



LOW HEAT INPUT WELDING ALLOYS

STEELS

ASTRALOY 662

CHARACTERISTICS:

An all position AC/DC electrode for high strength, crack free joining of low/medium carbon, and medium tensile steels of various compositions.

APPLICATIONS :

Low alloy medium carbon steels, joining of dissimilar steels and welding of heavy sections, joints under restraint, pipes, steel castings and pressure vessels etc.

WELDING ALLOY PROPERTIES :

UTS	57Kg/mm ²
Elongation	22%

WELDING DATA :

Size Dia (mm)	3.15	4.00
Welding Current (Amps)	100-140	140-190

STEELS

ASTRALOY 663

A general purpose high speed welding electrode producing quality welds. Suitable to work on AC/DC (-)

CHARACTERISTICS :

Gives smooth, uniform, radiographic quality weld joints. Since contact welding is possible, no special skill is required for welding.

APPLICATIONS :

Bridges, cranes, storage tanks, pipes, sheet metal works, automobile chassis, heavy girder fabrication etc.

WELDING ALLOY PROPERTIES :

UTS	45- 52 Kgf/mm ²
Elongation	20%

WELDING DATA :

Size Dia (mm)	3.15	4.00	5.00
Welding Current (Amps) AC/DC (-)	100-130	120-180	180-220

STEELS

ASTRALOY 664

A high efficiency, contact welding type, AC/DC electrode for joining low carbon steel structures, sheet metal assemblies.

CHARACTERISTICS :

Electrode has easy arc strike and arc stability. Weld deposits are smooth, shiny and with good wash. Slag is easy to detach. Smooth and quiet arc eliminates burn through and warpage in this sheet welding.

APPLICATIONS :

Sheet metal work, frames, storage tanks, pipelines and fixtures etc.

WELDING ALLOY PROPERTIES :

UTS	48-52 Kgf/mm ²
%elongation	28

WELDING DATA :

Size Dia (mm)	3.15	4.00	5.00
Welding Current (Amps)	80-130	100-160	150-200

STEELS

ASTRALOY 665

A high efficiency, austenitic stainless steel type, AC/DC electrode for joining, cushioning and overlays on low and medium carbon, low alloy, manganese steels, stainless steels and welding dissimilar steels with high strength and ductility.

CHARACTERISTICS :

Specially formulated coating ensures easy arc strike and stability at low arc voltage. Weld deposits are smooth, shiny and have good wash. Slag coverage is full and easy to remove. Arc is soft and quiet.

APPLICATIONS :

Excavator and loader buckets, mill hammers, crusher mantles, crusher rolls and wear plates etc.

WELD ALLOY PROPERTIES :

UTS	54-58 Kgf/mm ²
%elongation	30
Hardness (As welded)	150-170 VPN.

WELDING DATA :

Size Dia (mm)	3.15	4.00	5.00
Welding Current (Amps)	80-110	100-150	130-180



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STEELS

ASTRALOY 666

A hydrogen controlled, all position, AC/DC electrode for high strength, crack free joining of medium carbon, low alloy and cast steels and for cushioning prior to harder overlays.

CHARACTERISTICS :

Electrode has easy arc strike, excellent arc stability and high deposit efficiency. Welds are of high strength ductility and radiographic quality. Weld deposit is smooth, good wash and good appearance. Slag coverage is full and easy to detach.

APPLICATIONS :

Trucks, Bus and trailer chassis, steel casting defects, storage vessels and tank, frames, cast gears, pump castings and crane booms etc.

WELD ALLOY PROPERTIES :

UTS	54-58 Kgf/mm2
% elongation	30

WELDING DATA :

Size Dia (mm)	3.15	4.00	5.00
Welding Current (Amps)	100-140	120-160	150-200

STEELS

ASTRALOY 667

A highly alloyed AC/DC electrode, for high strength joining of carbon, alloy and heat resistant steels.

CHARACTERISTICS :

Electrode has easy arc strike, arc stability, soft and quiet arc. Welds are smooth, shining and have good wash. Slag is easy to chip and remove. Deposits have excellent corrosion and high temperature oxidation resistance upto 100°C.

APPLICATIONS :

Heat treatment fixtures, furnace parts, cooler plates, pump casings, valve bodies, hot dies, gears, rolls and combustion chamber parts etc.

WELD ALLOY PROPERTIES :

UTS	55-58 Kgf/mm2
% elongation	35

WELDING DATA :

Size Dia (mm)	2.50	3.15	4.00	5.00
Welding Current (Amps)	40-80	70-110	90-140	140-200

STEELS

ASTRALOY 668

A versatile highly alloyed, chrome-nickel type, AC/DC, all position electrode for high strength, crack-free welding of carbon, alloy, tool, die, stainless steels, dissimilar steels and steels of unknown composition.

CHARACTERISTICS :

Easy to strike, soft, smooth and quiet arc. Exceptional arc stability for critical repairs. Easy slag removal with high weld metal strength and crack resistance for joining dissimilar steels. Weld deposit has good resistance to wear due to friction, impact and corrosion.

APPLICATIONS :

Shovel buckets, booms, tool and die repairs, leaf springs chassis, wear plates, splines, key way of shafts, threads form, press dies, gears and shafts etc.

WELD ALLOY PROPERTIES :

UTS	80-82 Kgf/mm2
% elongation	22
Hardness	220-240 BHN.

WELDING DATA :

Size Dia (mm)	2.50	3.15	4.00	5.00
Welding Current (Amps)	40-80	70-120	90-140	130-180

STEELS

ASTRALOY 669

A unique chrome-nickel alloy electrode, for all position welding of carbon, alloy, stainless steel and dissimilar steels with high strength and ductility.

CHARACTERISTICS :

Easy arc strike and excellent arc stability. Arc is soft, quiet and smooth. Weld deposits are smooth, dense with good wash. Weld alloy has excellent corrosion and oxidation resistance at elevated temperatures upto 1000°C.. Slag is easy to chip and clean.

APPLICATIONS :

Stainless pump casings, shafts, valve bodies, excavator and loader buckets, shovels, wear plates, parting and forming tools, keyways, joining carbon and stainless steel flanges and clad steels etc.

WELD ALLOY PROPERTIES :

UTS	54-60 Kgf/mm2
% elongation	30
Hardness	150-170 BHN.

WELDING DATA :

Size Dia (mm)	2.50	3.15	4.00	5.00
Welding Current (Amps)	40-80	70-110	90-130	130-180



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ASTRALOY 690

An excellent electrode for joining Stainless Steel to Carbon Steel & for depositing Stainless Steel overlays on Carbon Steel.

CHARACTERISTICS:

Electrode gives a stable & smooth arc with rapid flow. Easy to operate, easy slag detachability & gives a shining bead. The weld metal has excellent mechanical properties & resistance to impact.

APPLICATIONS :

Welding Stainless Steel to Carbon Steel, Cast Steels & austenitic manganese steels. Deposits tough overlays on Cast Steel & austenitic manganese steel parts. Very useful for rebuilding shafts, valve faces & seats, turbine blades, impellers. Weld metal gives resistance to heat, abrasion & corrosion.

WELDING ALLOY PROPERTIES :

UTS	55-65 Kgf/mm ²
Elongation	25-33 %
Metal Recovery	130%
Hardness of Deposit	200 Brinell

WELDING DATA :

Size Dia (mm)	2.50	3.15	4.00
Welding Current (Amps) AC/DC (+)	100-130	140-160	180-220

STAINLESS STEELS

ASTRALOY 709

A molybdenum alloyed excellent low heat input electrode for welding of difficult to weld steels.

CHARACTERISTICS :

All position Cr/Ni/Mo deposit with high tensile strength & excellent resistance to chemical corrosion & heat.

APPLICATIONS :

Dissimilar metals such as Ni-Cr-Mo stainless steel to carbon steel. 316 type clad steels & difficult to weld steels.

WELD ALLOY PROPERTIES :

UTS	65 Kgf/mm ²
Elongation	33 %

WELDING DATA :

Size Dia (mm)	2.50	3.15	4.00
Welding Current (Amps) AC/DC (+)	40-75	70-110	90-120

STAINLESS STEELS

ASTRALOY 708

A stabilized stainless steel electrode with extra low carbon for corrosion resistant welds on AISI 301, 302, 304, 304L, 308, 308L stainless steels.

CHARACTERISTICS :

Soft and stable arc for smooth, spatter-free welds with resistance to intergranular corrosion.

APPLICATIONS :

Dairy equipment, chemical plants, pump casings, sleeves, mechanical seals, sheet metal fabrication and pipelines etc.

WELD ALLOY PROPERTIES :

UTS	52 Kgf/mm ²
% elongation	35

WELDING DATA :

Size Dia (mm)	2.50	3.15	4.00	5.00
Welding Current (Amps)	40-80	60-110	80-140	130-170

STAINLESS STEELS

ASTRALOY 710

A high alloy Stainless Steel, AC/DC electrode for joining AISI 309, 310 and all grades of stainless steels.

CHARACTERISTICS :

Soft and stable arc for smooth, dense and spatter-free deposits. Slag coverage is full and easily detachable. Weld deposits are resistant to high temperature scaling and corrosion.

APPLICATIONS :

Heat treatment fixtures, baskets, annealing pots, furnace parts, cooler plates and heating elements etc.

WELD ALLOY PROPERTIES :

UTS	55 Kgf/mm ²
% elongation	30

WELDING DATA :

Size Dia (mm)	2.50	3.15	4.00	5.00
Welding Current (Amps)	40-80	60-110	80-140	130-170



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STAINLESS STEELS

ASTRALOY 711

A Stainless Steel electrode specially designed for welding of 13% chrome steels.

CHARACTERISTICS :

The electrode gives soft & stable arc and weld metal is of radiographic quality with resistance to corrosion, oxidation & frictional type of wear.

APPLICATIONS :

Welding & surfacing of 13% chrome steel, turbine constructions, steel armatures & for welding of similar corrosion resistance chromium steel & steel castings etc.

WELD ALLOY PROPERTIES :

UTS	46 Kgf/mm ²
Elongation	15 %

WELDING DATA :

Size Dia (mm)	3.15	4.00	5.00
Welding Current (Amps) DC (+)	80-120	120-160	150-190

STAINLESS STEELS

ASTRALOY 712

An extra low carbon, molybdenum bearing stainless steel, AC/DC electrodes for joining AISI 316, 316L, 317, 318 grades of stainless steels with high strength.

CHARACTERISTICS :

Soft and stable arc for smooth, dense and spatter-free welds slag coverage is full and easy to chip. Deposits have excellent resistance to intergranular and pitting corrosion by strong acids.

APPLICATIONS :

For production and maintenance welding of chemical process pumps, valves, pipes and flanges, vessels and tanks etc.

WELD ALLOY PROPERTIES :

UTS	55 Kgf/mm ²
Elongation	30 %

WELDING DATA :

Size Dia (mm)	2.50	3.15	4.00	5.00
Welding Current (Amps)	40-80	60-110	80-140	130-170

STAINLESS STEELS

ASTRALOY 714

A columbium stabilized austenitic stainless steel AC/DC electrode, for high strength welding of AISI 304, 304L, 308, 308L, 347 grades of stainless steels.

CHARACTERISTICS :

Soft and stable arc for smooth, dense and spatter-free welds slag is easy to chip. Deposits are resistant to intergranular corrosion by acids.

APPLICATIONS :

High strength and corrosion resistant welds in chemical process equipment, pumps, valves and vessels etc.

WELD ALLOY PROPERTIES :

UTS	55 Kgf/mm ²
Elongation	30 %

WELDING DATA :

Size Dia (mm)	2.50	3.15	4.00	5.00
Welding Current (Amps)	40-80	60-110	80-140	130-170

CAST IRON

ASTRALOY 523

A Nickel-Iron alloy, all position, AC/DC electrode for high strength, crack-free welding of all grades of cast iron and for welding of cast irons to steel.

CHARACTERISTICS :

Electrodes has easy arc strike, arc stability and smooth arc. Weld deposits are smooth, shiny machinable with close colour match to cast irons. Slag is easy to chip and clean.

APPLICATIONS :

Casting defects, pump casings, valve bodies, pipe flanges, motor bases, bell housings and friction press discs etc.

WELD ALLOY PROPERTIES :

UTS	38-40 Kgf/mm ²
Elongation	10 %
Hardness	170-210 BHN

WELDING DATA :

Size Dia (mm)	2.50	3.15	4.00	5.00
Welding Current	50-80	70-110	90-140	120-180



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CAST IRON

ASTRALOY 524

A high Nickel alloy, all position, AC/DC electrode for high strength, machinable welding of cast irons without preheat.

CHARACTERISTICS :

Specially formulated coating for easy arc strike excellent arc stability, soft arc for minimal dilution and highly machinable deposits on grey, malleable and ductile irons.

APPLICATIONS :

Cast iron dies, pump casings, valve bodies, motor and generator housings, machine beds, gears, water jackets and cylinder blocks, glass moulds, neck rings and mill rolls etc.

WELD ALLOY PROPERTIES :

UTS	35 Kgf/mm ²
Elongation	15 %
Hardness	150-170 BHN

WELDING DATA :

Size Dia (mm)	2.50	3.15	4.00	5.00
Welding Current (Amps)	40-70	60-110	80-130	110-180

CAST IRON

ASTRALOY 526

An economical nickel-alloy, AC/DC electrode for high strength, machinable welding of cast irons with good colour match to base metal.

CHARACTERISTICS :

Soft and stable arc. Easy arc strike produces smooth and dense weld deposits on grey cast irons.

APPLICATIONS :

Foundry Casting defects, pump casings, valve bodies, gear box, cast iron gears, dies moulds and sugar mill rolls etc.

WELD ALLOY PROPERTIES :

UTS	34 Kgf/mm ²
Hardness	150-170 BHN

WELDING DATA :

Size Dia (mm)	2.50	3.15	4.00	5.00
Welding Current (Amps)	40-80	80-110	100-130	120-170

CAST IRON

ASTRALOY 527

An economical AC/DC iron base alloy for high strength welding, sealing and surface conditioning of old, dirty, greasy cast irons. For joining cast irons to mild steel where machinability is not essential.

CHARACTERISTICS :

A stable arc with spray-transfer and quick freezing alloy. Deposits are smooth, slag is minimum and easy to clean. Deposits can be finished by grinding and have good colour match to cast irons.

APPLICATIONS :

Motor and generator housings, machine guards, machine bases and sealing layer on dirty, greasy cast irons etc.

WELD ALLOY PROPERTIES :

UTS	40 Kgf/mm ²
Hardness	150-170 BHN

WELDING DATA :

Size Dia (mm)	3.15	4.00
Welding Current (Amps) AC/DC+	90-130	110-150

COPPER, BRASS & BRONZE

ASTRALOY 328

A copper-base alloy, AD/DC electrode for high strength, machinable weld on phosphor-bronze, copper alloys and Bronze overlays on cast iron and steels.

CHARACTERISTICS :

A copper-base alloy with Tin and deoxidisers for smooth, dense and porosity free deposits. Weld alloy has high strength, wear resistance, machinability and good colour match with bronzes. Deposits have excellent resistance to friction.

APPLICATIONS :

Bronze castings, valves, pumps, rotors, impellers, bearings, bushes and sleeves. For bronze overlays on cast irons and steels etc.

WELD ALLOY PROPERTIES :

UTS	26-28 Kgf/mm ²
Hardness	80-85 BHN

WELDING DATA :

Size Dia (mm)	3.15	4.00
Welding Current (Amps) AC/DC+	100-140	120-160