. Resistance to rolling and sliding friction is excellent.t.	Gear shafts, pinion teeth, pulleys, rolling stock tyres, excels, couplings, wheel rim etc.	C – 0.22 Max. Mn – 0.60-1.0 Si – 0.45 Cr – 7.30 Mo – 0.45	Hardness : 600-650BHN	AC/DC+	Standard	

HARDFACING WELDING ELECTRODES

Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
STAR GOLD 650	---	A medium heavy coated semi basic type hard-facing electrode, deposits air hardening type of weld metal, displays good abrasion and friction resistant properties and also retains hardness at elevated temperature.	Mill rolls, crusher jaws, excavator teeth, conveyor buckets, bulldozer blades, cane cutting knives.	C – 0.75 Mn – 0.60-1.0 Si – 0.65 Cr – 7.0-8.0 Mo – 0.75	Hardness : 600-700BHN (single layer)	AC/DC+	Standard	
STAR GOLD 700	---	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 Mn – 0.60-1.0 Si – 0.60 Cr – 28.0 Mo – 1.0	Hardness : 750BHN. Approx. (Single layer)	AC/DC+	Standard	
STAR GOLD 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 Mn – 0.60-1.0 Si – 3.0 Cr – 4.50	Hardness : 500 – 600BHN (on 3 layers)	AC/DC+	Standard	
STAR GOLD 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 Mn – 12.0-14.0 Si – 0.75 Ni – 0.50	Hardness : As welded : 170 – 220BHN Work hardened : 400 – 500BHN (3 layers deposits)	AC/DC+	Standard	








Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
STAR GOLD Non-Machinable	---	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 Mn – 1.0 Si – 0.70 Ni – 5.0	Hardness : 200BHN	AC/DC+	Dry Pack	
STAR GOLD 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 Si – 1.30 Ni – 55.0 Fe – Bal.	UTS, Rm : 38 kgf/mm ² Hardness : 170 - 200BHN	AC/DC+	Dry Pack	
STAR GOLD 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 Si – 1.0 Fe – 2.0 Ni – Bal	UTS, Rm : 34 kgf/mm ² Hardness : 140 - 160BHN	AC/DC+	Dry Pack	
STAR GOLD 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 Mn – 2.5 Si – 0.60 Ni – 65 Fe – 3.0 Cu – Bal.	UTS, Rm : 36 kgf/mm ² Hardness : 150 - 180BHN	AC/DC+	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
STAR GOLD 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	
STAR GOLD 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	
STAR GOLD 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	
STAR GOLD 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	
STAR GOLD 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	

Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
STAR GOLD 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	
STAR GOLD 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	
STAR GOLD C680	---	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	
STAR GOLD 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	
STAR GOLD 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	


Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
STAR GOLD H35	---	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 : 57 – 60HRc	AC/DC+	Length: 350mm Dry Pack	
STAR GOLD 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	
STAR GOLD HR60	---	Super heavy coated special purpose arcing electrode designed to produce globular transfers of metals. Metal displays high co-efficient 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	AC/DC+	Length: 350mm Dry Pack	
STAR GOLD 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	
STAR GOLD 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	

Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
STAR GOLD 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	
STAR GOLD 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	
STAR GOLD 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	
STAR GOLD GAUG	---	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	
STAR GOLD 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	

RECLAMATION & MAINTENANCE WELDING ELECTRODES

Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
STAR GOLD HAC	---	A special heavy coated super alloys electrode for rebuilding 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, illiums 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	
STAR GOLD BR1	---	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	

CO2 WELDING MAG / MIG WIRE

Brand	Classification	Product Description	Principal Application	Weld Metal Chemistry (wt. %)	All-Weld Mechanical Properties	Current Condition	Packing	Welding Position
STAR GOLD MIG WIRE	IS 6419 : Grade S4 AWS, A5.18 : ER70S-6 BSEN : G2 Ti/W2 Ti	Hiver Mag is a copper coated, manganese- silicon double deoxidized mild steel wire for welding with shielding gas CO2 or Ar/CO2. the controlled wire metallurgy and surface ensures quality and reliable weld	General engineering and structural steel	C – 0.08 Mn – 1.45 Si – 0.85 S – 0.025 Max. P – 0.025 Max.	YS, Re : 45 kgf/mm ² UTS, Rm : 55 kgf/mm ² Elongation A5 : 25% Min. CVN Impact at (-)30°C : 40J	DC+ CO2 gas: 7-12 l/min. 80%Ar+20% CO2	STANDARD	





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