

### **OUR HISTORY**

Comaso industry and business of special electrodes Itd, is a company that operates in internal and external market since 1978 manufacturing and marketing of welding consumables, operating in sectors like sugar and ethanol, mining, smelting, welding, machining, agricultural implements among others.

Founded by a team with wide experience in the field of welding consumables, Comaso started the operations in São Paulo, and after a few years, moved to Sertãozinho (São Paulo's countryside), their current location.

# OUR PRODUCT

We have the most complete line of flux cored wires, common electrodes and specials with protection to wear, abrasion, corrosion, carbon steel for recovery and equipment construction.

Attentive to the changes and demands of the market and the accompanying advances imposed by international trade and technological integration we prioritize customer satisfaction and service, developing and delivering the solutions best suited to applications requested in deadline and providing broad and unrestricted technical assistance to customers with agility, efficiency and professional competence.

Our permanent technical assistance is able to indicate the product and the procedure appropriate to each application specifies, in order to provide through the performance of the products the best guarantee of welding, increased lifespan of parts and equipment, improvement of productivity and reduction of costs, industrial labour and maintenance.

We have a chemical analysis laboratory, quantitative and mechanical tests to meet perfectly and offered greater compliance specifications of products, along with a rigid guality process. With a commitment to environmental sustainability, our packaging are made with biodegradable materials.



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### ASO CATALOGO SO CATALOGO ELECTRODES FOR CARBON STEELS AND LOW ALLOY STEELS

TYPES	CHEMICAL STRUCTURE OF DEPOSIT (%)	APPLICATIONS	CHARACTERISTICS OF THE DEPOSIT (MINIMUM)	Ø (MM)	AMPERAGE (A) AND POLARITY
CR 10 AWS E 6010	$\begin{tabular}{c} C &= 0,09 \\ Si &= 0,20 \\ Mn &= 0,40 \end{tabular}$	Electrode cellulosic coated of large penetration for general use of common steels. Indicated to do root passes in pipes, tanks and agricultural implements. Suitable in order to work outside the flat position in rusted plates or impregnated with oil.	RT = 414 MPa LE = 331 MPa AL = 22%	2,50 3,25 4,00 5,00	60 - 80 80 - 140 100 - 170 150 - 210 CC (+)
CR 13 AWS E 6013	C = 0,09 Si = 0,20 Mn = 0,39	Electrode rutile with low emission of smoke and splashes. Smooth arc, suitable for welding thin plates, galvanised and make tack welds. Features excellent finish with bead self removable slag even used in transformers with low voltage at no-load.	RT = 414 MPa LE = 399 MPa AL = 17%	2,50 3,25 4,00 5,00	60 - 90 90 - 150 140 - 190 180 - 230 CA/CC (+/-)
CR 18 AWS E 7018	C = 0,06Si = 0,45Mn = 1,25	Basic coating of low hydrogen electrode for low carbon steel and middle level. Meets the requirements of x-ray. Smooth arc and low level of splash. High deposition rate and Economics work. Used in rigid structures, pressure vessels, naval constructions and cast steels.	RT = 482 MPa LE = 331 MPa AL = 22%	2,50 3,25 4,00 5,00	70 - 95 90 - 150 130 - 200 155 - 250 CA/CC (+)
CR 718G AWS E 7018G	$\begin{array}{l} C = 0,07 \\ Si = 0,30 \\ Mn = 1,10 \\ Ni = 0,60 \\ Cu = 0,40 \end{array}$	Electrode welding responsibility skid able steel corrosion resistant type COR-TEN, ASTM A588 USISAC 50	RT = 480 MPa LE = 415 MPa AL = 25%	2,50 3,25 4,00 5,00	80 - 120 100 - 150 130 - 190 175 - 250 CA/CC (+)
CR 718 A1 AWS E 7018 A1	$\label{eq:c} \begin{array}{ c c } \hline C &= 0,06\\ Si &= 0,50\\ Mn &= 0,70\\ Mo &= 0,50 \end{array}$	Great responsible welding electrode in alloy steels to Mo heat resistant. Used in steam pipes, boilers, pressure vessels to high temperature. Preheating is recommended of the base metal.	RT = 480 MPa LE = 415 Mpa AL = 28%	3,25 4,00 5,00	100 - 140 135 - 185 185 - 230 CA/CC (+)
CR 818 B2 AWS E 8018 B2	$\begin{array}{l} C = 0,06 \\ Si = 0,50 \\ Mn = 0,70 \\ Cr = 1,30 \\ Mo = 0,55 \end{array}$	Electrodes for welding of low alloy steels, heat resistant. Used in manufacturing and repair boilers, pipes and processes that work between 400 to 500 degrees Celsius, subject to high pressures.	RT = 550 MPa LE = 460 MPa AL = 19%	2,50 3,25 4,00 5,00	70 - 100 90 - 140 120 - 180 180 - 240 CA/CC (+)
CR 918 B3 AWS E 9018 B3	$\begin{tabular}{ c c c c c } \hline C &= 0,07 \\ Si &= 0,50 \\ Mn &= 0,60 \\ Cr &= 2,30 \\ Mo &= 1,10 \\ \hline \end{tabular}$	Electrode connected to Cr and Mo, indicated the temperature of work extended to 600 degrees Celsius, such as boilers, pressure vessels and pipes super heated. The weld deposit has excellent mechanical properties and resistance to cracking and corrosion by sulfurous gases.	RT = 620 MPa LE = 530 MPa AL = 17%	2,50 3,25 4,00 5,00	80 - 110 110 - 140 150 - 190 180 - 220 CA/CC (+)
CR 110 18G AWS E 11018G	$\begin{array}{c} C = 0,07 \\ Si = 0,30 \\ Mn = 1,70 \\ Cr = 0,35 \\ Ni = 1,70 \\ Mo = 0,40 \end{array}$	Basic coated electrode, low hydrogen. Suitable for construction of high resistance steels. Used in boiler, naval industry, cranes, axles, engines, especially indicated in USST steels -1 and similar.	RT = 760 MPa AL = 18%	3,25 4,00 5,00	110 - 140 140 - 190 190 - 240 CA/CC (+)
CR 110 18M AWS E 11018M	$\label{eq:constraint} \begin{array}{ c c c } C &= 0,05\\ Si &= 0,50\\ Mn &= 1,47\\ Cr &= 0,20\\ Ni &= 2,00\\ Mo &= 0,30\\ \end{array}$	Basic hydrogen electrode suitable for welding steels with high mechanical strength. Used in industry naval, military and nuclear. It can also be used in subzero temperatures while maintaining their properties mechanical. Also used in boilers, cranes, lift trucks, shafts and earthmoving equipment.	RT = 760 MPa LE = 680-760 MPa AL = 20% RI = 27 Ja -51°C	3,25 4,00 5,00	110 - 140 130 - 180 180 - 220 CA/CC (+)

### AASO CATALOGO SO CATALOGO ELECTRODES FOR STAINLESS STEEL, ACID AND HEAT RESISTANT

TYPES	CHEMICAL STRUCTURE OF DEPOSIT (%)	APPLICATIONS	CHARACTERISTICS OF THE DEPOSIT (MINIMUM)	Ø (MM)	AMPERAGE (A) AND POLARITY
CINOX 101 AWS E 308L-17	$\label{eq:constraint} \begin{array}{ c c c } C &= 0,03 \\ Si &= 0,80 \\ Mn &= 2,00 \\ Cr &= 19,0 \\ Ni &= 10,0 \end{array}$	Special electrode with low carbon content, resistant to intercrystalline corrosion. Suitable for welding stainless steel AISI 304 I corrosion resistant up to 350 degrees Celsius by oxidising solutions.	RT = 520 MPa AL = 35%	2,00 2,50 3,25 4,00 5,00	40 - 60 50 - 80 80 - 110 110 - 150 140 - 190 CA/CC (+)
CINOX 103 AWS E 316L-17	$\begin{array}{l} C = 0,03 \\ Si = 0,70 \\ Mn = 0,90 \\ Cr = 18,0 \\ Ni = 13,0 \\ Mo = 2,60 \end{array}$	Electrode suitable for welding of stainless steel AISI 316 I. Excellent corrosion resistance to sulfuric acid and phosphoric acid by. Suitable for applications in the food industry, paper and pulp, textile. Intercrystalline corrosion is not even above 300 degrees Celsius, due to extra low carbon.	RT = 490 MPa AL = 30%	2,00 2,50 3,25 4,00 5,00	40 - 55 60 - 80 80 - 110 100 - 140 140 - 180 CA/CC (+)
CINOX 106 AWS E 307-17	$\label{eq:constraint} \begin{array}{ c c c } C &= 0,07 \\ Cr &= 20,0 \\ Ni &= 9,50 \\ Mn &= 4,00 \\ Mo &= 1,00 \end{array}$	Electrode suitable for welding of dissimilar steels between Manganese steel and carbon steel. Much applied in layers of pad for hard flooring. The deposit has a high resistance to oxidation (up to 850 degrees Celsius), cavitation and hardening.	RT = 590 MPa AL = 30%	2,50 3,25 4,00 5,00	60 - 100 100 - 160 140 - 190 180 - 240 CA/CC (+)
CINOX 107 AWS E 310-17	$\begin{array}{l} C = 0,12 \\ Si = 0,63 \\ Mn = 1,50 \\ Cr = 26,0 \\ Ni = 21,0 \end{array}$	Electrode for welding of refractory steels. Metal deposited resists up to 1200 degrees Celsius, and may be used for filling or Union of internal parts of furnaces and pipes subjected to high temperature. Has high resistance to corrosion and oxidation.	RT = 550 MPa AL = 30%	2,50 3,25 4,00 5,00	55 - 75 80 - 110 110 - 150 140 - 170 CA/CC (+)
CINOX 109 AWS E 312-17	$\label{eq:c} \left\{ \begin{array}{c} C = 0,10 \\ Si = 0,75 \\ Mn = 0,90 \\ Cr = 29,0 \\ Ni = 9,00 \end{array} \right.$	Electrode suitable for welding of dissimilar and difficult weldability, coating and union of high and low alloy. Used in layer of cushion on hard flooring. The deposit has exceptional resistance to cracking and excellent mechanical resistance.	RT = 660 MPa AL = 22%	2,50 3,25 4,00 5,00	60 - 90 80 - 110 110 - 140 140 - 190 CA/CC (+)
CINOX 108 AWS E 309L-17	$\begin{array}{l} C = 0,03 \\ Si = 0,82 \\ Mn = 2,00 \\ Cr = 23,0 \\ Ni = 13,0 \end{array}$	Electrode connected to Cr and Ni, suitable for welding of dissimilar steels (AISI 304 with carbon steel) and plating (coating) of carbon steels and low alloy steels. Also applied in refractory steels because it resists oxidation at temperatures up to 1050 degrees Celsius.	RT = 520 MPa AL = 30%	2,50 3,25 4,00 5,00	55 - 80 80 - 110 100 - 140 150 - 190 CA/CC (+)
CINOX 118 AWS E 309 MoL-17	$\label{eq:constraint} \begin{array}{ c c c } C &= 0,08 \\ Si &= 0,80 \\ Mn &= 1,50 \\ Cr &= 23,0 \\ Ni &= 13,0 \\ Mo &= 2,40 \end{array}$	Electrode connected to Cr, Ni and Mo, suitable for connection of dissimilar steels. This austenitic-ferritic structure hardens to cold, making this appropriate to arrays manufacturing and mold making. Due to addition of Mo the League, there will be an increase of mechanical resistance and resistance to corrosion.	RT = 550 MPa AL = 30%	2,50 3,25 4,00 5,00	60 - 85 80 - 110 110 - 140 140 - 180 CA/CC (+)

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### ELECTRODES FOR HARD COATINGS

TYPES	CHEMICAL STRUCTURE OF DEPOSIT (%)	APPLICATIONS	CHARACTERISTICS OF THE DEPOSIT (MINIMUM)	Ø (MM)	AMPERAGE (A) AND POLARITY
CR HS UM 4 - 60s	C Si Cr Mo V W	Electrode type Cr-Mo-W-V fast steel of high hardness and heat tenacity, impact, friction and compression resistant. Used for recovery or the manufacture of cutting tools on cold and heat in General, including the work, which replaces the "bitz". Technically treatable.	DR 62 HRc dep DR 66 HRc temp DR 260 HB recoz	2,50 3,25	70 - 100 100 - 140 CA/CC (+)
CR 35 E 1 - 350	C Si Mn Cr	Electrode suitable for coatings that will be submitted to moderate abrasion, impact and high friction and compression requests. Widely used in sliding parts, guides, Rails, pins, buckets, pieces of rolling stock, machinery, dredges and frieze of pinion gears.	DR=350 HB	3,25 4,00 5,00	110 - 140 130 - 170 160 - 220 CA/CC (+)
CR 45 E 7 - 250 K	C Si Mn Ni Cr	Electrode for welding of carbon manganese steel, type ("hardfield"), subject to high impact, friction and wear of friction. Material with self hardening (500HB) to improve abrasion resistance with shock. Application: junction of Rails, jaws, guides, wheels, mantle of impact crusher, blades, buckets, crushers, jaw and digger buckets.	DR=47-52 HRc	3,25 4,00 5,00	100 - 140 130 - 170 160 - 200 CA/CC (+)
CR 50 E 2 - 500	C Si Mn Cr	Welding of tough coating on parts subject to strong abrasion and moderate shock. The deposit only will be buffed with Emery. Applied especially in mining in screw conveyors, dredges, teeth of excavators and hammers.	DR=47-52 HRc	3,25 4,00 5,00	110 - 130 150 - 180 180 - 220 CA/CC (+)
CR 60 E 6 - 60	C Si Mn Cr	Tough filling were told in parts subject to strong abrasion and moderate shock. Suitable for filling of friezes of milling, crushers, hammers, worm teeth of excavators and mats.	DR=55-60 HRc	2,50 3,25 4,00 5,00	70 - 100 110 - 130 150 - 190 180 - 240 CA/CC (+)
CR 70 UM 10-55 CG	C Mn Cr Si	Electrode that presents deposit with high chromium carbide concentration on your deposit. Suitable for welding high coating resistance to abrasion. Applied for perforated in Mills.	DR=56-58 HRc	2,50 3,25 4,00	70 - 100 100 - 130 130 - 160 CA/CC (+)
CR 80-33 UM 10-60 CG	C Si Mn Cr	Electrode that presents deposit rich in chromium carbide for applications subject to severe abrasion. The deposit is not workable; its main application is the coating of manganese steel, for the production of knives and hammers in the sugar plants, buckets and screw conveyors.	DR=56-60 HRc	3,25 4,00 5,00	110 - 140 130 - 180 170 - 220 CA/CC (+)
CR 100 UM 10-65 CGt	C Si Mn Cr W V	Welding electrode with high performance hard coating highly resistant to wear. The League deposited presents special linked to chromium-carbides tungsten, vanadium for applications in hammers, firewaters, knives, flights and steel roll.	DR=58-62 HRc	2,50 3,25 4,00 5,00	80 - 120 110 - 140 130 - 180 170 - 220 CA/CC (+)

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### ELECTRODES FOR HARD COATINGS

TYPES	CHEMICAL STRUCTURE OF DEPOSIT (%)	APPLICATIONS	CHARACTERISTICS OF THE DEPOSIT (MINIMUM)	Ø (MM)	AMPERAGE (A) AND POLARITY
CR 65 Z UM 10-65 CGzt	C Si Cr Nb W Mo V B	Electrode that features rich deposit linked to the Cr carbides-Nb-Mo-W-V, high resistance to abrasion-Moderate impact. Features high performance being indicated for applications in jets of sand, screw conveyor, mixers, boilers, ventilation hoods, trainee firewaters and combs.	DR=60-64 HRc	2,50 3,25 4,00 5,00	80 - 120 110 - 140 130 - 180 170 - 220 CA/CC (+)
CR 600 TiCW E 10 - 65 CGzt	C Si Mn Cr Mo Ti W V Co	Titanium electrode based and a mixture of carbides, wear- resistant to abrasion, friction, erosion, cavitation and moderate shock. Due to the composite (C-Ti-Cr-Mo-W-V), high resistance to temperature up to 700 degrees Celsius and hardness are guaranteed. Application: harvesters, lower middle carbon alloy steel, cast iron and manganese, sugar casting, industrial shredders, hammers, knives, dishes, conveyors, steel plates and rollers.	DR=63-65 HRc	2,50 3,25 4,00 5,00	80 - 120 110 - 140 140 - 180 180 - 220 CA/CC (+)
CR 6710 UM 10-70 CG	C Si Cr > 40% W B V	Electrode with a high content of chromium carbide, tungsten carbide ally, boron and vanadium. Hard coating highly resistant to abrasion and impact. Has high rate of deposition, low dilution with Hypereutectoid structure of primary austenite and carbide combined. Applications: knives, hammers, and shredders plates, firewaters and combs.	DR=65-67 HRc	2,50 3,25 4,00	80 - 120 120 - 150 140 - 170 CA/CC (+)
CR 800 WC3BNi UM 21-70 G	C Si W Co B Ni	Electrode specially developed based on mixed carbide coatings in order to wear resistant for severe abrasion, friction, erosion, cavitation, accompanied by moderate shock. Due their League contain compounds of Cr-Nb-Mo-W- V exhibits excellent hardness and resistance to working temperature up to 700 degrees Celsius. This can be applied to carbon steel, medium and low alloy, steel to manganese and iron. Suitable for use in sugar mills, mining, refractory materials industry, foundries and crushers.	WC3 > 64 % Tubular wire + tungsten carbide Microhardness > 75HRc	3,25	180 - 240 CA/CC (+)
ROLARK UM 10-55 CG	C Si Cr Mn V	For applications on the side and ridges of rolling mill rolls. Gets the deposition of chromium carbide with hardness of 580-600 HB and rough and irregular shaped, allowing better traction of bagasse with considerable increase in yield of tonne produced.	DR=58-62 HRc	3,25 4,00 5,00 6,00	80 - 120 120 - 160 150 - 220 210 - 300 CA/CC (+)
ROLARK SUPER 40 UM 10-70 CG	C Si Cr Mn	Chromium carbide electrode with special coating for spraying in rolls of mills. Extra grain hard cast iron grinding rollers during the grinding process with maximum durability. After the application, the chromium particles has resulted from 600-620 HB of hardness, irregular size with high roughness to increase traction and bagasse production efficiency related to grinding. This electrode allows the best arc performance, greater application efficiency and ensures perfect adhesion of welding on roller surface.	DR=62-66 HRc	3,25 4,00 5,00	80 - 120 120 - 160 150 - 220 CA/CC (+)
ROLARTUB MF 10-55 CG	C Si Cr Mn	Tubular wire for chrome carbide spraying in rolls of milling during the milling process. After the application, the chromium particles has resulted from 550-570 HB of hardness, irregular size and with high roughness to increase bagasse draughts and production efficiency are related to grinding. This tubular wire allows better arc performance, greater application efficiency and ensures perfect adherence of the deposit on the surface of the shell of the roll.	DR=54 - 57 HRc	2,80 2,40	350 - 400 amp. 24 - 28 volts

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### ELECTRODE TO CUT AND CHAMFER

TYPES	CHEMICAL STRUCTURE OF DEPOSIT (%)	APPLICATIONS	CHARACTERISTICS OF THE DEPOSIT (MINIMUM)	Ø (MM)	AMPERAGE (A) AND POLARITY
CR CORTE	Not Applicable	Electrode used for cutting, chamfering, drilling, gouge. Graphite-free. Features excellent workmanship making the process sequences. Very needy locations used in compressed air. Do not use in vertical position.	Not Applicable	3,25 4,00 5,00	140 - 210 200 - 320 240 - 350 CA/CC (-)

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### ELECTRODE FOR CAST I RON

TYPES	CHEMICAL STRUCTURE OF DEPOSIT (%)	APPLICATIONS	CHARACTERISTICS OF THE DEPOSIT (MINIMUM)	Ø (MM)	AMPERAGE (A) AND POLARITY
CR 99 AWS E Ni-Cl	$\label{eq:c} \begin{array}{ c c } \hline C = 1,3 \\ Si = 1,9 \\ Ni = 90,0 \\ Cu = 1,0 \\ \hline \end{array}$	Pure nickel electrode for cold welding of grey cast iron and malleable, as well as the welding of the steels in General and some not ferrous metals. Advisable to use low amperage to avoid cracking and hardening making deposit ready for subsequent finishing.	RT=276-448 MPa LE=262-414 MPa AL=3-6% DR=125-150 HB	2,50 3,25 4,00	50 - 80 80 - 110 100 - 140 CA/CC (-)
CR 86 AWS E Ni Fe-Cl	C = 1,4 Si = 1,3 Ni = 65,0 Cu = 2,0	Iron nickel electrode for welding of grey cast iron, nodular and malleable. The weld deposit has high mechanical resistance and can be machined. Widely used in filling of carcasses, unions and engine blocks, walruses, failure of foundries and machine body.	RT=400-579 MPa LE=296-434 MPa AL=6-18% DR=150-185 HB	2,50 3,25 4,00	50 - 75 70 - 110 100 - 140 CA/CC (+/-)
CR 86S (Synthetic) Special Development	C Si Cu Ni	Electrode shape an alloy of nickel-iron alloy coating ideal for filling, cushion layers and reconstruct of parts in cast iron and nodular. Used in filling of crimping breaks and mills. The deposit is machined.	RT=400-579 MPa LE=296-434 MPa AL=6-18% DR=185-220 HB	2,50 3,25 4,00	50 - 90 90 - 125 100 - 150 CA/CC (+)
CR 85 Special Development	C Ni Cr Si Cu Mn	Electrode connected to the nickel, chromium and copper of high yield to cold welding of grey cast iron.	DR=-300 HB	2,50 3,25 4,00	50 - 80 80 - 120 110 - 140 CA/CC (+)
CR 27 AWS E St	C Si Mn	Iron-based electrode used in welding cast iron is not workable. Its main use is as a cushion layer in irons to be contaminated. Ideal to be applied in machine base, contaminated parts of carcases, grease or oil.	DR=250-350 HB	2,50 3,25 4,00 5,00	55 - 80 80 - 120 100 - 135 120 - 155 CA/CC (+)

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### ELECTRODE FOR ALUMINUM, COPPER AND ITS ALLOYS

TYPES	CHEMICAL STRUCTURE OF DEPOSIT (%)	APPLICATIONS	CHARACTERISTICS OF THE DEPOSIT (MINIMUM)	Ø (MM)	AMPERAGE (A) AND POLARITY
CR 24 AWS E Cu Sn-C	Sn = 8,0/11,0 Fe = 0,18 P = 0,18 Cu = rest.	Electrodes for welding of copper alloys phosphor bronze type or between bronze and steel or cast iron. The metal deposited exhibits excellent mechanical characteristic and a good resistance to wear by friction and corrosion. Ideal for flooring or recovery of propellers, shafts, bearings and bushings.	RT = 280 MPa AL = 20% DR = 85 - 100 HB	3,25 4,00	90 - 130 130 - 160 CC (+)
CR 14 AWS E Cu Al-A2	Fe = 1,00 Si = 0,90 Al = 8,00 Cu = rest.	Electrodes for welding of copper alloys of aluminum bronze type or between copper and its alloys with steels in General. Indicated for anti-friction coatings, cavitation, and corrosion in pumps, propellers, vessels and valves. Resistant to corrosion by sea water.	RT = 410 MPa AL = 20% DR = 130 - 150 HB	3,25 4,00	100 - 145 125 - 165 CC (+)
CR AL 12 S-AI SI-12	Si = 12,0 Al = rest.	Electrode used for welding of aluminum alloys to cast several Si-Mg. ideal in maintenance of engine crankcase and brackets. In larger pieces between 100 and 200 pre- warm degrees Celsius. Apply this to the horizontal position or flat.		2,50 3,25	65 - 95 80 - 120 CC (+)

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### **INSTRUCTIONS FOR STORAGE AND** DRY UP OF COATED ELECTRODES

The preservation of drying must be done according to the appropriate logistics distribution in greenhouses according to the table below:					
Types of electrode coatings	Temperature (°C)	application site (cochilhos). Load at the beginning of work. Temperature.			
Basic High performance Rutile Cast iron Stainless	$ \begin{array}{r}     130 \pm 25 \\     110 \pm 10 \\     70 \pm 10 \\     60 \pm 10 \\     100 \pm 10 \end{array} $	$ \begin{array}{r} 120 \pm 30 \\ 100 \pm 20 \\ 70 \pm 10 \\ 60 \pm 10 \\ 90 \pm 20 \end{array} $			
the drying is were not follo	s used in extreme cases, where the above recom wed and the electrodes were exposed to excess	nmendations sive moisture.			
Types of electrode coatings	Temperature (°C)	Ttime of permanence in the temperature next to (h)			
Basic High performance Rutile Cast iron	$ \begin{array}{r}     320 \pm 25 \\     270 \pm 25 \\     90 \pm 10 \\     80 \pm 10 \end{array} $	2,0 2,0 1,5 1,5			

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### TECHNICAL APPLICATIONS FOR SUGAR AND ETHANOL PLANTS



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### **TECHNICAL APPLICATIONS FOR** SUGAR AND ETHANOL PLANTS

#### MECHANICAL SET OF GEARS **PINION GEARS** CASTLE **GRINDING-RELATED** ELECTRODES: ELECTRODES: **ELECTRODES:** CHAMFER/ CUT CHAMFER/ CUT CHAMFER/ CUT CR 818-B2 | CR 50 CR 812-B2 ou CR 110-18M CR 818-B2 ou CR 110-18M | CINOX 118-MoL-17 Locate the cracks and clean with Sander or cutting electrode or chamfer. Pre heat the gear with the aid of electric resistance and thermal blanket. Apply the Locate cracks, and eliminate cutting electrode or electrode of low alloy steels in wide and short passes, Locate the cracks and clean with Sander or cutting chamfer or graphite electrode. Redo your teeth with waiting for cool every pass. At the end of the weld electrode or chamfer. Apply the electrode of low alloy electrode CR 818-B2. With the help of a template, maintain thermal blanket until the total cooling of the steels in wide and short passes. Expect cool on every leave it to the last pass the hard CR 50 coating. part. For steels 4350/1050 use CINOX 118 Mol-17. pass. SCREW CONVEYOR SPROCKET WHEEL COMB ELECTRODES: ELECTRODES: ELECTRODES: CR 100 ou CR 65 Z CR 35 ou CR 50 CR 70 ou CR 6710 ou CR 800 WC3BNi

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Clean metal base. Give a narrow and long on the crest of bagel with hard coating electrode, taking care not to damage the screw diameter. Check out the clip and give (swarming) with a finishing Sander.

### PIPES AND DISTILLATION COLUMN

Make an internal feedback of at least three teeth.

Apply hard coating electrode worn areas with long and

short passes. Check with feedback on each pass. Most

#### ELECTRODES: ELETRODOS DE INOX | CINOX

alternative CR50 hardness.



The COMASO offers a complete line of standard stainless steel electrodes by AWS and ABNT with CERTIFICATE of ANALYSIS that you need for your work or retirement.



Apply the hard coating electrode around the contour of the teeth. Apply one pass on the surface of the teeth.

#### **CRANE WHEEL**

**ELECTRODES:** CR 110-18M ou CINOX 106



Apply CR 110-18M in the wheel worn area, with short passes and wide. The cords should be reassembled to avoid failure in machining. Apply CINOX 106 allows machining

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**EXHAUST** 

ELECTRODES:: CR 60 ou CR 65 Z



Make a base with CR 60 passes by wide bathroom type. Apply CR Z 65 with wide and short passes. In the second pass give narrow cords shaped xxx (chess). Be careful not to overheat the reeds because the plates are thin and there is the danger of warping and twisting.



### TECHNICAL APPLICATIONS FOR HARVESTERS

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BLADE TRAILING TREADMILL LOLLIPOPS DEFLECTORS HOUSING PROTECTION

Farv

Protect your equipment with the electrode hard coating and anti wear high Abrasion the basis of titanium and tungsten carbide CR 600 TiCW. To the disk knife support using CR 800 WC3BNi.



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