



Applications

Specially coated low heat input electrode for anti-wear surfacings on straight chromium steels. Application include surfacings of tight surfaces on gas, water and steam fittings etc.

Technical data

Current -: AC/DC (+)
Hardness -: 32/35 RC
Tensile Strength -: > 810 N/mm²

SPECTRUM 66

Features and benefits

- * Good corrosion, erosion and abrasion resisting properties.
- * High heat resistance up to 850°C.
- * Machinable with tungsten carbide tools.
- * All position electrode.
- * Easy slag removal.

Applications

Specially formulated heavy coated electrode for anti-wear surfacings on straight chromium steels. Applications include surfacings of tight surfaces on gas, water and steam fittings.

Technical data

Current -: AC/DC (+)
Hardness -: 35/45 RC
Tensile Strength -: > 810 N/mm²

SPECTRUM 66 S

Features and benefits

- * Contact type electrode.
- * High heat and corrosion resistance upto 850°C.
- * Machinable with tungsten carbide tools.
- * Tough and work hardening deposit.
- * All position electrode.

Applications

Basic coated electrode for high temperature resistant surfacings accompanied with compression and abrasion on hot work steels. Applications include tongs, valves, shear blades rolling mill rolls, sheet punching tools, dies, extrusion pistons.

Technical data

Current -: DC (+)
Hardness -: 58/60 RC

SPECTRUM 73 G2

Features and benefits

- * High hardness accompanied with good toughness.
- * Good resistance to impact, compression and abrasion.
- * High heat resistance upto 500°C.
- * Crack free multipass build up.
- * Low hydrogen electrode avoids under bead cracking.
- * Contact type electrode.

Applications

Basic coated manual electrode for high temperature resistant surfacings on hot work steels exposed to impact, compression and abrasion. Applications include cutting edges, hot shear blades, dies, swages and hammers.

Technical data

Current -: DC (+)
Hardness -: 45/50 RC

SPECTRUM 73 G3

Features and benefits

- * Excellent blend of strength and toughness.
- * High heat resistance upto 550°C.
- * Very good impact, compression and abrasion resistance.
- * Contact type electrode gives crack free multipass build up.
- * Easy to control weld pool and easy slag removal.

Applications

Basic coated manual electrode for temperature resistant surfacings exposed to compression and abrasion to give machinable deposit. Applications include rollers, idlers, hot shear blades.

Technical data

Current -: DC (+)
Hardness -: 35/40 RC

SPECTRUM 73 G4

Features and benefits

- * Basic coated contact type electrode.
- * High toughness and heat resistance upto 550°C.
- * High resistance to impact, compression and abrasion.
- * Machinable deposits.
- * Crack free multipass build up.



Applications

Special electrode depositing air hardenable, metallurgically balanced weld metal to obtain Metal-to-metal wear, abrasion and impact. Typical application include usage for chipper knives, forming dies, cutting tools, blanking dies, shear blades etc.

Technical data

Current -: DC (+)
Hardness -: 58/62 RC

**SPECTRUM
73 G6**

Features and benefits

- * Air hardenable type weld metal
- * Very good hardness
- * Excellent resistance to metal-to-metal wear, abrasion and impact
- * Smooth, uniform weld beads.

Applications

Specially formulated electrode for surfacing on machine components exposed to impact, compression and abrasion at operating temperature upto 550°C. Ideally suited for building - up dies and hot shear blades and other such applications.

Technical data

Current -: DC (+)
Hardness -: 40 - 45 RC

**SPECTRUM
335**

Features and benefits

- * Basic coated contact type electrode.
- * Good resistance to impact, compression and abrasion.
- * Machinable with tungsten carbide tools.
- * Crack free multipass build up.

Applications

A special electrode for Building up broken CI Crusher roller Teeth in sugar mills. Ideal for welding and overlaying cast iron, melted grey iron, coarse and nodular cast iron, overlaying of tools in ancillaries and automobile industries, filling and recovery in the stell works of the ingot mould etc.

Technical data

Current -: AC/DC(+)
Hardness -: >35RC

**SPECTRUM
338 NiCr**

Features and benefits

- * Developed for build up broken cast iron crusher roller teeth of in sugar mills
- * Special Cr-Ni alloy electrode
- * Porosity free weld deposition
- * Weld metal Machinable with TC tools or grinding.

Applications

Basic coated contact type manual electrode for antiwear surfacings and intermediate layers on low alloy/ cast steels to withstand severe impact and friction. Applications include pinions, sprockets, idler rolls, tail bars, square ends, couplings, wobblers, gear teeth.

Technical data

Current -: AC/DC (+)
Hardness -: 28-32 RC

**SPECTRUM
622**

Features and benefits

- * Extremely tough deposits to withstand severe impact and compressive stresses.
- * Suitable as a buffer layer under hardfacings.
- * Deposit is free of porosity.
- * Weld deposits withstand moderate impact and abrasion upto 500°C.

Applications

Rutile coated contact type electrode for antiwear surfacings and intermediate layers on low alloy / cast steels to withstand severe impact and friction. Applications include pinions, sprockets, Idler rolls, Tail bars, Square ends, couplings, gear teeth.

Technical data

Current -: AC/DC (+)
Hardness -: 28-32 RC

**SPECTRUM
622 R**

Features and benefits

- * Extremely tough deposits to withstand severe impact and compressive stresses.
- * Deposit is machinable with or without heat treatment.
- * Suitable as a buffer layer under hardfacings.
- * Deposit is free of porosity.



Applications

Basic coated specially formulated electrode for complexities of wear. Deposits withstand moderate impact and medium to high abrasion upto 500°C. Ideally suited for hot forging dies, pinion teeth, turbines, chromium valve bodies, pump parts, coal washers, burner pipes, hot forging dies, etc.

Technical data

Current -: AC/DC (+)
Hardness (AW) -: 28 RC
Hardness (WH) -: 36 RC

SPECTRUM 622 S

Features and benefits

- * Extremely tough deposits to withstand severe impact and compressive stresses.
- * Deposit is free from porosity.
- * All position electrode.
- * Good corrosion, erosion and abrasion resisting properties.

Applications

Graphite coated electrode specially formulated for moderate impact and high abrasion. Weld deposit gives excellent resistance to abrasion due to materials such as Sand, Concrete, Gravel. Typical application includes bucket Wheel excavator, Impact hammers, Excavator buckets Dozer blades, discharge chutes, etc.,

Technical data

Current -: AC/DC (+)
Hardness -: 60 RC

SPECTRUM 784

Features and benefits

- * High resistance to abrasion, impact and friction.
- * Very high recovery 180%.
- * Flat even flow and minimal slag.
- * Good weldability.

Applications

Unique specially modified welding electrode for hard surfacing and build up of worn out machine parts and components. Deposited weld metal is extremely high resistant to abrasion and metal to metal wear. Especially suitable for scratching abrasion by hard stone & high abrasion resistance to material such as sand, concrete, gravel etc.

Technical data

Current -: AC/DC (+)
Hardness as deposited -: 60 RC

SPECTRUM 784 SPL

Features and benefits

- * Extremely high resistance to abrasion & metal to metal wear.
- * High recovery around 160%.
- * Special electrode for scratching abrasion.
- * Easy to weld.

Applications

Graphite coated electrode for moderate impact & abrasion. Weld deposit having good resistance to abrasion due to sand, concrete gravel etc. Typical applications include hardfacing on mining equipments, repair of wear plates, general hardfacing etc.

Technical data

Current -: AC/DC (+)
Hardness as deposited -: 55 – 60 RC

SPECTRUM 784 C

Features and benefits

- * Good resistance to moderate impact & abrasion.
- * High recovery around 160%.
- * Flat even flow and minimal slag.
- * Good for general hardfacing.
- * Easy to weld.

Applications

Rutile coated electrode for anti-wear surfacings on steels, cast steels and high manganese steels subjected to wear by impact, pressure and abrasion. Applications include rollers, edge runners, screw conveyors, beaters, wheel rims, baffle plates, excavator parts.

Technical data

Current -: AC/DC (+)
Hardness -: 56/60 RC

SPECTRUM 670

Features and benefits

- * High performance electrode, resisting impact, pressure and abrasion.
- * Good slag removal, smooth beads.
- * Particularly suited for multiple pass welds.



Applications

Basic coated contact type manual electrode for anti-wear surfacings on steels, cast steels and hard Mn steels. Applications include die blocks, cold pressing tools, excavator parts, guide rails.

Technical data

Current -: AC/DC (+)
Hardness -: 56/60 RC

**SPECTRUM
6700**

Features and benefits

- * Basic coated hard facing electrode for simultaneous abrasive and impact stressing.
- * Good slag removal and smooth beads.
- * Can be used for single and multi-pass hard facings.
- * High hardness upto 500°C.

Applications

Special electrode for anti-wear surfacings on parts subjected to impact, friction and abrasion such as industrial knives, press tools, sheet metal cutters, tool steels.

Technical data

Current -: AC/DC (+)
Hardness -: 58/61 RC

**SPECTRUM
673**

Features and benefits

- * Weld deposits can be used for cold and hot work applications.
- * Alloy is exceedingly tough with high resistance to impact and abrasion.
- * Outstanding edge retention properties, for repair and manufacturing of cutting tools.
- * Stable arc gives uniform bead pattern.
- * Easy slag removal.

Applications

Manual electrode giving high speed steel-Mo deposit for anti-wear surfacings on parts subjected to friction, impact, abrasions and heat upto 550°C. Applications include cutting tools such as shear blades, milling tools, HSS tools, broaches, piercing dies.

Technical data

Current -: DC (+)
Hardness (as deposited) -: 58/62 RC

**SPECTRUM
690**

Features and benefits

- * Deposit conforms to a high speed steel with a high molybdenum content.
- * Weld metal has edge retention properties.
- * High toughness and impact resistance.
- * Heat resistance upto 550°C.
- * Very good striking properties, stable arc and homogeneous bead pattern.
- * Easy slag detachability.

Applications

A basic coated hard facing electrode having metal to metal wear resistance along with good impact resistance used widely in shear blades, tools for hot trimming and cold punching, and high speed steel dies and punches.

Technical data

Current -: AC/DC (+)
Hardness (As deposited) -: 50 - 52 RC
Hardness (After tempering at 600°C) -: 53 - 56 RC

**SPECTRUM
691**

Features and benefits

- * Weld metal gives extremely good abrasion resistance and hardness.
- * Weld metal is resistant to scaling upto 600°C.
- * Excellent edge retention properties.
- * Very good impact resistance and metal to metal wear resistance.
- * Co-W bearing electrode.

Applications

Highly wear resistant cobalt alloy hardfacing electrode for hardfacing on parts subjected to severe abrasion in combination with corrosion and high temperatures upto 900°C, such as working parts in chemical industry, cutting and crushing tools, Hot working tools exposed to severe stresses without thermal shock.

Technical data

Current -: AC/DC (+)
Hardness -: 48/54 RC

**SPECTRUM
701**

Features and benefits

- * Cobalt electrode with high wear resistant.
- * Excellent gliding characteristics.
- * Excellent resistance to heat and corrosion.
- * Machinability by grinding or with tungsten carbide cutting tools.



SURFACING

SPECTRUM

Applications

Versatile, cobalt base alloy electrode for anti wear surfacings on parts subjected to high impact and corrosion, such as valves, valve seals, hot press tools, forging deburrers, wire mill rolls, hot shear blades.

Technical data

Current:-AC/DC (+)
Hardness -: 40/45 RC

**SPECTRUM
706**

Features and benefits

- * Most versatile cobalt type alloy with very high impact resistance.
- * Excellent resistance to heat and corrosion.
- * High hardness at elevated temperatures under alternating temperature stressing.
- * Soft arc with smooth bead surface.

Applications

Cobalt base Co-Cr-W alloy impact and wear resisting electrode for work piece exposed to high alternating temperature and corrosion. Used for contact surfaces of exhaust valves in aircraft, truck, bus and diesel engines etc.

Technical data

Current -: AC/DC(+)
Hardness -: 40/43 RC

**SPECTRUM
7060**

Features and benefits

- * High impact resistance.
- * High resistance to heat, corrosion, oxidation, erosion.
- * Soft arc with smooth bead surface
- * Machining by grinding or with TC tools.

Applications

Cobalt base hardfacing alloy for resistance to galling, cavitation erosion & thermal shock. Used subject to combination of impact, pressure, abrasion, corrosion and high temperature upto 900°C. Applications include in jet engine components, automotive & fluid flow valves, valve seats, hot punches etc.

Technical data

Current -: AC/DC(+)
Hardness (Pure Weld) -: 30/32 RC
Hardness (Work Hardening) -: Approx 45 RC
Hardness at 600°C -: Approx 240 HB

**SPECTRUM
7021**

Features and benefits

- * Work hardening alloy
- * Good polishability & toughness.
- * Non magnetic weld metal
- * Excellent gliding characteristics.
- * Machinable with Tungsten carbide tools.

Applications

Contact type chromium carbide alloy electrode for anti wear surfacing such as HEMM parts, bucket, wear pad, excavator teeth, guideways valve seats, crushing hammers, jaw crushers etc.

Technical data

Current -: AC/DC(+)
Hardness -: 55 / 60 RC

**SPECTRUM
711M**

Features and benefits

- * Chromium Carbide base.
- * Good resistance to abrasion and medium impact.
- * High hardness at elevated temperature.
- * Smooth, flat, ripple free, shiny deposits.
- * Self releasing slag.
- * Very high recovery around 140%.

Applications

Contact type high chromium carbide alloy electrode for anti-wear surfacings on parts such as screw conveyors, scrapers, fibriser hammers, cane cutting knives, needle bearing areas, grader blades.

Technical data

Current -: AC/DC (+)
Hardness -: 58/62 RC

**SPECTRUM
711**

Features and benefits

- * Chromium carbide base electrode.
- * High resistance to abrasive wear, pressure and light to medium impact upto 510°C.
- * Deposits smooth beads, thereby minimising post weld machining.
- * Very high recovery around 140%.
- * Flat, even flow and easy slag removal.



Applications

Chromium carbide electrode for anti-wear surfacing on alloyed and non-alloyed steels subjected to extreme wear accompanied by moderate shock loading such as excavator teeth, leading edges of excavator buckets, mixer blades, gravel pumps,

Technical data

Current -: AC/DC (+)
Hardness -: 60/64 RC

SPECTRUM 711 S

Features and benefits

- * High resistance to abrasive wear combined with moderate shock.
- * Very high recovery around 145%.
- * Flat even flow and easy slag removal.
- * Highly wear resisting stainless alloy with chromium and boron carbides evenly distributed in the weld metal.
- * Smooth beads, thereby minimising post weld Machining.

Applications

Specially formulated manual electrode for anti-wear surfacings on high Ni alloys, hastalloys, Inconals, to combat impact, compression, abrasion & heat. Applications include vats, retorts, pipe lines, pickling tanks, impellers and parts working in oxidising acids.

Technical data

Current -: AC/DC (+)
Tensile Strength -: 745 N/mm²
Hardness -: 18 RC
Work hardens to 40 RC

SPECTRUM 7000

Features and benefits

- * High resistance to impact, heat and corrosion.
- * Deposit work hardens during service without deformation.
- * Easy slag removal.
- * The tough, austenitic high temperature resistant weld depositions.
- * Weld metal is machinable.

Applications

Rutile coated manual electrode for anti-wear surfacings on non-alloy & alloy steels as well as nickel alloys. Applications include cushion layer on dies and press tools, swages, shear blades.

Technical data

Tensile strength -: 745 N/mm²
Hardness -: 18 RC
Work hardens -: 40 RC

SPECTRUM 7000 R

Features and benefits

- * Rutile coated hard facing electrode.
- * Good resistance to impact, heat, corrosion and abrasion.
- * Deposits are work hardening in nature without deformation.
- * Suitable for building up edges.
- * Tough, austenitic high temperature resistant and machinable weld depositions.

Applications

Basic coated high Mn steel electrode for joining and surfacing to withstand severe impact and shock loading. Applications include crusher jaws, dressing plants in gravel sand and ore dredging buckets, guides and rails.

Technical data

Current -: AC/DC (+)
Hardness -: 22 RC
Work hardens -: 46 RC

SPECTRUM 7200

Features and benefits

- * Basic coated Mn steel electrode results in fully austenitic weld metal.
- * Ni & Cr additions give high crack resistance.
- * For joining and surfacing to withstand severe impacts, pressure and shocks.
- * Work hardens.
- * High recovery around 130%
- * Easily controllable weld pool with easy slag removal.

Applications

Basic coated 14% manganese electrode for joining and surfacing manganese steels to withstand severe impact and shock loading. Hard facing of crusher jaws and hammers, dredger bucket teeth, manganese steel rails, austenitic manganese steel castings, crusher metals etc.

Technical data

Current -: AC/DC (+)
Hardness (As deposited) -: 20 RC
Hardness (Work Hardening) -: 48 RC

SPECTRUM 720

Features and benefits

- * Basic coated 14% manganese electrode.
- * Very good for joining and surfacing, withstand in severe impacts, pressure and shocks.
- * Work hardens.
- * Fully austenitic weld metal.
- * Ideal for abrasive wear.



Applications

A low heat input two in one electrode developed exclusively for repair of railway points, crossings and switches. Other applications include crusher jaws, crusher mantles, ore dredging buckets, guides and rails.

Technical data

Current -: AC/DC (+)
Hardness (As deposited) -: 22 RC
Hardness (Work Hardening) -: 48 RC

SPECTRUM 724

Features and benefits

- * Basic coated chromium manganese electrode.
- * For joining and surfacing to withstand severe impact, pressure, friction and shocks.
- * Extremely tough deposit.
- * Excellent resistance to fatigue under repeated pounding and high impulsive loads.
- * Work hardening deposit.

Applications

Low hydrogen, Ni-Mo alloy based electrode for anti-wear surfacings to combat abrasion, impact and retain hardness at elevated temperatures on parts such as valve seats, guide plates, tong teeth, hot shears, blast furnace bells, hoppers etc.

Technical data

Current -: AC/DC (+)
Hardness (as deposited) -: 50/53 RC

SPECTRUM NUROBEL

Features and benefits

- * Deposit consists of high alloyed martensite with considerable amount of retained austenite.
- * Good resistance to impact and abrasion.
- * High Mo content imparts strength and hardness at elevated temperatures.
- * Good weldability with easy slag removal.
- * Deposit retains hardness upto 600°C

Applications

"Spray" type low hydrogen electrode for roughening the cast iron press-rolls in sugar industry to combat wear due to high silica content of cane. The deposits provide biting edge to the teeth of sugar mill feed rolls. Globules of weld deposit are hard and wear resistant.

Technical data

Current -: AC/DC(±)
Hardness as deposited -: 60 RC

SPECTRUM 718 S

Features and benefits

- * Excellent resistance to impact load, abrasion & corrosion.
- * Conical biting edge to increase productivity & grip on the cane.
- * High recovery
- * Increased contact surface area around 14% resulting high extraction of juice.
- * Excellent transfer of weld metal globules, highly suitable for wet arcing.

Applications

Graphite coated low hydrogen, Niobium-Carbide electrode for high abrasion high sliding wear resistance at high temperatures -used on parts such as screw conveyors, mixers, kneaders, crushers and ore process plants and for wear plates.

Technical data

Current -: AC/DC (+)
Hardness -: 63 RC

SPECTRUM 713

Features and benefits

- * High resistance to abrasion impact & friction.
- * Retains hardness upto 600°C.
- * Very high recovery around 200%.
- * Flat bead, even flow and easy slag removal.

Applications

The graphite coated hardfacing electrode performs exceptionally well under extreme abrasive and sliding wear at operating temperature upto 800°C. Applications include screw conveyors, impact Breaker strips, Slag crushers, Sand blasting plants, Mixers, Kneaders, Baffle plates, etc.

Technical data

Current -: AC/DC (+)
Hardness -: 65 RC

SPECTRUM 713 SPL

Features and benefits

- * High resistance to abrasion and friction.
- * Retain hardness upto 800°C.
- * Very high recovery around 200%.
- * Flat bead, even flow and minimal slag.
- * Good weldability.