ELECTREX®
welding since 1946

XARC
Trustful consumables

CONSUMABLES CATALOG
2025

Over 70 years of experience in the field of welding

When João Rodrigues de Matos conceived the first welding equipment in 1946, it was far from imagining the importance and the repercussion that the Electrex brand currently has around the globe. Over 70 years, Electrex maintains a worldwide presence in the most diverse markets with great influence in the welding world. The accuracy and trust that characterize relationships with our customers are the key to seven decades of success.

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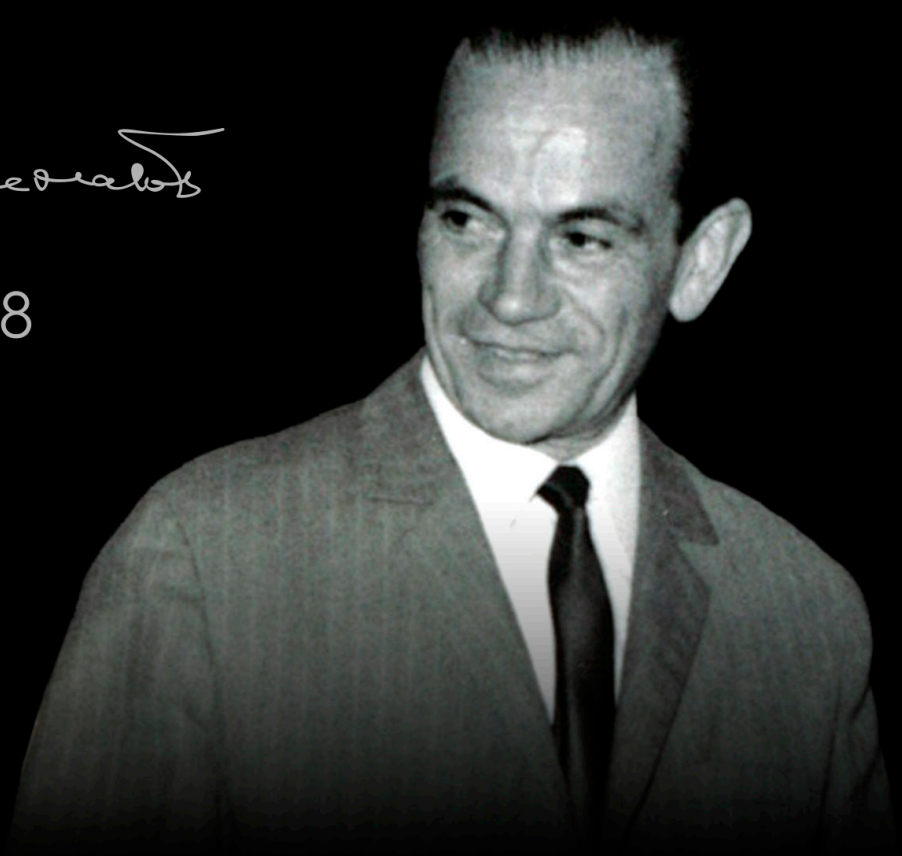
WELDING SINCE
1946

1917 - 2008



OVER 70 YEARS OF EXPERIENCE IN THE FIELD OF WELDING

A COSTUMER ORIENTED BRAND

Electrex places all its commitment and effort in satisfying the needs of its customers, offering solutions that are flexible and tailored to each one. Each order is executed with the utmost care and rigor to satisfy the needs of our customers.

HUMAN RESOURCES

The most valuable resource of a company is on the people who place their commitment into the organization every day. Electrex is aware of this value and therefore strives to meet the needs of its employees by providing them with the best possible working conditions in order to maintain a healthy and motivating work environment.

SUPPLIERS

Our suppliers are key components in the great gear that is Electrex and are carefully selected, from the moment of goods ordering to products arrival in the hands of our customers. They are the suppliers that help the organization to meet deadlines and objectives, so that the products are produced quickly and with quality, meeting the demand of our customers.

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INOVATION

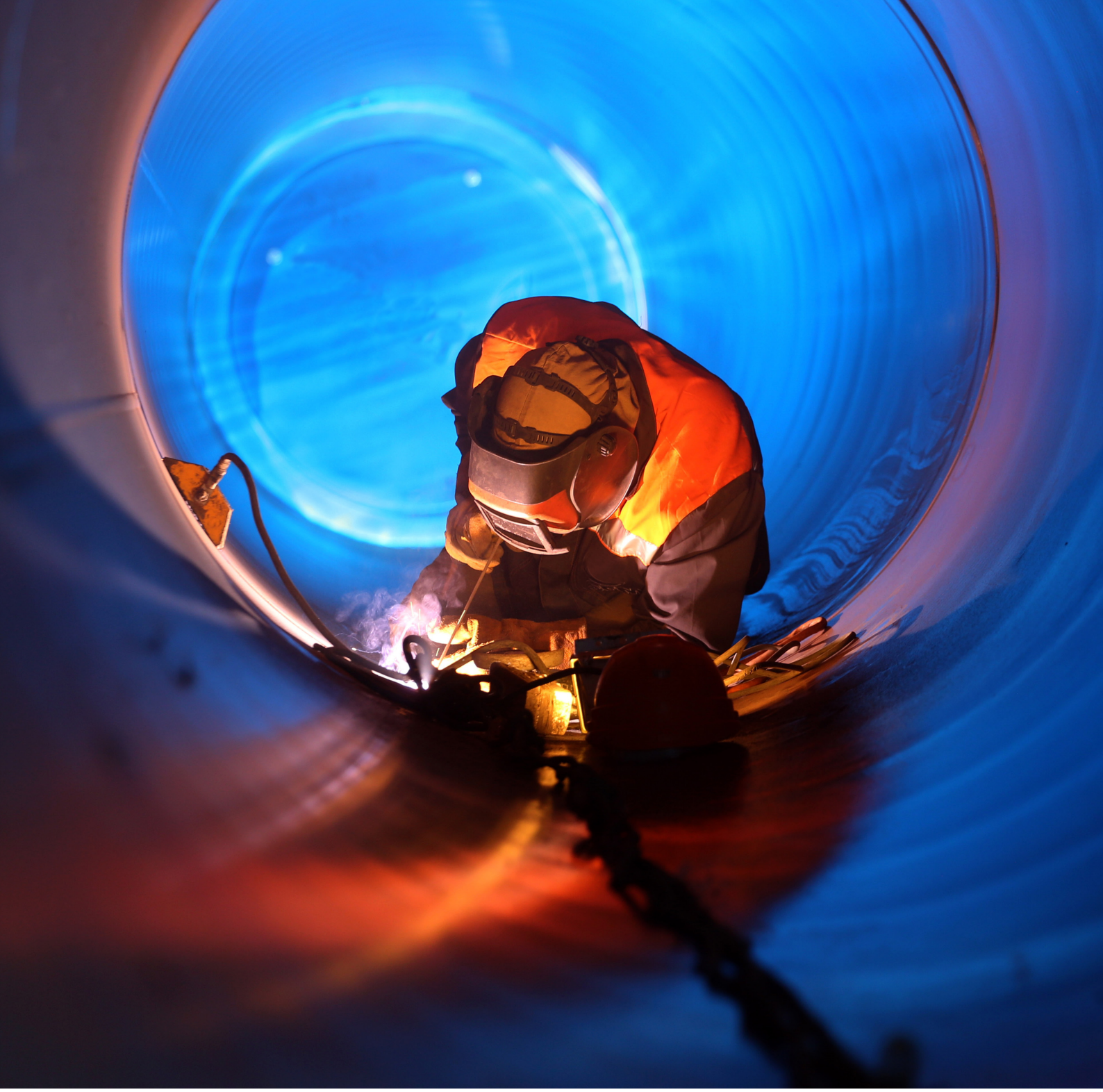
Electrex seeks to offer its customers more and better every day, and therefore it is requested the constant search for more innovative production processes in order to develop products of high demand and quality that satisfy the needs of our customers.

SUSTAINABILITY

Electrex is committed to keeping the planet free of pollution so that future generations can inhabit it in the same way. Electrex complies with all environmental and safety standards imposed by its competent authorities, both at European and global level

FUTURE CHALLENGES

An investment in the production area and commitment to the latest production processes are some of the challenges that Electrex proposes, so that it can offer its customers the best welding equipment available in the market. Electrex takes its work as a welding equipment manufacturer very seriously and briefly intends to diversify its export markets and consolidate its presence in the existing ones.



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GLOSSARY

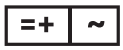
POLARITY/VOLTAGE CODES

Alternating current

Direct current connected to the positive pole

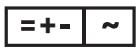
Direct current connected to the negative pole

Direct current connected to the positive or negative pole



Direct current connected to the positive pole and alternating current can also be used

Direct current connected to the negative pole and alternating current can also be used



Direct current connected to the positive or negative pole and alternating current can also be used

ABBREVIATIONS

R_m (N/mm^2)	Tensile Strength
$R_{p0.2}$ (N/mm^2)	Yield Strength
A_5 (%)	Elongation
ISO - V (J)	Impact Energy
HB	Hardness
RT	Room Temperature

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MMA ELECTRODES

LOW AND MEDIUM CARBON STEEL

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COPPER ALLOYS

HARDFACING

ALUMINUM ALLOYS

CUT AND BEVEL

MMA ELECTRODES

LOW AND MEDIUM CARBON STEEL

xARC 6010SP **AWS/ASME SFA-5.1:** E 6010 | **EN ISO 2560-A:** E 38 3 C 21 | **EN 499:** E 38 E C 21

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.10 Si = 0.20 Mn = 0.60	470 R_m (N/mm²) 400 $R_{p0.2}$ (N/mm²) 30 A_5 (%) -30ºC 47 ISO - V (J)	=+	PA PB PC PG PF PE	2.50 x 350	40-70	CS113471
				3.25 x 350	70-100	CS113472
				4.00 x 350	100-140	CS113473

APPLICATIONS

- Deep penetration cellulose coated electrode for welding pipes and ducts in all positions.
- It is characterised by a deeply penetrating, vigorous, spray-type arc.
- It is suitable for welding root passes, filler passes and cover passes.

BASE MATERIALS

- L210 - L360, X42 - X52, API Grades A25 A & B.

xARC 6013S **AWS/ASME SFA-5.1:** E 6013 | **EN ISO 2560-A:** E 38 0 RC 11

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.08 Si = 0.20 Mn = 0.50 P = 0.03 S = 0.03	470-540 R_m (N/mm²) ≥380 $R_{p0.2}$ (N/mm²) ≥24 A_5 (%) 0ºC ≥60 ISO - V (J)	=+- ~	PA PB PC PG PF PE	2.00 x 350	-	CS113475
				2.50 x 350	60-85	CS113476
				3.25 x 350	90-130	CS113477
				4.00 x 350	140-180	CS113478
				5.00 x 350	180-240	CS113479

APPLICATIONS

- General-purpose rutile-cellulose electrode with a medium coating for structural steelwork, welding in metalwork and maintenance, especially suitable for vertical downward welding and dripping.
- Good ignition and rescorching of the electrode.
- It can be used on galvanised, primed and lightly rusted parts.
- In assembly welding, this electrode can be used with practically the same parameters in all positions.
- Smooth, slightly concave welds with easy fusion to the base metal.
- The slag, in most cases, is self-releasing.

BASE MATERIALS

- S(P)235 to S(P)355; GP240-GP280.

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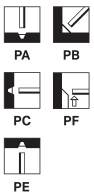
xARC 7018S **AWS/ASME SFA-5.1:** E 7018-1 H4 | **EN ISO 2560-A:** E 42 5 B 32 H5 | **EN 499:** E 42 5 B 32 H5

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.07 Si = 0.30 Mn = 1.40 P = 0.025 S = 0.020	550-620 R_m (N/mm^2) 450 $R_{p0.2}$ (N/mm^2) 30 A_5 (%) -45ºC 80 ISO - V (J)	=+ ~		2.00 x 300	-	CS113480
				2.50 x 350	60-80	CS113481
				3.25 x 350	110-135	CS113482
				3.25 x 450	110-135	CS113483
				4.00 x 350	140-180	CS113484
				4.00 x 450	140-180	CS113485
				5.00 x 450	180-230	CS113486

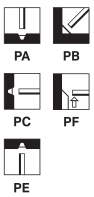
APPLICATIONS

- Heavy-coated basic electrode for producing tough, crack-free welded joints, even in steels with a carbon content of up to 0.40 per cent.
- Good operating characteristics in positional welding. The weld metal has good resistance properties down to -50°C.
- Mechanical properties in group 7018-1. Suitable for cushion layers.

BASE MATERIALS

- S(P)235-S(P)420; GP240-GP280; L245-L360.

xARC 7016S **AWS/ASME SFA-5.1:** E 7016-1 | **EN ISO 2560-A:** E 42 5 B 1 2 H5 | **EN 499:** E 42 5 B 1 2 H5

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.07 Si = 0.30 Mn = 1.40 P = 0.025 S = 0.020	550-620 R_m (N/mm^2) 450 $R_{p0.2}$ (N/mm^2) 30 A_5 (%) -45ºC 70 ISO - V (J)	=+ ~		2.50 x 350	60-80	CS113487
				3.25 x 350	100-130	CS113488
				3.25 x 450	100-130	CS113489
				4.00 x 350	140-170	CS113490
				4.00 x 450	140-170	CS113491
				5.00 x 450	180-220	CS113492

APPLICATIONS

- Electrode with basic coating and low hydrogen content for producing resistant, crack-free welded joints. Good operating characteristics in positional welding.
- Excellent for joint access, making the electrodes suitable for root joint welding.
- The weld metal has good resistance properties up to -50°C. Suitable for the offshore, petrochemical and power and energy engineering industries.

BASE MATERIALS

- S(P)235-S(P)420; GP240-GP280; L245-L360.

MMA ELECTRODES

xARC 7024 AWS/ASME SFA-5.1: E 7024 | EN ISO 2560-A: E 42 0 RR 73

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.08 Si = 0.8 Mn = 1.00	570 R_m (N/mm²) 520 $R_{p0.2}$ (N/mm²) 22 A_5 (%) 0ºC 50 ISO - V (J)	=- ~	PA PB	3.25 x 450	130-160	CS113494
				4.00 x 450	160-240	CS113495
				5.00 x 450	240-340	CS113496

APPLICATIONS

- Heavy coated rutile type welding electrode, with high efficiency and depositing a high tensile strength steel alloyed with Mn.
- Suitable for welding at an angle or overlapping joints.
- Smooth melting, no spatter loss, instant tapping and self-lifting slag. Smooth bead appearance with fine ripple deposit.
- Suitable for the manufacture of medium section steel, boiler and tank construction, shipyards and, in general, where high speed welding is required.

xARC 7028 AWS/ASME SFA-5.1: E 7028 | EN ISO 2560-A: E 42 2 B 83

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.07 Si = 0.50 Mn = 1.20	530 R_m (N/mm²) 430 $R_{p0.2}$ (N/mm²) 26 A_5 (%) -20ºC 60 ISO - V (J)	=+	PA PB	3.25 x 450	120-170	CS113498
				4.00 x 450	170-240	CS113499
				5.00 x 450	220-340	CS113500

APPLICATIONS

- Basic type electrode with high efficiency heavy coating.
- Suitable for flat and angled welding, smooth melting without spatter loss, easy slag removal, smooth and good appearance.
- Suitable for the manufacture of medium section steel, tank construction, shipyards and, in general, where high speed welding is required.

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STEEL RESISTANT TO ATMOSPHERIC CONDITIONS

xARC CORTEN **AWS/ASME SFA-5.5:** E 8018-W2

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.08 Si = 0.50 Cu = 0.50 Mn = 1.00 Cr = 0.60 Ni = 0.60 P = 0.025 S = 0.015	560-650 R_m (N/mm^2) >480 $R_{p0.2}$ (N/mm^2) >21 A_5 (%) -20ºC >47 ISO - V (J)	=+ ~	PA PB PC PF PE	2.50 x 350	60-90	CS113501
				3.25 x 350	100-140	CS113502
				4.00 x 350	140-180	CS113503

APPLICATIONS

- Low-alloy corrosion-resistant and humidity-resistant electrode.
- Corrosion-resistant electrode for low-alloy, weather-resistant structural steels.
- Excellent weldability in all positions. Easy slag removal, smooth weld bead.

BASE MATERIALS

- ASTM A 242 and A 588.

MMA ELECTRODES

LOW TEMPERATURE STEELS

xARC 8018 C2 **AWS/ASME SFA-5.5:** E 8018-C2 | **EN ISO 2560-A:** E 50 6 3Ni B 42 H5

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.04 Si = 0.3 Mn = 0.6 Ni = 3.4	600 R_m (N/mm^2) 500 $R_{p0.2}$ (N/mm^2) 27 A_5 (%) -60ºC 90 ISO - V (J) -75ºC 80 ISO - V (J)	=+ ~	PA PB PC PF PE	2.50 x 350	70-90	CS113504
				3.25 x 450	90-140	CS113505
				4.00 x 450	120-180	CS113506

APPLICATIONS

- Welding electrode with basic coating, suitable for welding steels with a 3.5% Ni alloy for service at cryogenic temperatures.
- Suitable for positional welding, except vertical down, spatter-free fusion, stable arc.
- Mainly used for welding low-alloy steel, for the construction of components used at low temperatures.
- Excellent results in X-ray tests and excellent values in impact tests at low temperatures.
- Mainly used in chemical, petrochemical and cryogenic installations, etc...

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STEELS WITH HIGH ELASTIC STRENGTH

xARC 9018 AWS/ASME SFA-5.5: E 9018-G

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.06 Si = 0.40 Mn = 1.50 Mo = 0.40 Ni = 1.00 P = 0.022 S = 0.016	650-720 R_m (N/mm^2) >560 $R_{p0.2}$ (N/mm^2) >20 A_5 (%) -50ºC >47 ISO - V (J)	=+ ~	PA PB PC PF PE	2.50 x 300	60-90	CS113507
				3.25 x 450	100-140	CS113508
				4.00 x 450	140-180	CS113509

APPLICATIONS

- Basic type electrode, moisture resistant and with low hydrogen content, for high tension, fine grain structural steels, excellent weldability in all positions.
- Electrode with 0.4% Mo and 1% Ni content in the weld metal, suitable for 16Mo3 steel. Also designed for earthmoving equipment, boilers, power station construction, oil refineries, pipelines, HSLA steels.

BASE MATERIALS

- Fine grain steel — EN 10113-2: S 275, S 355, S 420
EN 10112-3: S 275, S 355, S 420
- Boiler steel — EN 10028-2: P 235, P 265, P 295, P 355 16 Mo 3, 13CrMo 4-5
- Steel pipe — EN 10216-1: P 235, P 275
EN 10217-1: P 355
- Cast steel — EN 10213-2: GP 240 R, G 20 Mo 5, G17 CrMo 5-5

xARC 10018 AWS/ASME SFA-5.5: E 10018-G H4 | EN 757: E 62 6 Mn2NiMo B 3 2 H5

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.06 Si = 0.50 Mn = 1.40 Mo = 0.40 Ni = 2.50 P = 0.020 S =0.015	760-850 R_m (N/mm^2) ≥680 $R_{p0.2}$ (N/mm^2) ≥18 A_5 (%) -60ºC ≥47 ISO - V (J)	=+ ~	PA PB PC PF PE	2.50 x 350	65-95	CS113510
				3.25 x 350	90-140	CS113511
				4.00 x 450	140-185	CS113512

APPLICATIONS

- Coated electrode based on low hydrogen iron powder of the LMA type that produces strong, crack-free welded joints.
- The electrode has a stable, concentrated arc, very easy slag removal, a smooth weld bead and is excellent for positional welding.
- The welds have an X-ray quality.
- Welding of high-strength steels, earth-moving equipment, heavy structures subject to dynamic loads and mechanical constraints.

BASE MATERIALS

- S620-S690, P690, L415-L555, BH65

xARC 11018 AWS/ASME SFA-5.5: E 11018-G H4 | EN 757: E 69 6 Mn2NiCrMo B 3 2 H5

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.06 Si = 0.40 Cr = 0.35 Mn = 1.70 Mo = 0.40 Ni = 2.20 P = 0.025 S = 0.016	>780 R_m (N/mm^2) >720 $R_{p0.2}$ (N/mm^2) >16 A_5 (%) -60ºC >47 ISO - V (J)	=+ ~	PA PB PC PF PE	2.50 x 350	60-90	CS113513
				3.25 x 350	100-140	CS113514
				4.00 x 450	140-180	CS113515

APPLICATIONS

- Extra-low hydrogen electrode with basic coating of moisture-resistant iron powder.
- Suitable for welding fine-grained steels with high tensile strength. Stable, concentrated arc, suitable for welding in all positions. Seams with fine undulations, little spatter, easy slag removal. Joints without cracks. Welds have X-ray quality.
- Suitable for joining many high-strength steels, heat-treated fine grain steel N-A-XTRA 70, Hy 80/Hy100, ASTM 517 GrF, VSS T-1 steels, gantries, heavy earthmoving equipment, etc.

BASE MATERIALS

- Fine-grained steel: EN 10113-2: S 275, S 355, S 420
EN 10112-3: S 275, S 355, S 420
StE 500 - StE 690
- Boiler steel: EN 10028-2: P 235, P 265, P 295, P 355 16 Mo 3, 13CrMo 4-5
- Steel pipe: EN 10216-1: P 235, P 275
EN 10217-1: P 355

xARC 12018 AWS/ASME SFA-5.5: E 12018-G H4 | EN ISO 18275-A: E 79 5 Mn2Ni1CrMo B 42 H5

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.09 Si = 0.5 Cr = 0.9 Mn = 1.8 Mo = 0.5 Ni = 2.3	950 R_m (N/mm^2) 850 $R_{p0.2}$ (N/mm^2) 18 A_5 (%) -50ºC 50 ISO - V (J)	=+ ~	PA PB PC PF PE	2.50 x 300	70-90	CS113516
				3.25 x 450	90-140	CS113517
				4.00 x 450	140-180	CS113518

APPLICATIONS

- Basic coated welding electrode with low hydrogen content.
- Good weldability, stable arc, easy slag removal.
- Suitable for welding steels with tensile strengths up to 830 N/mm2.
- During use, adopt preheating, interpass temperature and post-weld treatment as required by the base material.
- Used in heavy industry for boilers and pressure vessels, structural components subject to high stresses, pipework, etc...

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TEMPERATURE RESISTANT STEELS

xARC MO **AWS/ASME SFA-5.5:** E 7018-A1 | **DIN 8575:** E Mo B 10+ | **DIN EN 1599:** E Mo B 42

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.06 Si = 0.40 Mn = 0.80 Mo = 0.50 P = 0.020 S = 0.016	550-650 R_m (N/mm²) >470 $R_{p0.2}$ (N/mm²) 24 A_5 (%) 20ºC 100 ISO - V (J)	=+ ~	PA PB PC PF PE	2.50 x 350	60-90	CS113519
				3.25 x 350	100-140	CS113520
				4.00 x 450	140-180	CS113521

APPLICATIONS

- Moisture-resistant, hydrogen-controlled, basic type iron powder electrode for boilers, for the construction of boilers, storage tanks and pipework, for operating temperatures up to 525°C.
- Excellent electrode for all creep-resistant positions of 0.50% Mo and 1% Cr- 0.50% Mo steels. Specially designed for 16Mo3- steel.
- Strong, reliable welds with X-ray quality on cast steels, low alloys, high-strength steels, pressure vessels, pipes, cement kilns, heavy equipment, machine frames and chassis.

BASE MATERIALS

Construction steel	EN 10025: S 235, S 275, S 355
Ship steel	A - E, A 32 – E 32, A 36 – E 36, A 40 – E 40
Fine grain steels	EN 10113-2: S 275, S 355, S 420, S 460 EN 10113-3: S 275, S 355, S 420, S 460
Boiler steel	EN 10028-2: P 235, P 265, P 295, P 355,
Steel pipe	16Mo3 EN 10216-1: P 235, P 275
Cast steel	EN 10217-1: P 355 EN 10213-2: GP 240 R, G20Mo5

xARC 8018 B2 **AWS/ASME SFA-5.5:** E 8018-B2 | **EN 1599:** E CrMo1 B 42 H5 | **EN ISO 3580-A:** E CrMo1 B 42 H5

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.07 Si = 0.5 Cr = 1.3 Mn = 0.8 Mo = 0.6	620 R_m (N/mm²) 550 $R_{p0.2}$ (N/mm²) 21 A_5 (%) +20ºC 140 ISO - V (J) -20ºC 60 ISO - V (J)	=+	PA PB PC PF PE	2.50 x 350	65-90	CS113522
				3.25 x 450	90-140	CS113523
				4.00 x 450	130-250	CS113524

APPLICATIONS

- Basic coated electrode with low hydrogen content for welding alloyed steels with 1% Cr and 0.5% Mo.
- Suitable for positional welding, excluding vertical downward welding, stable arc, low spatter fusion and easy slag removal.
- Suitable for welding medium alloy steels, resistant to high temperatures up to 550°C.
- Used for the construction of pressure vessels, pipe installations, heat exchangers and cladding on carburized steels. During welding, maintain the interpass temperature between 150 - 250°C.

xARC 9018 B3 **AWS/ASME SFA-5.5:** E 9018-B3 | **EN 1599:** E CrMo2 B 42 H5 | **EN ISO 3580-A:** E CrMo2 B 42 H5

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.07 Si = 0.6 Cr = 2.3 Mn = 0.7 Mo = 1.1	640 R_m (N/mm²) 530 $R_{p0.2}$ (N/mm²) 18 A_5 (%) +20ºC 120 ISO - V (J) -20ºC 50 ISO - V (J)	=+	PA PB PC PF PE	2.50 x 350	65-90	CS113525
				3.25 x 450	90-140	CS113526
				4.00 x 450	125-160	CS113527

APPLICATIONS

- Basic coated electrode designed for welding Cr-Mo alloy steels.
- Suitable for positional welding, excluding vertical down, excellent weldability, stable arc and easy slag removal.
- During the solidification process, the deposit remains crack-free.
- Suitable for welding creep-resistant steels with an alloy of 2.25% Cr and 1% Mo, and operating temperatures up to 600°C.

xARC 9018 B91 **AWS/ASME SFA-5.5:** E 9018-B91 | **EN 1599:** E CrMo91 B 42 H5

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.09 Si = 0.3 Cr = 9.5 Cu = 0.2 Al = 0.02 Mn = 0.6 Mo = 1.00 Ni = 0.6 Nb = 0.05 N = 0.04 V = 0.2	>650 R_m (N/mm²) >530 $R_{p0.2}$ (N/mm²) >17 A_5 (%) 20ºC >70 ISO - V (J)	=+ ~	PA PB PC PF PE	2.50 x 300	65-90	CS113528
				3.25 x 350	90-130	CS113529
				4.00 x 450	130-180	CS113530

APPLICATIONS

- Basic electrode with low hydrogen content developed for welding heat-resistant steels up to 650°C, alloyed with 9% to 12% Cr.
- Good weldability and arc stability, easy slag removal.
- Used mainly in the oil industry.
- Welding should be carried out with a short arc and low feed speed.
- Maintain an interpass of 200 - 300°C during welding.

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STAINLESS STEEL

xARC 308L **AWS/ASME SFA-5.5:** E 308L-16 | **DIN EN ISO 3581-A:** E 19 9 LR 12 | **DIN EN 1600:** E 19 9 LR 12

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.02 Si = 0.80 Cr = 19.0 Mn = 0.90 Ni = 10.0 P = 0.015 S = 0.010	610 R_m (N/mm^2) 40 A_5 (%) RT 70 ISO - V (J)	=+ ~	PA PB PC PF PE	1.60 x 250	-	CS113531
				2.00 x 300	-	CS113532
				2.50 x 350	50-80	CS113533
				3.25 x 350	70-110	CS113534
				4.00 x 350	100-150	CS113535

APPLICATIONS

- Austenitic stainless steel electrode with extra low carbon rutile-basic coating with controlled ferrite of around 8% for maximum resistance to cracking and corrosion.
- Very low moisture absorption coating. Smooth spatter-free fusion, very easy slag removal, exceptional weld bead appearance, easy cleaning.
- Excellent resistance to corrosion and scaling up to 800°C. Applied to all 18/8 stainless steels at operating temperatures from -120°C to +350°C in pipes, tanks, heat exchangers, boilers, reactors and turbines, pipework systems.

xARC 316L **AWS/ASME SFA-5.4:** E 316L-16 | **DIN EN ISO 3581-A:** E 19 12 3 LR 12 | **DIN EN 1600:** E 19 12 3 LR 12

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.026 Si = 0.90 Mn = 075 Mo = 2.40 Ni = 12.00 P = 0.025 S = 0.010	590 R_m (N/mm^2) 37 A_5 (%) RT 60 ISO - V (J)	=+ ~	PA PB PC PF PE	1,60 x 250	-	CS113536
				2.00 x 300	50-80	CS113537
				2.50 x 350	50-80	CS113538
				3.25 x 350	80-100	CS113539
				4.00 x 350	110-150	CS113540

APPLICATIONS

- Low carbon austenitic stainless steel electrode coated with rutile and Mo, with around 5-9% ferrite.
- Very low moisture absorption coating. Smooth melting, no spattering, very easy slag removal, exceptional bead appearance, easy cleaning.
- For welding and coating Cr-Ni-Mo austenitic stainless steels and coated sheets.
- Applied at operating temperatures from -120°C to +400°C in the chemical and petrochemical industries, refineries, the food industry and shipbuilding for welding pipes, tanks, heat exchangers, etc.

MMA ELECTRODES

xARC 310 **AWS/ASME SFA-5.4:** E 310-16 | **DIN 8556:** E 25 20 R 23 | **DIN EN 1600:** E 25 20 R 12 | **MAT. Nº** 1.4842

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.10 Si = 0.70 Cr = 27.00 Mn = 2.0 Ni = 21.00 P = 0.020 S = 0.012	≥550 R_m (N/mm²) ≥30 A_5 (%) RT ≥60 ISO - V (J)	=+ ~	PA PB PC PF PE	2.50 x 350	60-90	CS113541
				3.25 x 350	80-110	CS113542
				4.00 x 350	100-140	CS113543

APPLICATIONS

- Rutile-basic electrode with high-temperature austenitic stainless steel deposit.
- Resistant to corrosion and oxidation up to 1200°C, good resistance to hot cracking, easy removal of slag and pleasant appearance of the bead.
- Construction of steam boilers, chemical plants, gas industry, furnaces, thermal equipment.

xARC 318 **AWS/ASME SFA-5.4:** E 318-16 | **EN ISO 3581-A:** E 19 12 3 Nb R 12 | **EN 1600:** E 19 12 3 Nb R 12

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.03 Si = 0.90 Cr = 18.50 Mn = 0.80 Mo = 2.60 Ni = 12.00 Nb = 0.40 P = 0.020 S = 0.010	590 R_m (N/mm²) 450 $R_{p0.2}$ (N/mm²) 35 A_5 (%) 20ºC 65 ISO - V (J)	=+ ~	PA PB PC PF PE	2.50 x 350	50-80	CS113544
				3.25 x 350	70-110	CS113545
				4.00 x 350	110-150	CS113546

APPLICATIONS

- Electrode with rutile-basic coating for welding stabilised austenitic steels, Cr-Ni-Mo stainless steels and cast steels at working temperatures up to +400°C.
- Good fusion of the joint faces, no spattering, finely corrugated bead surface, very easy slag removal.

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xARC 347 AWS/ASME SFA-5.4: E 347-16 | DIN 8556: E 19 9 Nb R 23 | DIN EN 1600: E 19 9 Nb R 32

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.04 Si = 0.80 Cr = 19.0 Mn = 1.10 Ni = 10.0 Nb = 0.45 P = 0.020 S = 0.015	590 R_m (N/mm²) 40 A_5 (%) RT 60 ISO - V (J)	=+ ~	PA PB PC PF PE	2.50 x 350	50-80	CS113547
				3.25 x 350	80-110	CS113548
				4.00 x 350	110-150	CS113549

APPLICATIONS

- Electrode for welding joints in unstabilised austenitics, stabilised austenitics and chemical-resistant austenitics, at working temperatures up to 400°C, for corrosion-resistant Cr steels and similar alloy coatings.

BASE MATERIALS

- UNS: S30400, S30403, S32100, S34700.
- Metall alloy: 304, 3O4L, 321, 347.
- EN 10088: X5CrNi18-10, X2CrNi19-11, X6CrNiTi18-10, X6CrNiNb18-1O.
- Material N[a]: 1.4301, 1.4306, 1.4541, 1.4550.
- UGINE: UGINOX 18-9, BD, E; UGINOX 18-10 L; UGINOX 18-10 T

xARC DUPLEX AWS/ASME SFA-5.4: E 2209-16

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.025 Si = 0.85 Cr = 22.50 Mn = 0.80 Mo = 3.00 Ni = 9.00 N = 0.14 P = 0.012 S = 0.006	>700 R_m (N/mm²) >500 $R_{p0.2}$ (N/mm²) >25 A_5 (%) RT >50 ISO - V (J)	=+ ~	PA PB PC PF PE	2.50 x 350	40-60	CS113550
				3.25 x 350	70-100	CS113551
				4.00 x 350	110-150	CS113552

APPLICATIONS

- Basic rutile electrode type 22-9-3-N for welding joints in corrosion-resistant duplex steels.
- Excellent resistance to intergranular corrosion and stress corrosion.
- Low carbon content, excellent weldability, spatter-free arc, very smooth bead appearance.

xARC SUPER DUPLEX **AWS/ASME SFA-5.4:** E 2594-15 | **EN ISO 3581-A:** 25 9 4 N LB 22 | **MAT. Nº** 1.4463

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.03 Si = 0.40 Cr = 25.00 Mn = 1.70 Mo = 4.00 Ni = 10.00 N = 0.25 P = 0.015 S = 0.010	≥760 R_m (N/mm²) ≥650 $R_{p0.2}$ (N/mm²) ≥20 A_5 (%) -50ºC ≥60 ISO - V (J)	=+	PA PB PC PF PE	2.50 x 350	40-70	CS113553
				3.25 x 350	70-110	CS113554
				4.00 x 350	120-150	CS113555

APPLICATIONS

- Basic coated electrode type 25-10-4-N for welding super-duplex stainless steels type 2507 UNS S32750 (forged) and UNS J93404 (cast) and similar compositions.
- Excellent corrosion and crevice resistance (PREN >40). The deposited weld metal has very high ductility down to -50°C.

BASE MATERIALS

- SAF 2507; UNS S32750; UNS J93404; ASTM A 182 F53; Uranus 47N

xARC 385 **AWS/ASME SFA-5.4:** E 385-16 | **DIN 8556:** E 20 25 5 Cu LR 23 | **DIN EN 1600:** E 20 25 5 Cu LR 32

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C <0.03 Si = 0.80 Cr = 20.50 Cu = 1.50 Mn = 1.0 Mo = 4.50 Ni = 25.00 P = 0.021 S = 0.015	>570 R_m (N/mm²) >370 $R_{p0.2}$ (N/mm²) >35 A_5 (%) 20ºC >70 ISO - V (J)	=+ ~	PA PB PC PF PE	2.50 x 350	50-80	CS113556
				3.25 x 350	80-110	CS113557
				4.00 x 350	100-150	CS113558

APPLICATIONS

- Coated rutile-basic electrode for welding fully austenitic and highly corrosion-resistant stainless steels (904L, B6). Good weldability in all positions except vertical downward, stable arc, good slag removal, regular and finely corrugated weld seams.
- Due to its alloy composition, high Mo and Cu content, the weld metal is suitable against phosphoric and sulphuric acid attacks. It has a high resistance to corrosion and stress corrosion in chloride-containing media.
- It is used at operating temperatures of up to 400°C.
- Special applications are: pulp and paper industry, transport containers, chemical industry plants.

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SPECIAL APPLICATIONS

xARC EXTRACTION

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
-	-	=+ ~	PA PB PC PD PE PF PG	2.00 x 300	-	CS113560
				2.50 x 300	-	CS113561
				3.25 x 350	-	CS113562

APPLICATIONS

- Specially coated electrode developed for extracting bolts, screws and other special applications.

xARC 307 **AWS/ASME SFA-5.4:** ~ E 307-16 | **DIN 8556:** E 18 8 Mn R 26 | **DIN EN 1600:** E 18 8 Mn R 12

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.12 Si = 0.50 Cr = 19.0 Mn = 5.10 Mo = 0.50 Ni = 9.00 P = 0.015 S =0.012	>550 R_m (N/mm^2) >35 A_5 (%) RT >75 ISO - V (J)	=+ ~	PA PB PC PF PE	2.50 x 300	60-90	CS113563
				3.25 x 350	80-120	CS113564
				4.00 x 350	100-150	CS113565

APPLICATIONS

- Austenitic (non-magnetic) rutile coated electrode for joining and overlaying steels for manganese applications (up to 14% Mn) and steels with a high sulphur and phosphorus content, as well as for joining dissimilar steels, construction steels and stainless steels, for cushion layers before hardfacing.
- Repair of parts subjected to shocks or friction wear. Excellent machinability, easy slag removal, good bead appearance.
- For construction, railways, cement works (screening steels, excavation buckets, crushing jaws...)

BASE MATERIALS

- Austenitic steels with Mn: type Z 120 M 12, X 120 Mn 12. 1.3401
- Spring steel: 45 Cr 4, 1.7035,46 Si 7, 1.5024, 51 Si 7, 1.5025. 56 Si 7, 1.5026 (*)

xARC 309L **AWS/ASME SFA-5.4:** E 309L-16 | **DIN EN ISO 3581-A:** E 23 12 LR 12 | **DIN EN 1600:** E 23 12 LR 12

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C < 0.03 Si = 0.90 Cr = 23.0-25.0 Mn = 0.90 Ni = 12.50-14.00 P = 0.025 S = 0.010	600 R_m (N/mm²) 35 A_5 (%) RT 80 ISO - V (J)	=+ ~	PA PB PC PF PE	2.50 x 300	50-80	CS113566
				3.25 x 350	70-110	CS113567
				4.00 x 350	100-150	CS113568

APPLICATIONS

- Low carbon rutile-basic coated electrode with an austenitic stainless steel deposit for welding dissimilar steels such as stainless steel to low alloy steels.
- Suitable for welding high-temperature steels and as cushion layers before hardfacing.
- Repair of machine parts for civil engineering.

BASE MATERIALS

- UNS: S30900, S30453, S30908.
- Metal alloy: 309, 304LN, 3098.
- EN: X15CrNiSi 20-12, X2CrNiN 18-10, X12CrNi23-13, X10CrSiG, X10CrA1 18.
- Material Na: 1.4828, 1.4311, 1.4833, 1.4712, 1.4742.
- UGINE: UGNINOX R20-12, UGINOX R24-13S.

xARC 309L MO **AWS/ASME SFA-5.4:** E 309MoL-16 | **DIN 8556:** E 23 13 2 LR 23 | **DIN EN 1600:** E 23 13 2 LR 12

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.03 Si = 0.90 Cr = 23.50 Mn = 1.00 Mo = 2.50 Ni = 13.10 P = 0.015 S = 0.012	600 R_m (N/mm²) 35 A_5 (%) RT 65 ISO - V (J)	=+ ~	PA PB PC PF PE	2.50 x 350	50-80	CS113569
				3.25 x 350	80-110	CS113570
				4.00 x 350	100-140	CS113571

APPLICATIONS

- 23Cr 12Ni 2Mo stainless steel electrode with low carbon rutile-basic coating, used for welding AISI 309 and 316L stainless steels and for dissimilar joints between construction, mild and stainless steels.
- Intermediate layer for a type 316L coating.
  Due to its high level of delta ferrite, approximately 15-25, it is also used as a universal repair electrode in maintenance welding.
- Highly resistant to cracks. Smooth melting, good appearance of the strand, the slag rises on its own.

BASE MATERIALS

- AISI : 316 L. 316 Ti. 316 Cb, 309, 309 Cb
- N.º of reference: 1.4401. 1.4404. 1.4571

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xARC 312 AWS/ASME SFA-5.4: E 312-16 | DIN EN ISO 3581-A: E 29 9 R 12

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.10 Si = 0.90 Cr = 29.0 Mn = 1.0 Ni = 9.50 P = 0.015 S = 0.010	≥800 R_m (N/mm²) ≥500 $R_{p0.2}$ (N/mm²) ≥20 A_5 (%)	=+ ~	PA PB PC PF PE	2.50 x 350	50-80	CS113572
				3.25 x 350	70-110	CS113573
				4.00 x 350	140-190	CS113574

APPLICATIONS

- Versatile high-alloy rutile-basic coated electrode with around 40% ferrite for welding dissimilar and repair joints. The ferritic-austenitic weld metal is stainless and corrosion resistant.
- Used for welding high-strength joints, difficult-to-weld steels, hardened and tool steels, spring and die steels, dissimilar steels, cast steels, cushion layers before hardfacing, etc.
- Superior weldability for all steels. Smooth, spatter-free fusion, self-releasing slag, smooth weld bead, very easy ignition and annealing.

NICKEL BASED STEELS

xARC NICRFE 3 AWS/ASME SFA-5.11: E Ni Cr Fe-3

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.04 Si = 0.50 Cr = 16.50 Mn = 7.00 Fe = 7.00 Nb = 2.00 P = 0.02 S = 0.010	700 R_m (N/mm²) 420 $R_{p0.2}$ (N/mm²) 43 A_5 (%) RT ≥ 90 ISO - V (J) -196ºC ≥ 47 ISO - V (J)	=+ ~	PA PB PC PF PE	2.50 x 350	50-70	CS113575
				3.25 x 350	70-95	CS113576
				4.00 x 350	90-120	CS113577

APPLICATIONS

- All-position electrode for welding inconel, nickel, monel, nickel-chromium-iron alloys, H K alloys and dissimilar steels such as carbon steels, stainless steels, nickel and nickel alloys.
- Welding deposits are resistant to fouling at high temperatures and corrosion at normal temperatures, as well as at high temperatures.

xARC NICRMO 3 **AWS/ASME SFA-5.11:** E Ni Cr Mo-3 | **EN ISO 14172:** E Ni 6625 (NiCr 22 Mo 9 Nb)

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.04 Si = 0.25 Cr = 22.0 Mn = 0.40 Mo = 9.0 Fe = 2.50 Nb = 3.5 P ≤ 0.015 S ≤ 0.015	>760 R_m (N/mm²) >420 $R_{p0.2}$ (N/mm²) >30 A_5 (%) RT ≥ 90 ISO - V (J) -196ºC ≥ 47 ISO - V (J)	=+	PA PB PC PF PE	2.50 x 350	50-70	CS113578
				3.25 x 350	80-100	CS113579
				4.00 x 350	100-140	CS113580

APPLICATIONS

- Nickel-based electrode for welding joints and cladding nickel-chromium-molybdenum and nickel-chromium-like steels, Cr and CrNi (Mo, N) steels (heat-resistant) and nickel-alloyed steels for cold-resistant pressure vessels.
- Usable at working temperatures between -196°C and 1000°C (in the case of a sulphurous atmosphere, only up to 500°C).
- The fully austenitic weld metal is chemically stable, cold-resistant, heat-resistant, resistant to fouling up to 1000°C and resistant to embrittlement.
- High resistance to corrosive media.

xARC NICU 7 **AWS/ASME SFA-5.11:** E Ni Cu-7 | **EN ISO 14172:** E Ni 4060

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.03 Si = 0.40 Mn = 3.80 Fe = 2.00 Ni = 65.0 P = 0.015 S = 0.010	≥490 R_m (N/mm²) ≥230 $R_{p0.2}$ (N/mm²) ≥30 A_5 (%) 140-170 HB	=+	PA PB PC PF	2.50 x 350	40-60	CS113581
				3.25 x 350	80-100	CS113582
				4.00 x 350	110-130	CS113583

APPLICATIONS

- Basic type electrode specially designed for welding or coating monel 400, R 405, K 500 alloys and coated monel steels. Excellent mechanical properties.
- The weld metal is porosity-free and resistant to corrosion by seawater, salts and reducing acids.
- Suitable for dissimilar welding applications - welding applications for Monel include joints between monel, nickel-copper alloys and carbon steel, low-alloy steel, copper and copper-nickel alloys.
- Suitable working temperature from -196°C to +450°C.

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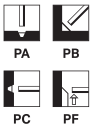
CAST IRON

xARC NICL AWS/ASME SFA-5.15: E Ni-CI

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 1.00 Si = 0.50 Mn = 0.35 Ni = 97.50	450 R_m (N/mm²) 165 HB	=+ ~		2.50 x 300	50-70	CS113584
				3.25 x 350	70-90	CS113585
				4.00 x 350	100-130	CS113586

APPLICATIONS

- Nickel electrode for welding grey cast iron, malleable iron, cast iron and for welding worn castings. For grinding castings.
- Provides perfect welding results even at low amperages. The arc is smooth and intense, with little spatter and easy slag removal.
- The weld is smooth and workable, including the fusion zone.

xARC NICL EC AWS/ASME SFA-5.15: E Ni-CI

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C ≤ 2.0 Si ≤ 2.5 Mn ≤1.0 Fe ≤ 8.0 Ni ≥ 90 S ≤ 0.03	-	=+ ~		2.50 x 300	-	CS114073
				3.25 x 350	95-120	CS114074

APPLICATIONS

- A pure nickel electrode designed for welding normal quality cast iron.
- The weld metal is soft and easily worked, the deposition is carried out cold or slightly preheated.
- It is suitable for joining cast irons, grinding castings and repairing broken parts.

MMA ELECTRODES

xARC NIFE **AWS/ASME SFA-5.15:** E NiFe-C1 | **DIN 8573:** E NiFe-1 BG11

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Ni = 56 Fe remaining	>480 R_m (N/mm^2) 190 HB	=+- ~	PA PB PC PF PG PE	2.50 x 350	60	CS113587
				3.25 x 350	80	CS113588
				4.00 x 350	120	CS113589

APPLICATIONS

- Graphite-based coated electrode with an iron-nickel alloy deposit for joining and repairing nodular cast iron.
- Homogeneous deposit and very resistant to cracks.
- Particularly recommended for dissimilar welding of cast iron to steel and cast iron constructions.
- Defects in foundries, repair of engine blocks, machine tools, gearboxes, reduction parts, pump bodies, castings, valve bodies.

BASE MATERIALS

- ASTM : A48 class 25B to 60B
  : A536 Grade 60-80
- DIN : GG-15 to GG-40
  : GGG-40 to GGG-60
  : GTS-35 to GTS-65
- NFA : FLG 150 to FLG 400
  : FGS 400-12 to FGS 600-3
  : MN350-10 to MN650-3

xARC NICU B **AWS/ASME SFA-5.11:** E Ni-1 | **EN ISO 14172:** E Ni 2061 (NiTi3)

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.02 Si = 0.9 Mn = 0.6 Ti = 2.00 Fe = 0.3	>410 R_m (N/mm^2) >250 $R_{p0.2}$ (N/mm^2) >28 A_5 (%) 20ºC >130 ISO - V (J)	=+	PA PB PC PF PE	2.50 x 300	60-80	CS113590
				3.25 x 350	90-120	CS113591
				4.00 x 350	110-150	CS113592

APPLICATIONS

- Coated basic electrode, welds in all positions except vertical downwards, stable arc.
- Suitable for welding pure nickel and nickel-steel and nickel-copper alloys.
- It is used for undercoating carbon steels for subsequent special bonding.
- It is used in the chemical industry for the production of soda, soaps, fluoride chlorides, in the food and pharmaceutical industries.

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COPPER ALLOYS

xARC COBRE AWS/ASME SFA-5.6: E Cu

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Cu = 99	>180 R_m (N/mm²) >20 A_5 (%)	=+	PA PB PC PF PE	2.50 x 300	70-90	CS113593
				3.25 x 350	90-110	CS113594

APPLICATIONS

- Electrode with special coating and pure copper core.
- Developed for oxygen-free copper welding and refilling steels and cast irons.
- Preheating to 550ºC is recommended for very thick parts.

xARC BRONZE AWS/ASME SFA-5.6: E Cu Sn-C

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Sn = 8.00 P = 0.08 Cu remaining	> 300 R_m (N/mm²) 110 HB	=+	PA PB	2.50 x 350	60-90	CS113596
				3.25 x 350	90-120	CS113597

APPLICATIONS

- Electrode with a special base coating, particularly suitable for welding and refilling phosphor bronze or similar, brass and for refilling cast iron and carbon steel.
- It is used for the construction of pump blades, turbines, for rebuilding worn parts or for filling new parts subject to wear, such as slide guides, sliders, valve seats.
- It is also used to repair casting defects and to coat seawater-resistant steel.

xARC BRONZE EC **AWS/ASME SFA-5.6:** E Cu Sn-C | **DIN 1733:** EL Cu Sn-7

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Al = 0.01 Sn = 7-9 Pb = 0.02 Fe = 0.25 P = 0.05-0.35	-	=- ~	PA PB	2.50 x 350	75-95	CS114075
				3.25 x 350	100-130	CS114076

APPLICATIONS

- The ECuSn-C (Phos-Bronze C) welding electrode is excellent for joining copper-based alloys not only to themselves, but also to stainless steel, cast iron and steels.
- This electrode can be used in alternating current and as an electric brazing rod.
- Typical applications: joining copper to itself as well as to stainless steel, cast iron and steel.

xARC CUAL 8 **AWS/ASME SFA-5.6:** E Cu Al-A2

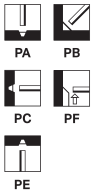
CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si = 0.5 Fe = 1.2 Al = 8	440 R_m (N/mm²) 190 $R_{p0.2}$ (N/mm²) >20 A_5 (%) 130HB	=+	PA PB PC PF	2.50 x 300	60-90	CS113599
				3.25 x 350	100-130	CS113600

APPLICATIONS

- Electrode with a basic coating and regular fusion.
- It is mainly used for welding and recharging aluminium, brass, bronze, silicon or manganese bronzes and cast irons.
- Suitable for friction-resistant metal refilling and corrosion in acidic or marine environments.
- Also used for joining different metals.
- Due to its characteristics, it is widely used in the mechanical and naval industries for refilling shafts, sliding guides, gear teeth, runners, bearing housings, etc.

HARDFACING

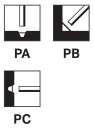
xARC DUR MN **AWS/ASME SFA-5.13:** E FeMn-B | **DIN 8555:** E 7 UM-200-K

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.8 Si = 0.6 Mn = 14.00 Mo = 1.00	200-250 HB	=+		2.50 x 350	-	CS113602
				3.25 x 350	100-140	CS113603
				4.00 x 350	140-180	CS113604
				5.00 x 450	180-240	CS113605

APPLICATIONS

- Basic-coated electrode with good weldability.
- The deposit is resistant to shocks that cause rapid work hardening of the surface.
- Suitable for charging components made of 14% Mn steel and carbon steels subjected to high impact and compression, such as milini hammers, excavator teeth, dredges for aggregate extraction, rail parts, etc.

xARC DUR 350 **DIN 8555:** E 1-UM-350

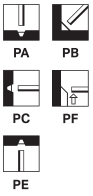
CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.25 Si = 0.30 Cr = 3.2 Mn = 0.60 Fe remaining	37-38 HRc	=+ ~		2.50 x 350	-	CS113606
				3.25 x 350	90-120	CS113607
				4.00 x 350	140-170	CS113608
				5.00 x 350	180-220	CS113609

APPLICATIONS

- Well-functioning hardfacing electrode for chromium and manganese alloy deposits to resist moderate abrasion and impact.
- Recommended for rollers, traction wheels, crane wheels, gears, shafts, plough shears, brake pads, traction sprockets, etc.
- The welding tank is workable with good cutting tools.

MMA ELECTRODES

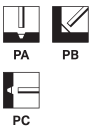
xARC DUR 2/600 **DIN 8555:** E 2-UM-60-GP

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.7 Cr = 2.00 Si = 0.5 Mn = 2.5	59 HRc	=+		2.50 x 300	60-90	CS113610
				3.25 x 450	100-135	CS113611
				4.00 x 450	130-160	CS113612
				5.00 x 450	150-220	CS113613

APPLICATIONS

- Base coated electrode.
- The deposited metal has good resistance to cracking, abrasion, impact, compression and is not workable.
- It finds applications in industry in general, particularly in the quarrying, mineral extraction and cement sectors for recharging mechanical parts, shovel teeth, crushing hammers, mills, etc.

xARC DUR 600 **DIN 8555:** E 6-UM-60-P

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.50 Si = 1.0 Cr = 9.0 Mn = 0.50 Mo = 0.80 V = 0.60	57-60 HRc	=+- ~		2.50 x 350	-	CS113614
				3.25 x 350	90-120	CS113615
				4.00 x 350	140-180	CS113616
				5.00 x 350	180-240	CS113617

APPLICATIONS

- Hardfacing electrode for hard, impact-resistant and abrasive coating on unalloyed and low-alloyed materials with increased tensile strength.
- Recommended for recharging machine parts, dredger teeth, beater bars, scrapers, rock drills, augers, coal cutting blades, excavator teeth, screw conveyors, mill hammers, mixer arms, crusher jaws, cones, etc.

xARC DUR 650 **DIN 8555:** E 6-UM-60-P

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.50 Si = 1.00 Cr = 7.00 Mn = 1.00 Fe remaining	57-61 HRc	=+ ~		2.50 x 350	-	CS113618
				3.25 x 350	100-140	CS113619
				4.00 x 350	140-180	CS113620
				5.00 x 350	180-240	CS113621

APPLICATIONS

- Basic coating electrode with low hydrogen content for hard coating - hard, impact-resistant and abrasion-resistant on unalloyed and low-alloyed materials.
- Not sensitive to cracking and therefore the deposit does not need any additional protection.
  The weld metal can only be machined by grinding.
- Recommended for coating machine parts, dredger teeth, beater bars, scrapers, rock drills, drill bits, coal cutting blades, excavator teeth, conveyor augers, mill hammers, mixer arms, crusher jaws, cones, etc.

xARC DUR 10/600 **DIN 8555:** E 10-UM-60-GR

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 2.7 Si = 1.2 Cr = 31.00 Mn = 1.00	60 HRc	=+ ~		2.50 x 350	90-110	CS113622
				3.25 x 350	100-140	CS113623
				4.00 x 350	150-200	CS113624

APPLICATIONS

- High-performance rutile-basic coated electrode containing filler alloying elements.
- Chromium carbide deposit suitable for resisting severe abrasion.
- Regular melting, easy ignition and annealing.
- Due to its characteristics, the deposited alloy is widely used in fillers subject to mineral abrasion, erosion, medium impacts, such as crushing plants, mixers, augers, guides, conveyor rails.

MMA ELECTRODES

xARC DUR 750 **DIN 8555:** E 10-UM-60-GR

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 6.00 Si = 1.7 Cr = 33.00	61 HRc	=+	PA	3.25 x 350	110-140	CS113627
				4.00 x 350	150-180	CS113628

APPLICATIONS

- High performance basic graphite coated electrode. Regular melting without slagging. To prevent cold cracking, preheating from 300° to 700 °C is recommended, depending on the size of the part. For thin refill thicknesses, a cushion layer with xARC 307 or xARC 312 is required.
- Suitable for applications where high resistance to mineral abrasion is required. Kneading blades, excavator parts, crushers, augers, transport screws and extrusion screws.

xARC DUR 65 **DIN 8555:** E 10-UM-65-GRZ

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 4.2 Si = 2.00 Cr = 20.00 Mn = 0.25 Mo = 6.2 Nb = 4.7 V = 0.7 W = 1.3	65 HRc	=+ ~	PA	3.25 x 350	120-160	CS113631
				4.00 x 350	180-210	CS113632

APPLICATIONS

- Electrode coated with high-performance base graphite containing filler alloy elements.
- Regular melting, practically non-existent slag. High-alloy C-Cr-Mo-W-V-Nb deposit, mainly suitable for refills subjected to heavy abrasive wear with a maximum operating temperature of 600°C.
- It is widely used in refills subjected to strong to extreme mineral abrasion in cold and hot conditions.
- Examples of refills: kiln and cement plant equipment, mixing and agitator blades and knives, conveying and extrusion screws, drilling equipment, scrapers, etc.

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xARC DUR FAST STEELS **DIN 8555:** E 4-UM-60-ST

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 1 Si = 0.8 Cr = 5.00 Mn = 0.4 Mo = 6.5 V = 2.2 W = 2.3	60 HRc	=+ ~	PA PB PC PF PE	2.50 x 350	60-90	CS113634
				3.25 x 350	80-120	CS113635
				4.00 x 350	120-160	CS113636

APPLICATIONS

- Electrode with rutile-basic coating, good weldability, easy slag removal.
- Particularly suitable for edge loading.
  The deposited metal has excellent resistance to abrasion combined with moderate impact up to 550°C and metal-to-metal wear.
- Suitable for the manufacture and repair of cutting tools, cold shear blades, guides, wires, etc.

xARC DUR FAST STEELS SPECIAL **DIN 8555:** E 4-UM-65-ST

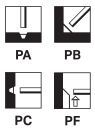
CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 1.1 Si = 1.1 Cr = 3.5 Co = 3.5 Mo = 5.5 V = 2.3 W = 5.00	64 HRc	=+ ~	PA	2.50 x 300	80-100	CS113638
				3.25 x 350	110-150	CS113639
				4.00 x 450	150-190	CS113640

APPLICATIONS

- Electrode with rutile-basic coating, good weldability, easy ignition.
- Particularly suitable for edge loading.
- The deposited metal has excellent abrasion resistance combined with moderate impact up to 550°C and metal-to-metal wear.
- Suitable for the manufacture and repair of cutting tools, cold cutting blades, guides, wires, etc.

MMA ELECTRODES

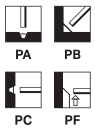
xARC DUR COBALT 1 **AWS/ASME SFA-5.13:** E Co Cr-C | **DIN 8555:** E 20-UM-55-CTZ

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 2.0 Si = 0.7 Cr = 32.00 Mn = 0.5 Ni = 1.8 Fe = 2.5 W =12.5	55 HRc	=+ | ~		3.25 x 350	90-120	CS113643
				4.00 x 450	120-160	CS113644

APPLICATIONS

- Rutile coated electrode with good weldability and easy slag removal.
- It is mainly used to recharge parts subject to: strong to very strong metallic abrasion, weak mechanical impact, weak thermal impact, very strong erosion and corrosion, cavitation, high temperature up to 800°C, compression. It is used to recharge rolling guides, pump shafts, extrusion dies, etc.
- The deposit has a tendency to crack, observe a preheating temperature of 300-450°C and make the first pass with xARC DUR COBALT 6 or 12.

xARC DUR COBALT 6 **AWS/ASME SFA-5.13:** E Co Cr-A | **DIN 8555:** E 20-UM-45-CTZ

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.9 Si = 1 Cr = 29 Mn = 0.8 Fe = 3 Ni = 2.5 W = 4.7	42 HRc	=+ | ~		3.25 x 350	90-120	CS113646
				4.00 x 450	120-160	CS113647

APPLICATIONS

- Electrode with rutile-basic coating, good weldability and easy slag removal.
- It is used to recharge parts subjected to: medium abrasion, medium to strong mechanical impacts, medium thermal impact, severe erosion and corrosion, cavitation, high temperature up to 650°C, medium thermal impact, severe erosion and corrosion, cavitation, metal friction, compression.
- It is widely used to load hot shear blades, casting tools, pump valve seats, extrusion screws, etc.

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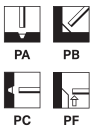
xARC DUR COBALT 12 **AWS/ASME SFA-5.13:** E Co Cr-B | **DIN 8555:** E 20-UM-50-CTZ

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 1.2 Si = 1.2 Cr = 30 Fe = 3.2 Ni = 2.3 W = 8.7	48 HRc	=+ ~		3.25 x 350	90-120	CS113649
				4.00 x 450	120-160	CS113650

APPLICATIONS

- Rutile coated electrode with good weldability and easy slag removal.
- It is used to recharge parts subjected to: medium to strong abrasion, light to medium mechanical shocks, light to medium thermal shocks, severe erosion and corrosion, cavitation, high temperatures up to 800°C, metal friction, compression.
- Widely used to rebuild the profile of paper, cardboard, wood and plastic cutting tools, grinding knife refills, mixer blades and knives, sliding guides, hot cutting blades, etc.

ALUMINUM ALLOYS

xARC AL SI5 **AWS/ASME SFA-5.3:** E 4043 | **DIN 1732:** EL Al Si5

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si = 5.2 Cu = 0.20 Al = 93.8 Fe = 0.8	>120 R_m (N/mm^2) >40 $R_{p0.2}$ (N/mm^2) >8 A_5 (%)	=+		2.50 x 350	-	CS113651
				3.25 x 350	-	CS113652

APPLICATIONS

- Electrode for welding aluminium and its alloys.

xARC AL SI12 **AWS/ASME SFA-5.3:** E 4047 | **DIN 1732:** EL Al Si12

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si = 11.8 Fe = 0.8	-	=+	PA	2.50 x 350	50-80	CS113653
				3.25 x 350	70-120	CS113654

APPLICATIONS

- Electrode with a special coating and an aluminium core with 12% Si (ER 4047).
- It is used for welding pure aluminium and alloys AlSi - AlMg - AlMgSi - AlCu.
- Suitable for repairing aluminium parts in all areas and especially aluminium alloys with aluminium alloys with a silicon content of more than 7%.
- It is recommended, especially for large thicknesses (> 10 mm), preheating the base material to around 150 - 250°C is recommended.

CUT AND BEVEL

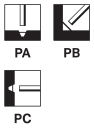
xARC CUT

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
-	-	=- ~	PA PB PC	2.50 x 350	-	CS113655
				3.25 x 350	150-250	CS113656
				4.00 x 450	200-300	CS113657
				5.00 x 450	250-400	CS113658

APPLICATIONS

- Electrode for cutting and drilling all types of metals: alloyed and non-alloyed steels, non-ferrous metals, cast iron and cast steels.
- Used for removing defects in castings. Excellent for removing rivets, dismantling work on building sites, cutting unwanted metal in foundries.
- A slight reciprocating motion will help push the molten metal out of the cut.

xARC GOUGE

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
-	-	=- ~		2.50 x 350	-	CS113659
				3.25 x 350	200-300	CS113660
				4.00 x 450	250-350	CS113661
				5.00 x 450	350-450	CS113662

APPLICATIONS

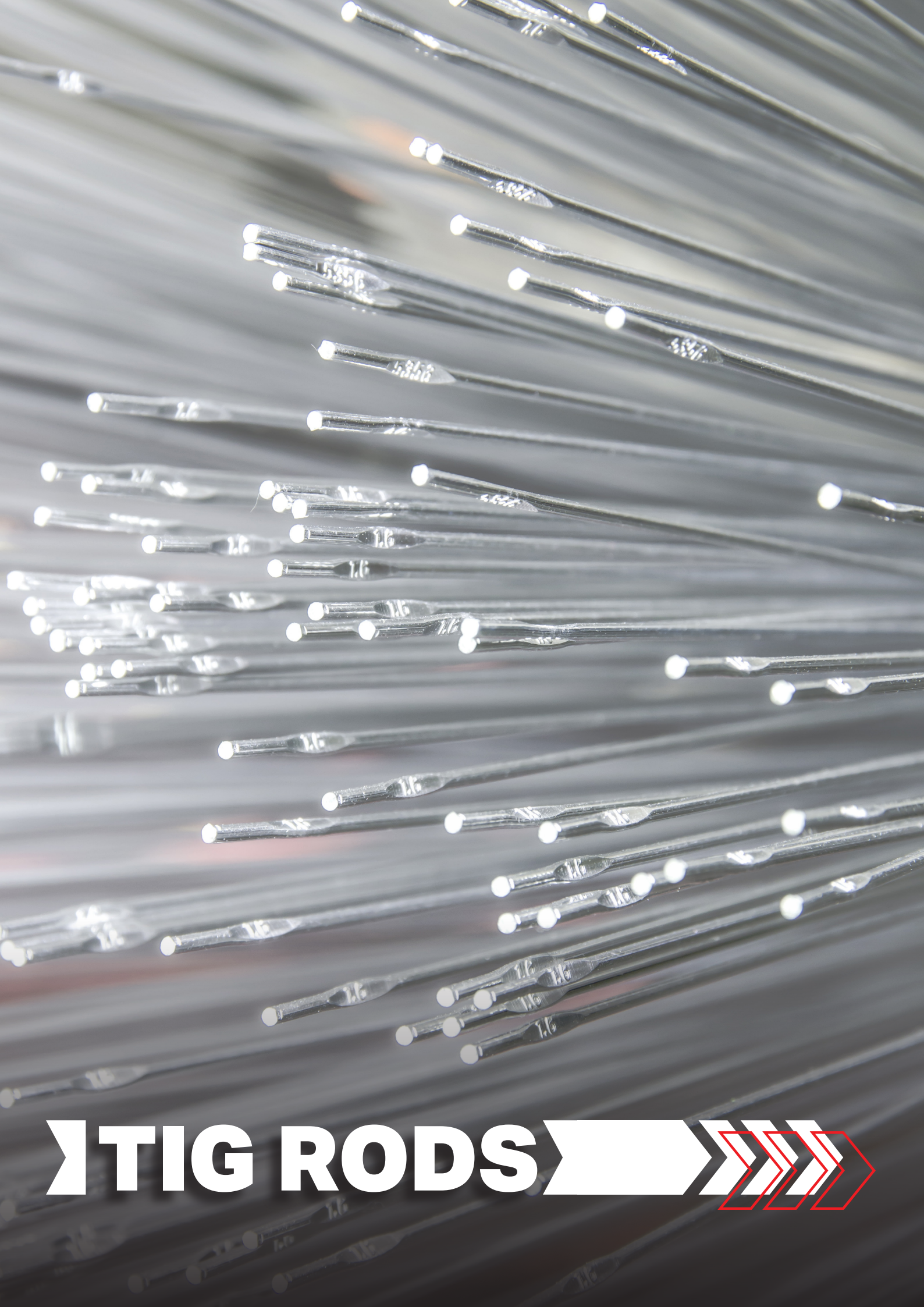
- Special covered electrode for gouging or chamfering all metal materials, including mild steels, low alloy steels, stainless steels, cast iron, copper, bronze and aluminium.
- The super-powerful gouge strikes easily and generates high gas pressure, allowing for a clean gouge.
- Used for removing defects in castings or risers and gates, gouging defective welds, back gouging roots and removing rivets.
- The electrode should be placed on the base material as horizontally as possible.
- The working speed is increased by slight pushing movements in the working direction.

xARC CARBON

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
-	-	=+- ~		4.00 x 305	-	CS113663
				5.00 x 305	-	CS113664
				6.40 x 305	-	CS113665
				8.00 x 305	-	CS113666
				9.50 x 305	-	CS113667
				12.70 x 305	-	CS113668
				12.70 x 430	-	CS114107

APPLICATIONS

- Low conductivity copper-coated carbon electrode suitable for cutting, chamfering and cleaning defective welds on steel, cast iron and non-ferrous metals.
- The depth of the metal to be cut into the workpiece must not exceed the diameter of the electrode.
- In DC (-) it provides greater metal removal speed, and to be used in AC the power supply must have a minimum no-load voltage of 70V.



TIG RODS

LOW AND MEDIUM CARBON STEELS

DESIGNATION	CLASSIFICATION	PAG.
xARC S3	AWS/ASME SFA-5.18: ER 70 S-3 | EN ISO 14341-A: G2 Si | EN ISO 636-A: W2 Si | EN 440: G2 Si	48
xARC SG2	AWS/ASME SFA-5.18: ER 70 S-6 | EN ISO 14341-A: G 42 4 M21 3Si1	48
xARC SG3	AWS/ASME SFA-5.18: ER 70 S-6 | EN ISO 14341-A: G 46 5 M21 4Si1	49

STEEL RESISTANT TO ATMOSPHERIC CONDITIONS

DESIGNATION	CLASSIFICATION	PAG.
xARC 80 NI1	AWS/ASME SFA-5.28: ER 80 S-Ni1 | EN ISO 14341-A: G3 Ni1| EN ISO 636-A: W3 Ni	49
xARC 80 NI2	AWS/ASME SFA-5.28: ER 80 S-Ni2 | EN ISO 14341-A: G2 Ni2 | EN ISO 636-A: W3 Ni2	50

TEMPERATURE RESISTANT STEELS

DESIGNATION	CLASSIFICATION	PAG.
xARC MO	AWS/ASME SFA-5.28: ER 70 S-A1 | EN ISO 14341-A: G2 Mo | EN ISO 636-A: W2 Mo | EN 440: G2 Mo	50
xARC 80 D2	AWS/ASME SFA-5.28: ER 80 S-D2 | EN ISO 14341-A: G4 Mo | EN 440: G4 Mo | MAT. Nº 1.5428	51
xARC 80 SG	AWS/ASME SFA-5.28: ER 80 S-G | EN 12070: Cr Mo1 Si | DIN 8575: SG Cr Mo1 | MAT. Nº 1.7339	51
xARC 80 B2	AWS/ASME SFA-5.28: ER 80 S-B2 | EN ISO 21952-B: 1CM	52
xARC 80 B6	AWS/ASME SFA-5.28: ER 80 S-B6 | EN 12070: Cr Mo5 Si | EN ISO 21952-A: Cr Mo5 Si	52
xARC 90 SG	AWS/ASME SFA-5.28: ER 90 S-G | EN 12070: Cr Mo2 Si | EN ISO 21952-A: Cr Mo2 Si	53
xARC 90 B3	AWS/ASME SFA-5.28: ER 90 S-B3 | EN ISO 21952-B: 2C1M	53
xARC 90 B9	AWS/ASME SFA-5.28: ER 90 S-B9 | EN 12070: Cr Mo9 1 | EN ISO 21952-A: Cr Mo9 1	54

STAINLESS STEEL

DESIGNATION	CLASSIFICATION	PAG.
xARC 308L SI	AWS/ASME SFA-5.9: ER 308L Si | EN 12072: W 19 9 L Si	54
xARC 308L SI PREMIUM	AWS/ASME SFA-5.9: ER 308L Si | EN ISO 14343-A: 19 9 L Si	55
xARC FLUX 308L	AWS/ASME SFA-5.22: R 308L T1-5	55
xARC 316L SI	AWS/ASME SFA-5.9: ER 316L Si | EN 12072: W 19 12 3 LSi	56
xARC 316L SI PREMIUM	AWS/ASME SFA-5.9: ER 316L Si | EN ISO 14343-A: 19 12 3 LSi	56
xARC FLUX 316L	AWS/ASME SFA-5.22: R 316L T1-5	57
xARC 316L	AWS/ASME SFA-5.9: ER 316L | EN 12072: W 19 12 3 L	57
xARC 310	AWS/ASME SFA-5.9: ER 310 | EN 12072: W 25 20	58
xARC 317L	AWS/ASME SFA-5.9: ER 317L | EN 12072: W 19 15 3 L	58
xARC 318	AWS/ASME SFA-5.9: ER 318 | EN ISO 14343-A: W 19 12 3 Nb	59
xARC 347	AWS/ASME SFA-5.9: ER 347 | EN ISO 14343-A: W 19 9 Nb	59
xARC 385	AWS/ASME SFA-5.9: ER 385 | EN 14343-A: W 20 25 5 Cu L	60

DESIGNATION	CLASSIFICATION	PAG.
xARC 410	AWS/ASME SFA-5.9: ER 410 | EN ISO 14343- A: G 13	60
xARC 430	AWS/ASME SFA-5.9: ER 430 | EN ISO 14343- A: G 17	61
xARC DUPLEX	AWS/ASME SFA-5.9: ER 2209 | EN 14343 - A: W 22 9 3 N L	61
xARC SUPER DUPLEX	AWS/ASME SFA-5.9: ER 2594 | EN 14343 - A: W 25 9 4 N L	62

SPECIAL APPLICATIONS

DESIGNATION	CLASSIFICATION	PAG.
xARC 307 SI	AWS/ASME SFA-5.9: ER 307 Si | EN ISO 14343-A: W 18 8 Mn	63
xARC 309L SI	AWS/ASME SFA-5.9: ER 309L Si | EN 12072: W 23 12 LSi	63
xARC FLUX 309L	AWS/ASME SFA-5.22: R 309L T1-5	64
xARC 309L MO	AWS/ASME SFA-5.9: ER 309L Mo | EN 12070: W 23 12 2 L	64
xARC 312	AWS/ASME SFA-5.9: ER 312 | EN 12072: W 29 9	65

NICKEL BASED STEELS

DESIGNATION	CLASSIFICATION	PAG.
xARC NICR 3	AWS/ASME SFA-5.14: ER NiCr-3 | EN ISO 18274: W Ni 6082 (NiCr20Mn3Nb)	65
xARC NICRMO 3	AWS/ASME SFA-5.14: ER NiCrMo-3 | EN 18274: S Ni 6625 (NiCr22Mo9Nb)	66
xARC NICRMO 10	AWS/ASME SFA-5.14: ER NiCrMo-10 | EN ISO 18274: S Ni 6022 (NiCr21Mo13Fe4W3)	66
xARC NICU 7	AWS/ASME SFA-5.14: ER NiCu-7 | EN ISO 18274: S Ni 4060 | MAT. Nº 2.4377	67

CAST IRON

DESIGNATION	CLASSIFICATION	PAG.
xARC NI 1	AWS/ASME SFA-5.14: ER Ni 1 | EN ISO 18274: S Ni 2061 | MAT. Nº 2.4155	67

TITANIUM

DESIGNATION	CLASSIFICATION	PAG.
xARC TI 2	AWS/ASME SFA-5.16: ER Ti 2 | EN ISO 24034: S Ti 0120 | MAT. Nº 3.7035	68

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COPPER ALLOYS

DESIGNATION	CLASSIFICATION	PAG.
xARC COBRE	AWS/ASME SFA-5.7: ER Cu | EN ISO 24373: S Cu 1898A-CuSn1MnSi | DIN 1733: W CuSn	68
xARC CUSN 6	AWS/ASME SFA-5.7: ER Cu Sn-A | EN ISO 24373: S Cu 5180A-CuSn6P | DIN 1733: W CuSn6	69
xARC CUSN 12	EN ISO 24373: S Cu 5410 | MAT. Nº 2.1056	69
xARC CUAL 8	AWS/ASME SFA-5.7: ER Cu-Al-A1 | EN ISO 24373: S Cu 6100-CuAl7 | DIN 1733: W CuAl8	70
xARC CUSI 3	AWS/ASME SFA-5.7: ER Cu Si-A | EN ISO 24373: S Cu 6560-CuSi3Mn1 | DIN 1733: W CuSi3	70
xARC CUNI30	AWS/ASME SFA-5.7: ER Cu Ni | EN ISO 24373-A: S Cu 7158 | MAT. Nº 2.0837	71
xARC CUNI 10	EN ISO 24373-A: S Cu 7061 (CuNi10) | MAT. Nº 2.0873	71

HARDFACING

DESIGNATION	CLASSIFICATION	PAG.
xARC DUR 600	EN ISO 14700: S Fe8 | DIN 8555: WSG 6-GZ-60 | MAT. Nº 1.4718	72
xARC DUR 3348	AISI: M7 | MAT. Nº 1.3348	72

ALUMINUM ALLOYS

DESIGNATION	CLASSIFICATION	PAG.
xARC AL SI5	AWS/ASME SFA-5.10: ER 4043 | EN ISO 18273: S Al 4043 (AlSi5)	73
xARC AL SI12	AWS/ASME SFA-5.10: ER 4047A | EN ISO 18273: S Al 4047A (AlSi12(A)	73
xARC AL MG3	AWS/ASME SFA-5.10: ER 5754 | EN ISO 18273: S Al 5754 (AlMg3)	74
xARC AL MG5	AWS/ASME SFA-5.10: ER 5356 | EN ISO 18273: S Al 5356 (AlMg5Cr(A))	74
xARC AL MG4.5 MN	AWS/ASME SFA-5.10: ER 5183 | EN ISO 18273: S Al 5183 (AlMg4.5Mn0.7(A))	75
xARC AL 99.7	AWS/ASME SFA-5.10: ER 1070 | EN ISO 18273: S Al 1070 (Al 99.7)	75
xARC MAGNÉSIO	AWS/ASME SFA-5.19: ~R AZ61 A	76

LOW AND MEDIUM CARBON STEELS

xARC S3 **AWS/ASME SFA-5.18:** ER 70 S-3 | **EN ISO 14341-A:** G2 Si | **EN ISO 636-A:** W2 Si | **EN 440:** G2 Si

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.07 Si = 0.65 Mn = 1.15	530 R_m (N/mm²) 430 $R_{p0.2}$(N/mm²) 24 A_5 (%) +20ºC 16 ISO - V (J)	=-	-	1.6 x 1000	-	CS113669
				2.0 x 1000	-	CS113670
				2.4 x 1000	-	CS113671

APPLICATIONS

- Suitable for welding carbon-manganese and low-alloy steels. Characterised by limited slag production. It can be galvanised afterwards.
- Tanks, containers, vehicle repairs, structural work, domestic appliances, pipework, boilers, applications in the naval sector, petrochemical industry, etc.

BASE MATERIALS

- ASTM A285; A283; A572.
- EN S275ML; P235G1TH; P255NH; P355GH; S420ML; P310GH.

PROTECTIVE GAS

- I1

xARC SG2 **AWS/ASME SFA-5.18:** ER 70 S-6 | **EN ISO 14341-A:** G 42 4 M21 3Si1 | **EN ISO 14341-A:** G 42 3 C1 3Si1

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.08 Si = 0.92 Cr = 0.01 Cu = 0.07 Mn = 1.67 Mo = 0.01 Ni = 0.02 S = 0.008 P = 0.008 V = 0.001	560 R_m (N/mm²) 470 $R_{p0.2}$(N/mm²) 26 A_5 (%) -30ºC 80 ISO - V (J)	=-	-	1.6 x 1000	-	CS113672
				2.0 x 1000	-	CS113673
				2.4 x 1000	-	CS113674
				3.2 x 1000	-	CS113675
				4.0 x 1000	-	CS113676

APPLICATIONS

- Copper-coated carbon steel welding rods with gas protection for fabricating mild steel.
- It provides excellent usability with a stable arc and good bead appearance
- The weld metal has excellent mechanical performance and is less sensitive to pores.
- Used for welding carbon and alloy steel structures with a tensile strength of 500 MPa, and high-speed welding of plates and pipes.

PROTECTIVE GAS

- I1

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xARC SG3 AWS/ASME SFA-5.18: ER 70 S-6 | EN ISO 14341-A: G 46 5 M21 4Si1 | EN ISO 14341-A: G 42 4 C1 4Si1

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.08 Si = 0.92 Cr = 0.01 Cu = 0.07 Mn = 1.67 Mo = 0.01 Ni = 0.02 P = 0.010 S = 0.92 V = 0.001	560 R_m (N/mm²) 470 $R_{p0.2}$ (N/mm²) 26 A_5 (%) -30ºC 80 ISO - V (J)	=-	-	1.6 x 1000	-	CS113677
				2.0 x 1000	-	CS113678
				2.4 x 1000	-	CS113679

APPLICATIONS

- Copper-coated carbon steel welding rods with gas protection for fabricating mild steel.
- It provides excellent usability with a stable arc and good bead appearance. The weld metal has excellent mechanical performance and is less sensitive to pores.
- Used for welding carbon and alloy steel structures with a tensile strength of 500MPa, and high-speed welding of plates and pipes.

PROTECTIVE GAS

- I1

STEEL RESISTANT TO ATMOSPHERIC CONDITIONS

xARC 80 NI1 AWS/ASME SFA-5.28: ER 80 S-Ni1 | EN ISO 14341-A: G3 Ni1| EN ISO 636-A: W3 Ni

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.09 Si = 0.70 Cr ≤ 0.15 Cu ≤ 0.25 Mn = 1.20 Mo ≤ 0.15 Ni = 1.00	600 R_m (N/mm²) 480 $R_{p0.2}$ (N/mm²) 26 A_5 (%) +20ºC 185 ISO - V (J)	=-	-	1.6 x 1000	-	CS113680
				2.0 x 1000	-	CS113681
				2.4 x 1000	-	CS113682

APPLICATIONS

- Fine-grained low-alloy steels and also austempered steels for applications from -30°C to +350°C.
- Used in the construction of cranes, transport, tanks, industrial installations, equipment in general, pipelines, shipbuilding, etc.

BASE MATERIALS

- A106; A515; A714; A131; A369; A210;L290;P235 T1/T2; P275 T1; L360; L415; P275T2; P355N; API X-42; X46; X62; X60; P235GH; P355GH; A283; A285; A414; A372; A662; S275; S420; A516; A255; A333; A350; A350; A612.

PROTECTIVE GAS

- I1

xARC 80 NI2 **AWS/ASME SFA-5.28:** ER 80 S-Ni2 | **EN ISO 14341-A:** G2 Ni2 | **EN ISO 636-A:** W3 Ni2

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.08 Si = 0.50 Cu ≤ 0.25 Mn = 1.10 Ni = 2.50	630 R_m (N/mm²) 530 $R_{p0.2}$ (N/mm²) 26 A_5 (%) +20°C 230 ISO - V (J)	=-	-	1.6 x 1000	-	CS113683
				2.0 x 1000	-	CS113684
				2.4 x 1000	-	CS113685

APPLICATIONS

- Applications down to -60°C (-76°F), in mild steels, light alloy steels and fine grain steels.
- Plates, storage tanks, pipework and equipment for cryogenic use.

BASE MATERIALS

- S235NL2; 14Ni6; 12Ni14; X12Ni5; S255N; S380N; S255NL; S380NL; S 255NL1; S380NL1; A333:Gr.1-3; A442:Gr.55-60; A334:Gr.3; 10Ni14; 13MnNi63; TTSt E355; TTSt E 460; HY 80; TT SE 35 N.

PROTECTIVE GAS

- I1

TEMPERATURE RESISTANT STEELS

xARC MO **AWS/ASME SFA-5.28:** ER 70 S-A1 | **EN ISO 14341-A:** G2 Mo | **EN ISO 636-A:** W2 Mo | **EN 440:** G2 Mo

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.09 Si = 0.60 Cr ≤ 0.15 Cu ≤ 0.25 Mn = 1.20 Mo ≤ 0.15 Ni ≤ 0.15	610 R_m (N/mm²) 520 $R_{p0.2}$ (N/mm²) 25 A_5 (%) +20°C 150 ISO - V (J)	=-	-	1.6 x 1000	-	CS113686
				2.0 x 1000	-	CS113687
				2.4 x 1000	-	CS113688
				3.2 x 1000	-	CS113689

APPLICATIONS

- Structural steels resistant to heat and creep in hot work. Pipes, steam boilers, pressure vessels, gas pipelines, shipbuilding, chemicals, petrochemicals, equipment, crane construction.
- V and Nb increase resistance to deformation, corrosion, thermal oxidation and cracking over time. Suitable for thermal power stations, turbine rotors, petrochemical plants.

BASE MATERIALS

- P295GH; P335GH; 16M03; 17M03; 14M06; S275; S355; S420; A210, A285; A335; A369; A516; S275ML; S355M; S420M; S460; 15M03; 10MnMo45; 11MnMo45; GS60; GS22M04; 20MnMoNi5-5; 15NiCuMoNd5S; 17MnMoV64.

PROTECTIVE GAS

- I1

xARC 80 D2 **AWS/ASME SFA-5.28:** ER 80 S-D2 | **EN ISO 14341-A:** G4 Mo | **EN 440:** G4 Mo | **MAT. Nº** 1.5428

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.09 Si = 0.70 Cr ≤ 0.15 Cu ≤ 0.25 Mn = 1.90 Mo ≤ 0.15 Ni ≤ 0.15	670 R_m (N/mm²) 550 $R_{p0.2}$ (N/mm²) 24 A_5 (%) -20ºC 50 ISO - V (J)	=-	-	1.6 x 1000	-	CS113690
				2.0 x 1000	-	CS113691
				2.4 x 1000	-	CS113692

APPLICATIONS

- Creep-resistant steels for hot working in the construction industry. Steam boilers, pressure vessels, gas pipelines, shipbuilding, petrochemical industry, heat exchangers, crane construction, bridges, etc.
- Fine-grained NiCrMo steels for low-temperature applications. Used in the industrial sectors of means of transport and earthmoving. Construction, bridges, cisterns, railway transport, mining industry, shipbuilding, etc.

BASE MATERIALS

- P235G1TH; P255G1TH; P310GH; 16M03; A255; A350; A612: A210; A333; A316; A369; A106.

PROTECTIVE GAS

- I1

xARC 80 SG **AWS/ASME SFA-5.28:** ER 80 S-G | **EN 12070:** Cr Mo1 Si | **DIN 8575:** SG Cr Mo1 | **MAT. Nº** 1.7339

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.09 Si = 0.65 Cr = 1.15 Cu ≤ 0.25 Mn = 1.05 Mo = 0.50	630 R_m (N/mm²) 520 $R_{p0.2}$ (N/mm²) 23 A_5 (%) +20ºC 110 ISO - V (J)	=-	-	1.6 x 1000	-	CS113693
				2.0 x 1000	-	CS113694
				2.4 x 1000	-	CS113695

APPLICATIONS

- For heat-resistant steels. Provides good resistance to attack by hydrogen and sulphur agents.
- Used in steam boilers, pressure tanks, pipework, cranes, earthmoving machinery, presses, the chemical and petrochemical industry.

BASE MATERIALS

- 13CrMo4-5; 15CrMo5;16CrMoV4; 22M04; G17CrMo5-5; G22CrMo5- 4; A193 Gr.B7; A335 P11-P12; A193:B7; 13CrMo4-5; 15CrMo3; 13CrMo44; 15CrMo3; 13CrMo4 2; GS-25CrMo 4; GS-17 CrMo55; GS17CrMo55; GS22CrMo4; H IV; 15CrMo3; 13CrMoV42; 13CrMo44; St44KL;

PROTECTIVE GAS

- I1

xARC 80 B2 **AWS/ASME SFA-5.28:** ER 80 S-B2 | **EN ISO 21952-B:** 1CM

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.08 Si = 0.55 Cr = 1.30 Cu ≤ 0.25 Mn = 0.60 Mo = 0.50 Ni ≤ 0.20	620 R_m (N/mm²) 510 $R_{p0.2}$ (N/mm²) 24 A_5 (%) +20ºC 120 ISO - V (J)	=-	-	1.6 x 1000	-	CS113696
				2.0 x 1000	-	CS113697
				2.4 x 1000	-	CS113698

APPLICATIONS

- For Cr-Mo steels resistant to heat and cracking.
- Boilers, material handling machines, pipework. Chemical and petrochemical industry, especially when dealing with sulphur products.

BASE MATERIALS

- 13 CrMo4-5(1.7335); G17CrMo55; A387:2,11,12; A199:T11; A200:T11; A213:T11,T12; GS- 25CrMo 4 (1.7128) GS 18CrMo910(1.7379); 10CrMo910(1.7380); 10CrSi-MoV7(1.8075); 10CrV63; 12CrNiMo8.

PROTECTIVE GAS

- I1

xARC 80 B6 **AWS/ASME SFA-5.28:** ER 80 S-B6 | **EN 12070:** Cr Mo5 Si | **EN ISO 21952-A:** Cr Mo5 Si

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.07 Si = 0.45 Cr = 5.70 Cu ≤ 0.25 Mn = 0.60 Mo = 0.60 Ni ≤ 0.20	660 R_m (N/mm²) 560 $R_{p0.2}$ (N/mm²) 22 A_5 (%) +20ºC 180 ISO - V (J)	=-	-	1.6 x 1000	-	CS113699
				2.0 x 1000	-	CS113700
				2.4 x 1000	-	CS113701

APPLICATIONS

- Cr-Mo alloy steels resistant to oxidation, heat, corrosion and wear.
- Steam boiler sectors, pressure vessels, thermoelectric, chemical and petrochemical plants, oil cracking plants and also slide rails, excavators, moulds, etc.

BASE MATERIALS

- X12CrMo5(1.7362); GX12CrMo5(1.7363); A213; A217:C5; A335:P5; GS 12CrMo19 5 (1.7363)

PROTECTIVE GAS

- I1

xARC 90 SG **AWS/ASME SFA-5.28:** ER 90 S-G | **EN 12070:** Cr Mo2 Si | **EN ISO 21952-A:** Cr Mo2 Si

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.07 Si = 0.60 Cr = 2.50 Cu ≤ 0.25 Mn = 1.00 Mo = 1.00	650 R_m (N/mm²) 550 $R_{p0.2}$ (N/mm²) 22 A_5 (%) +20ºC 150 ISO - V (J)	=-	-	1.6 x 1000	-	CS113702
				2.0 x 1000	-	CS113703
				2.4 x 1000	-	CS113704

APPLICATIONS

- Cr-Mo alloy steels, resistant to high temperatures, wear, impact and corrosion.
- Boiler tubes, steam boilers, pressure vessels.

BASE MATERIALS

- 10CrMo9-10;(1.7380); 10CrSiMoV7(1.8075); G17CrMo9-10(1.7379); A335:P 22; GS 10CrSiMoV7; 12CrSiMo8; GS17CrMoV5 11.

PROTECTIVE GAS

- I1

xARC 90 B3 **AWS/ASME SFA-5.28:** ER 90 S-B3 | **EN ISO 21952-B:** 2C1M

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.08 Si = 0.50 Cr = 2.40 Cu ≤ 0.25 Mn = 0.60 Mo = 1.00 Ni ≤ 0.20	640 R_m (N/mm²) 540 $R_{p0.2}$ (N/mm²) 22 A_5 (%) +20ºC 150 ISO - V (J)	=-	-	1.6 x 1000	-	CS113705
				2.0 x 1000	-	CS113706
				2.4 x 1000	-	CS113707

APPLICATIONS

- Cr-Mo alloy steels resistant to high temperatures, corrosion and attack by sulphur agents.
- Boilers, pipework, steam boilers, pressure vessels, oil industry, thermoelectric industry, chemical and petrochemical industry.

BASE MATERIALS

- 10CrMo9-10(1.7380); GS 17CrMoV5 11; 10CrSiMoV7;12CrSiMo8; GS12CrMo9 10; 10CrSiMoV7; 10Cr V63; 12CrSiMo8.

PROTECTIVE GAS

- I1

xARC 90 B9 **AWS/ASME SFA-5.28:** ER 90 S-B9 | **EN 12070:** Cr Mo9 1 | **EN ISO 21952-A:** Cr Mo9 1

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.09 Si = 0.30 Cr = 9.10 Cu ≤ 0.20 Mn = 0.50 Mo = 0.90 Ni = 0.50 V = 0.20	780 R_m (N/mm²) 690 $R_{p0.2}$ (N/mm²) 21 A_5 (%) +20ºC 150 ISO - V (J)	=-	-	1.6 x 1000	-	CS113708
				2.0 x 1000	-	CS113709
				2.4 x 1000	-	CS113710

APPLICATIONS

- The addition of V and Nb increases resistance to deformation, corrosion and thermal oxidation.
- Excellent resistance to creep and hydrogen.
- Suitable for thermoelectric power stations, turbine rotors, petrochemical plants.

BASE MATERIALS

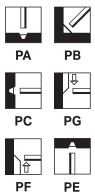
- X10CrMoVNb9-1(1.4903); X12CrMo9- 1(1.7386); A335:P91; A213:T91; A387:91; A182:F91; X 20CrMoV12-1.

PROTECTIVE GAS

- I1

STAINLESS STEEL

xARC 308L SI **AWS/ASME SFA-5.9:** ER 308L Si | **EN 12072:** W 19 9 L Si

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.03 Si = 0.65-2.20 Cr = 19.50-22.00 Cu = 0.75 Mn = 1.50-2.20 Mo = 0.75 Ni = 9.00-22.00 P = 0.03 S = 0.03	≥520 R_m (N/mm²) ≥350 $R_{p0.2}$ (N/mm²) ≥5 A_5 (%) 20ºC ≥47 ISO - V (J)	=-		1.0 x 1000	-	CS113711
				1.2 x 1000	-	CS113712
				1.6 x 1000	-	CS113713
				2.0 x 1000	-	CS113714
				2.4 x 1000	-	CS113715
				3.2 x 1000	-	CS113716

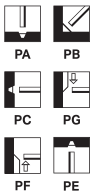
APPLICATIONS

- TIG welding rods made of 20 Cr / 10 Ni stainless steel with a composition similar to ER 308LSi, suitable for welding austenitic stainless steels such as 18 Cr / 8 Ni AISI 304, 304L and 308LSi type steels.
- Excellent corrosion resistance and good mechanical properties. Ferrite control between 5 and 10 per cent. Silicon - an approximate content of 0.85 improves weldability and the appearance of the seam.

PROTECTIVE GAS

- I1

xARC 308L SI PREMIUM **AWS/ASME SFA-5.9:** ER 308L Si | **EN ISO 14343-A:** 19 9 L Si

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.03 Si = 0.65-1.00 Cr = 19.50-21.00 Cu = 0.30 Mn = 1.00-2.50 Mo = 0.30 Ni = 9.00-11.00 P = 0.03 S = 0.02	630 R_m (N/mm²) 465 $R_{p0.2}$ (N/mm²) 35 A_5 (%) 20ºC 261 ISO - V (J)	=-		1.0 x 1000	-	CS115753
				1.2 x 1000	-	CS115754
				1.6 x 1000	-	CS115755
				2.0 x 1000	-	CS115756
				2.4 x 1000	-	CS115757
				3.2 x 1000	-	CS115758

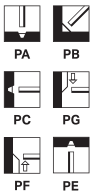
APPLICATIONS

- Austenitic stainless steel TIG rod suitable for welding base metals of similar compositions such as AISI 304 and AISI 304L. Equivalent to 308L, except for the higher Si content.
- This improves the stability of the arc, the fluidity of the base metal and the appearance of the fusion. If dilution by the base metal produces a weld with a low ferrite or totally austenitic content, the weld's sensitivity to cracking is slightly higher than that of a weld metal with a lower Si content.

PROTECTIVE GAS

- I1

xARC FLUX 308L **AWS/ASME SFA-5.22:** R 308L T1-5

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.03 Si = 0.60 Cr = 19.50 Mn = 0.90 Ni = 10.00	620 R_m (N/mm²) 460 $R_{p0.2}$ (N/mm²) 45 A_5 (%) +20ºC 140 ISO - V (J)	=-		2.2 x 1000	80-140	CS113717

APPLICATIONS

- Filler rod with flux core for TIG welding.
- Produces slag to protect the reverse side of the root pass from oxidisation by the atmosphere.
- Saves the cost of subsequent shielding gases.
- Eliminates downtime for gas purging, perfectly suited to welding stainless steel pipes.

PROTECTIVE GAS

- I1

xARC 316L SI **AWS/ASME SFA-5.9:** ER 316L Si | **EN 12072:** W 19 12 3 LSi

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.03 Si = 0.65-1.20 Cr = 18.00-20.00 Cu = 0.25 Mn = 1.50-2.50 Mo = 2.50-3.00 Ni = 11.00-14.00 P = 0.03 S = 0.020	≥520 R_m (N/mm²) ≥350 $R_{p0.2}$ (N/mm²) ≥30 A_5 (%) 20ºC ≥47 ISO - V (J)	=-	PA PB PC	1.0 x 1000	-	CS113718
				1.2 x 1000	-	CS113719
				1.6 x 1000	-	CS113720
				2.0 x 1000	-	CS113721
				2.4 x 1000	-	CS113722
				3.2 x 1000	-	CS113723

APPLICATIONS

- Extra low carbon TIG stainless steel rod 19 Cr/ 12 Ni/ 3 Mo /0.85 Si, suitable for welding or cladding materials with similar compositions.
- The weld metal has excellent creep resistance up to 850ºC. Ferrite control between 5 and 10 per cent.
- The weld metal has excellent properties in terms of resistance to cracking, intergranular corrosion and creep.
- Excellent mechanical properties and excellent appearance of the weld bead.

PROTECTIVE GAS

- I1

xARC 316L SI PREMIUM **AWS/ASME SFA-5.9:** ER 316L Si | **EN ISO 14343-A:** 19 12 3 LSi

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.03 Si = 0.65-1.00 Cr = 18.00-20.00 Cu = 0.03 Mn = 1.00-2.50 Mo = 2.50-3.00 Ni = 11.00-14.00 P = 0.03 S = 0.02	620 R_m (N/mm²) 450 $R_{p0.2}$ (N/mm²) 35 A_5 (%) 20ºC 222 ISO - V (J)	=-	PA PB PC	1.0 x 1000	-	CS115759
				1.2 x 1000	-	CS115760
				1.6 x 1000	-	CS115761
				2.0 x 1000	-	CS115762
				2.4 x 1000	-	CS115763
				3.2 x 1000	-	CS115764

APPLICATIONS

- Austenitic stainless steel TIG rod suitable for welding base metals of similar compositions such as AISI 316 and AISI 316L. Equivalent to 316L, except for the higher Si content.
- This improves the stability of the arc, the fluidity of the base metal and the appearance of the fusion flow. If dilution by the base metal produces a weld with a low ferrite or fully austenitic content, the weld's sensitivity to cracking is slightly higher than that of a weld metal with a lower Si content. It guarantees better corrosion resistance than 308 LSI.

PROTECTIVE GAS

- I1

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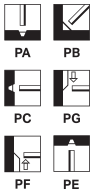
xARC FLUX 316L **AWS/ASME SFA-5.22:** R 316L T1-5

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.03 Si = 0.50 Cr = 18.50 Mn = 0.90 Mo = 2.8 Ni = 12.00	630 R_m (N/mm^2) 510 $R_{p0.2}$ (N/mm^2) 32 A_5 (%) +20ºC 140 ISO - V (J)	=-		2.2 x 1000	80-140	CS113724

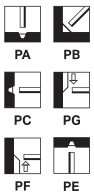
APPLICATIONS

- Filler rod with flux core for TIG welding.
- Produces slag to protect the reverse side of the root pass from oxidisation by the atmosphere.
- Saves the cost of subsequent shielding gases.
- Eliminates downtime for gas purging, perfectly suited to welding stainless steel pipes.

PROTECTIVE GAS

- I1

xARC 316L **AWS/ASME SFA-5.9:** ER 316L | **EN 12072:** W 19 12 3 L

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.03 Si = 0.30-0.65 Cr = 18.00-20.00 Cu = 0.30 Mn = 1.50-2.20 Mo = 2.50-3.00 Ni = 11.00-14.00 P = 0.03 S = 0.02	≥ 350 R_m (N/mm^2) ≥ 520 $R_{p0.2}$ (N/mm^2) ≥ 30 A_5 (%) 20ºC ≥ 47 ISO - V (J)	=-		1.6 x 1000	-	CS113725
				2.0 x 1000	-	CS113726
				2.4 x 1000	-	CS113727

APPLICATIONS

- Extra low carbon stainless steel TIG rod, type 19 Cr/ 12 Ni/ 3 Mo. Suitable for welding or coating surfaces with similar compositions.
- The weld metal has excellent tensile strength up to 850°C. The weld metal has excellent resistance to cracking, intergranular corrosion and creep. Excellent mechanical properties.

PROTECTIVE GAS

- I1

xARC 310 **AWS/ASME SFA-5.9:** ER 310 | **EN 12072:** W 25 20

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.08-0.15 Si = 0.30-0.65 Cr = 25.00-28.00 Cu = 0.75 Mn = 1.50-2.20 Mo = 0.75 Ni = 20.00-22.50 P = 0.03 S = 0.03	≥550 R_m (N/mm²) ≥350 $R_{p0.2}$ (N/mm²) ≥30 A_5 (%) 20ºC ≥47 ISO - V (J)	=-	PA PB PC PG PF PE	1.6 x 1000	-	CS113725
				2.0 x 1000	-	CS113726
				2.4 x 1000	-	CS113727

APPLICATIONS

- Stainless TIG rod conforming to ER 310 with 25% Cr and 20% Ni.
- Suitable for welding steels with similar chemical compositions or dissimilar steels.
- The weld deposit is completely austenitic. Excellent resistance to corrosion at high temperatures.

BASE MATERIALS

- AISI 310; 1.4845 (X8CrNi25-21); 1.4841 (X15CrNiSi25-21); 1.4828 (X15CrNiSi20-12).

PROTECTIVE GAS

- I1

xARC 317L **AWS/ASME SFA-5.9:** ER 317L | **EN 12072:** W 19 15 3 L

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.03 Si = 0.30-0.60 Cr = 18.50-20.50 Cu = 0.25 Mn = 1.50-2.20 Mo = 3.00-4.00 Ni = 13.00-15.00 P = 0.03 S = 0.03	≥550 R_m (N/mm²) ≥350 $R_{p0.2}$ (N/mm²) ≥30 A_5 (%) 20ºC ≥27 ISO - V (J)	=-	PA PB PC PF PE	1.6 x 1000	-	CS113728
				2.0 x 1000	-	CS113729
				2.4 x 1000	-	CS113730

APPLICATIONS

- Suitable for welding or coating materials with similar compositions. The use of xARC 317L is limited to corrosion conditions in the presence of sulphuric and sulphurous acids and their salts.
- Excellent weldability with a spatter-free arc and produces a very smooth bead appearance. The weld metal has excellent resistance properties to cracking, intergranular corrosion and creep.

PROTECTIVE GAS

- I1

xARC 318 AWS/ASME SFA-5.9: ER 318 | EN ISO 14343-A: W 19 12 3 Nb

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.080 Si = 0.30-0.65 Cr = 18.00-20.00 Cu = 0.50 Mn = 1.50-2.50 Mo = 2.00-3.00 Ni = 11.00-14.00 P = 0.03 S = 0.03	≥550 R_m (N/mm²) ≥400 $R_{p0.2}$ (N/mm²) ≥30 A_5 (%) 20ºC ≥65 ISO - V (J)	=-	PA PB PC PF PE	1.6 x 1000	-	CS113731
				2.0 x 1000	-	CS113732
				2.4 x 1000	-	CS113733

APPLICATIONS

- Suitable for use mainly with Argon shielding gas. Mainly used for welding 316Ti and 316Nb stainless steels in a wide range of applications, including the manufacture of pipes, plates and containers.
- The weld metal offers good resistance to crevice corrosion by oxidising acids.

PROTECTIVE GAS

- I1

xARC 347 AWS/ASME SFA-5.9: ER 347 | EN ISO 14343-A: W 19 9 Nb

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.08 Si = 0.30-0.65 Cr = 19.00-21.50 Cu = 0.75 Mn = 1.50-2.20 Mo = 0.75 Ni = 9.00-11.00 Nb = 10XC-1.00 P = 0.03 S = 0.03	≥550 R_m (N/mm²) ≥400 $R_{p0.2}$ (N/mm²) ≥30 A_5 (%) 20ºC ≥65 ISO - V (J)	=-	PA PB PC PG PF PE	1.6 x 1000	-	CS113734
				2.0 x 1000	-	CS113735
				2.4 x 1000	-	CS113736

APPLICATIONS

- Solid TIG welding rod type W 19 9 Nb /ER 347 that deposits a weld metal stabilised with niobium 19Cr 9Ni, suitable for use mainly with Ar shielding gas.
- Used for welding grade 321 and 347 stainless steel in a wide range of applications, including the manufacture of pipes, plates and containers.
- The weld metal has high resistance to corrosive media at operating temperatures <400° C.

BASE MATERIALS

- AISI 347-321
  1.4541 (X6CrNiTi18-10); 1.4301(X4CrNi18-10) ; 1.4550 (X6CrNiNb18-10) ; 1.4541

PROTECTIVE GAS

- I1

xARC 385 **AWS/ASME SFA-5.9:** ER 385 | **EN 14343-A:** W 20 25 5 Cu L

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.025 Si = 0.50 Cr = 19.50-21.50 Cu = 1.20-2.00 Mn = 1.50-2.20 Mo = 4.20-5.20 Ni = 24.00-26.00 P = 0.030 S = 0.020	≥560 R_m (N/mm²) ≥410 $R_{p0.2}$ (N/mm²) ≥35 A_5 (%) 20ºC ≥47 ISO - V (J) -196ºC ≥32 ISO - V (J)	=-	PA PB PC PG PF PE	1.6 x 1000	-	CS113737
				2.0 x 1000	-	CS113738
				2.4 x 1000	-	CS113739

APPLICATIONS

- TIG welding rod suitable for use with Ar shielding gas.
- Used for welding ASTM 316 or similar steels when a ferrite-free weld metal is required.
- Used in cryogenic and non-magnetic applications. Impact resistance at low temperatures is excellent.
- Also used for welding 904L to ASTM 304 and 316.
- It has excellent resistance to general and crevice corrosion, as well as stress corrosion cracking.

PROTECTIVE GAS

- I1

xARC 410 **AWS/ASME SFA-5.9:** ER 410 | **EN ISO 14343- A:** G 13

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.12 Si = 0.50 Cr = 11.50-13.50 Cu = 0.75 Mn = 0.60 Mo = 0.75 Ni = 0.60 P = 0.030 S = 0.030	≥450 R_m (N/mm²) ≥350 $R_{p0.2}$ (N/mm²) ≥20 A_5 (%) 20ºC ≥47 ISO - V (J)	=-	PA PB PC PG PF PE	1.6 x 1000	-	CS113740
				2.0 x 1000	-	CS113741
				2.4 x 1000	-	CS113742

APPLICATIONS

- ER410/G13 type TIG welding rod that deposits a C-13%Cr weld metal.
- Suitable for use with Ar-CO2 shielding gas.
- Mainly used for depositing coatings on carbon steels to resist corrosion, erosion or abrasion.

PROTECTIVE GAS

- I1

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xARC 430 **AWS/ASME SFA-5.9:** ER 430 | **EN ISO 14343- A:** G 17

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.10 Si = 0.50 Cr = 15.50-17.00 Cu = 0.75 Mn = 0.60 Mo = 0.75 Ni = 0.60 P = 0.030 S = 0.030	≥450 R_m (N/mm²) ≥400 $R_{p0.2}$ (N/mm²) ≥15 A_5 (%) 20ºC ≥27 ISO - V (J)	=-	PA PB PC PG PF PE	1.6 x 1000	-	CS113743
				2.0 x 1000	-	CS113744
				2.4 x 1000	-	CS113745

APPLICATIONS

- 16 Cr alloy (% by weight) and the composition is balanced, providing enough chromium to give adequate corrosion resistance for usual applications and yet maintain sufficient ductility in the heat-treated state.

PROTECTIVE GAS

- I1

xARC DUPLEX **AWS/ASME SFA-5.9:** ER 2209 | **EN 14343 - A:** W 22 9 3 N L

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.030 Si = 0.90 Cr = 21.50-23.50 Cu = 0.50 Mn = 0.50-2.00 Mo = 2.50-3.50 Ni = 7.50-9.50 P = 0.03 S = 0.03 N2 = 0.08-0.20	≥690 R_m (N/mm²) ≥480 $R_{p0.2}$ (N/mm²) ≥22 A_5 (%) 20ºC ≥50 ISO - V (J)	=-	PA PB PC PG PF PE	1.6 x 1000	-	CS113746
				2.0 x 1000	-	CS113747
				2.4 x 1000	-	CS113748

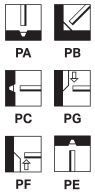
APPLICATIONS

- Suitable for use mainly with Ar shielding gas.
- The rod is used for welding duplex stainless steels in a variety of applications, including pipe and sheet fabrication.
- The weld metal offers high resistance to cracking and stress corrosion, especially in media with a high chloride content.

PROTECTIVE GAS

- I1

xARC SUPER DUPLEX **AWS/ASME SFA-5.9:** ER 2594 | **EN 14343 - A:** W 25 9 4 N L

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.030 Si = 1.00 Cr = 24.00-27.00 Cu = 1.50 Mn = 0.50-2.50 Mo = 2.50-4.50 Ni = 8.00-10.50 P = 0.03 S = 0.02 W = 1.00 N2 = 0.20-0.30	≥800 R_m (N/mm²) ≥550 $R_{p0.2}$ (N/mm²) ≥25 A_5 (%) 20ºC ≥80 ISO - V (J)	=-		1.6 x 1000	-	CS113749
				2.0 x 1000	-	CS113750
				2.4 x 1000	-	CS113751

APPLICATIONS

- TIG welding rod type W 25 9 4 N L that deposits a C-25Cr 10Ni 4Mo weld metal suitable for use mainly with Ar shielding gas.
- Used for welding super-duplex stainless steels.
- Used mainly in offshore applications, the paper industry, the oil industry and the production of artificial fertiliser.
- Used for root pass welding of standard 22%Cr duplex steels for critical applications, and for welding low carbon 13%Cr super martensitic steels.
- The rod has very good resistance to general corrosion, the weld metal has high corrosion resistance combined with good resistance to crevice corrosion and stress corrosion cracking.

PROTECTIVE GAS

- I1

SPECIAL APPLICATIONS

xARC 307 Si **AWS/ASME SFA-5.9:** ER 307 Si | **EN ISO 14343-A:** W 18 8 Mn

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.020 Si = 1.20 Cr = 17.00-20.00 Cu = 0.30 Mn = 5.00-8.00 Mo = 0.30 Ni = 7.00-10.00 P = 0.03 S = 0.03	≥590 R_m (N/mm²) ≥420 $R_{p0.2}$ (N/mm²) ≥40 A_5 (%) 20ºC ≥100 ISO - V (J)	=-	PA PB PC PF PE	1.6 x 1000	-	CS113752
				2.0 x 1000	-	CS113753
				2.4 x 1000	-	CS113754

APPLICATIONS

- Austenitic stainless steel with added manganese and silicon, used mainly for bonding and cladding applications for work-resistant steels, armour plates, heat-resistant steels and dissimilar steels, such as austenitic manganese steels, for carbon steel forgings and castings.
- The welding deposits are porosity-free, crack-resistant and corrosion-resistant.

PROTECTIVE GAS

- I1

xARC 309L Si **AWS/ASME SFA-5.9:** ER 309L Si | **EN 12072:** W 23 12 LSi

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.03 Si = 0.65-1.00 Cr = 23.00-25.00 Cu = 0.75 Mn = 1.50-2.20 Mo = 0.75 Ni = 12.00-14.00 P = 0.03 S = 0.03	≥520 R_m (N/mm²) ≥350 $R_{p0.2}$ (N/mm²) ≥30 A_5 (%) 20ºC ≥47 ISO - V (J)	=-	PA PB PC PG PF PE	1.6 x 1000	-	CS113755
				2.0 x 1000	-	CS113756
				2.4 x 1000	-	CS113757

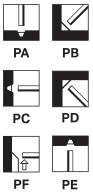
APPLICATIONS

- Stainless TIG rod for welding austenitic stainless steels such as AISI 309LSi. It is also used for welding dissimilar steels and for cushion and buttery layers of 18 Cr/8 Ni steels.
- Excellent resistance to oxidation and corrosion in continuous service up to 1100ºC. The ferrite content is approximately 15%. The Si content of approximately 0.85% improves weldability and bead appearance.

PROTECTIVE GAS

- I1

xARC FLUX 309L **AWS/ASME SFA-5.22:** R 309L T1-5

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.03 Si = 0.80 Cr = 24.50 Mn = 1.50 Ni = 13.00	580 R_m (N/mm²) 460 $R_{p0.2}$ (N/mm²) 35 A_5 (%) 20ºC 70 ISO - V (J)	=-		2.2 x 1000	80-140	CS113758

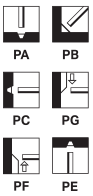
APPLICATIONS

- Filler rod with flux core for TIG welding.
- Produces slag to protect the reverse side of the root pass from oxidisation by the atmosphere.
- Saves the cost of subsequent shielding gases.
- Eliminates downtime for gas purging, perfectly suited to welding stainless steel pipes.

PROTECTIVE GAS

- I1

xARC 309L MO **AWS/ASME SFA-5.9:** ER 309L Mo | **EN 12070:** W 23 12 2 L

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.030 Si = 0.30-0.65 Cr = 23.00-25.00 Cu = 0.50 Mn = 1.00-2.50 Mo = 2.0-3.0 Ni = 12.00-14.00 P ≤ 0.025 S ≤ 0.02	≥550 R_m (N/mm²) ≥350 $R_{p0.2}$ (N/mm²) ≥30 A_5 (%) 20ºC ≥45 ISO - V (J)	=-		1.6 x 1000	-	CS113759
				2.0 x 1000	-	CS113760
				2.4 x 1000	-	CS113761

APPLICATIONS

- Stainless TIG rod with 25% Cr 12% Ni low C and high Mo suitable for welding austenitic stainless steels such as AISI 309.
- Used for welding dissimilar steels and for pad layers prior to coating, when Mo is a necessary alloying element. It is also used for welding stainless steels and medium-strength steels, for intermediate layers in structural steel prior to the deposition of 316L grade stainless steel cladding.

PROTECTIVE GAS

- I1

xARC 312 **AWS/ASME SFA-5.9:** ER 312 | **EN 12072:** W 29 9

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.15 Si = 0.30-0.65 Cr = 28.00-32.00 Cu = 0.75 Mn = 1.50-2.20 Mo = 0.75 Ni = 8.00-10.50 P = 0.03 S = 0.03	≥650 R_m (N/mm²) ≥450 $R_{p0.2}$ (N/mm²) ≥22 A_5 (%) 20ºC ≥47 ISO - V (J)	=-	PA PB PC PG PF PE	1.6 x 1000	-	CS113762
				2.0 x 1000	-	CS113763
				2.4 x 1000	-	CS113764

APPLICATIONS

- Stainless TIG rod suitable for welding or coating difficult to weld steels.
- Suitable for welding pad layers.

PROTECTIVE GAS

- I1

NICKEL BASED STEELS

xARC NICR 3 **AWS/ASME SFA-5.14:** ER NiCr-3 **| EN ISO 18274:** W Ni 6082 (NiCr20Mn3Nb)

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.10 Si = 0.50 Cr = 18.00-22.00 Cu = 0.50 Mn = 2.50-3.50 Fe = 3.00 Ni = 67.00 Ti = 0.75 Nb+Ta = 2.00-3.00 P = 0.03 S = 0.015	≥620 R_m (N/mm²) ≥380 $R_{p0.2}$ (N/mm²) ≥35 A_5 (%) 20ºC ≥100 ISO - V (J)	=-	PA PB PC PG PF PE	1.6 x 1000	-	CS113765
				2.0 x 1000	-	CS113766
				2.4 x 1000	-	CS113767

APPLICATIONS

- TIG welding rod suitable for use with inert shielding gases.
- Used for welding Ni-Cr alloys that are highly resistant to creep, heat and corrosion, where good toughness and ductility properties are required after post-weld heat treatment or prolonged operation at high temperatures.

PROTECTIVE GAS

- I1

xARC NICRMO 3 **AWS/ASME SFA-5.14:** ER NiCrMo-3 | **EN 18274:** S Ni 6625 (NiCr22Mo9Nb)

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.10 Si = 0.50 Cr = 20.00-23.00 Cu = 0.50 Al = 0.40 Mn = 0.50 Mo = 8.00-10.00 Fe = 5.00 Ni = 58.00 Ti = 0.40 Nb+Ta = 3.15-4.15 P = 0.020 S = 0.015	≥720 R_m (N/mm²) ≥460 $R_{p0.2}$ (N/mm²) ≥30 A_5 (%) 20ºC ≥120 ISO - V (J) -196ºC ≥40 ISO - V (J)	=-	PA PB PC PG PF PE	1.6 x 1000	-	CS113768
				2.0 x 1000	-	CS113769
				2.4 x 1000	-	CS113770

APPLICATIONS

- TIG welding rods type S Ni 6625 / ER NiCrMo-3, suitable for use with inert shielding gases.
- Used for welding highly corrosion-resistant Cr-Mo-Nickel base alloys. Also suitable for corrosion-resistant steels with molybdenum alloys.

PROTECTIVE GAS

- I1

xARC NICRMO 10 **AWS/ASME SFA-5.14:** ER NiCrMo-10 | **EN ISO 18274:** S Ni 6022 (NiCr21Mo13Fe4W3)

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.004 Cr = 21,2 Mn = 0.30 Mo = 13.60 Fe = 2.20 W = 3.0	~690 R_m (N/mm²) 40 A_5 (%)	=-	PA PB PC PF PE	1.6 x 1000	-	CS114858
				2.0 x 1000	-	CS113772
				2.4 x 1000	-	CS113773

APPLICATIONS

- Welding wires used for joining nickel-chromium-molybdenum alloys such as alloys 22 and 625, alloy 25-6MO and alloy 825.
- Joining dissimilar metal welding products, such as Inconel types, with carbon, low alloy and stainless steels.

PROTECTIVE GAS

- I1

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xARC NICU 7 **AWS/ASME SFA-5.14:** ER NiCu-7 | **EN ISO 18274:** S Ni 4060 | **MAT. Nº** 2.4377

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.15 Si = 1.2 Cu = 28.0-32.0 Mn = 4.0 Fe = 2.5 Ti = 1.5-3.0	>480 R_m (N/mm²) >180 $R_{p0.2}$ (N/mm²) ≥30 A_5 (%)	=-	PA PB PC PF PE	1.6 x 1000	-	CS113774
				2.0 x 1000	-	CS113775
				2.4 x 1000	-	CS113776

APPLICATIONS

- Nickel-copper alloys, e.g. NiCu 30 Fe (2.4360) and their connection to copper alloys and steels (from all-black to red metals), coatings and cushion layers.

PROTECTIVE GAS

- I1

CAST IRON

xARC NI 1 **AWS/ASME SFA-5.14:** ER Ni 1 | **EN ISO 18274:** S Ni 2061 | **MAT. Nº** 2.4155

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.15 Si = 0.7 Mn = 1.0 Fe = 0.2 Ti = 2-3.5	>380 R_m (N/mm²) >200 $R_{p0.2}$ (N/mm²) >30 A_5 (%)	=-	PA PB PC PF PE	1.6 x 1000	-	CS113777
				2.0 x 1000	-	CS113778
				2.4 x 1000	-	CS113779

APPLICATIONS

- Nickel, low alloy nickel (semi-finished Ni products/Ni castings), e.g. LC-Ni 99.6 (2.4061), NiMn 5 (2.4116), G-Ni 95 (2.4170), as well as welded joints between these materials and steel, cast steel, copper; coatings and protective layers.

PROTECTIVE GAS

- I1

TIG RODS

TITANIUM

xARC TI 2 **AWS/ASME SFA-5.16:** ER Ti 2 | **EN ISO 24034:** S Ti 0120 | **MAT. Nº** 3.7035

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.08 Fe = 0.25 N = 0.05 O = 0.18 H = 0.013 Ti remaining	500 R_m (N/mm²) 295 $R_{p0.2}$ (N/mm²) 42 A_5 (%)	=-	PA PB	1.6 x 1000	-	CS113780
				2.0 x 1000	-	CS113781
				2.4 x 1000	-	CS113782

APPLICATIONS

- TIG rods for welding titanium alloys.

BASE MATERIALS

- Titan Grade 1, Grade 2, Grade 3, Grade 4.

PROTECTIVE GAS

- I1

COPPER ALLOYS

xARC COBRE **AWS/ASME SFA-5.7:** ER Cu | **EN ISO 24373:** S Cu 1898A-CuSn1MnSi | **DIN 1733:** W CuSn

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si = 0.10-0.40 Sn = 0.50-1.00 Al = 0.01 Mn = 0.10-0.40 Fe < 0.03 Ni < 0.10 P < 0.015 Pb < 0.01 Cu remaining	210-245 R_m (N/mm²) 60-80 HB	=-	-	1.6 x 1000	-	CS113783
				2.0 x 1000	-	CS113784
				2.4 x 1000	-	CS113785

APPLICATIONS

- Copper rods for high-quality welding.
- It can be used with TIG and MIG methods.
- Its excellent fluidity makes it ideal for welding copper. Thanks to the deoxidiser in the welding material, the weld is solid and pore-free.

PROTECTIVE GAS

- I1

xARC CUSN 6 **AWS/ASME SFA-5.7:** ER Cu Sn-A | **EN ISO 24373:** S Cu 5180A-CuSn6P | **DIN 1733:** W CuSn6

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Sn = 4.00-7.00 Zn < 0.10 Al < 0.01 Fe < 0.10 P < 0.01-0.40 Pb < 0.02 Cu remaining	320-360 R_m (N/mm²) ≥25 A_5 (%) 130 HB	=-	-	1.6 x 1000	-	CS113786
				2.0 x 1000	-	CS113787
				2.4 x 1000	-	CS113788

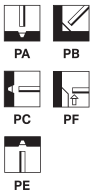
APPLICATIONS

- Suitable for TIG and MIG methods and excellent for fixing in artistic castings.
- Ideal for surfaces, this material improves hardness and can also be used to fix worn surfaces with similar base metals.

PROTECTIVE GAS

- I1

xARC CUSN 12 **EN ISO 24373:** S Cu 5410 | **MAT. Nº** 2.1056

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Sn = 12 Cu = Bal.	350 R_m (N/mm²) 200 $R_{p0.2}$ (N/mm²) 15 A_5 (%) 120 HB	=-		1.6 x 1000	-	CS113789
				2.0 x 1000	-	CS113790
				2.4 x 1000	-	CS113791

APPLICATIONS

- Copper-tin alloys, e.g. bronze with 10-12% Sn, copper-zinc alloys (brass), cast copper-tin-zinc-lead alloys (red bronze: Rg5, Rg7); accumulation welds on cast iron.

PROTECTIVE GAS

- I1

xARC CUAL 8 **AWS/ASME SFA-5.7:** ER Cu-Al-A1 | **EN ISO 24373:** S Cu 6100-CuAl7 | **DIN 1733:** W CuAl8

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si < 0.20 Zn < 0.20 Al = 6.00-8.50 Pb < 0.02 Cu remaining	390-450 R_m (N/mm^2) ≥45 A_5 (%) 80-110 HB	=-	-	1.6 x 1000	-	CS113792
				2.0 x 1000	-	CS113793
				2.4 x 1000	-	CS113794

APPLICATIONS

- Shipbuilding: propellers, pumps, shafts and valves, bearings, main shafts.
- Chemical industry: gate valves, sleeves, pipes, heat exchangers, gearboxes.
- Automotive industry: maintenance of car parts and tools, bearings in general and galvanised sheet metal.
- Construction industry: welding and coating aluminium-bronze with a steel base.
- Recommended for coating wear metals.

PROTECTIVE GAS

- I1

xARC CUSI 3 **AWS/ASME SFA-5.7:** ER Cu Si-A | **EN ISO 24373:** S Cu 6560-CuSi3Mn1 | **DIN 1733:** W CuSi3

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si = 2.80-4.00 Sn < 0.20 Zn < 0.40 Al < 0.02 Mn = 0.50-1.50 Fe < 0.50 P < 0.05 Pb < 0.02 Cu remaining	330-370 R_m (N/mm^2) ≥40 A_5 (%) 80-90 HB	=-	-	1.6 x 1000	-	CS113795
				2.0 x 1000	-	CS113796
				2.4 x 1000	-	CS113797

APPLICATIONS

- This material is often used for fastening in artistic foundries, for welding galvanised sheets and even as a coating for steel using the MIG and TIG methods. It is also suitable for surfaces subject to corrosion.

PROTECTIVE GAS

- I1

xARC CUNI30 **AWS/ASME SFA-5.7:** ER Cu Ni | **EN ISO 24373-A:** S Cu 7158 | **MAT. Nº** 2.0837

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.02 Si = 0.25 Mn = 1.0 Ti = 0.3 Fe = 0.6 Ni = 30 Cu remaining	390 R_m (N/mm²) 240 $R_{p0.2}$ (N/mm²) 30 A_5 (%)	=-	PA PB PC PF PE	1.6 x 1000	-	CS113801
				2.0 x 1000	-	CS113802
				2.4 x 1000	-	CS113803

APPLICATIONS

- The seawater-resistant weld metal allows these rods to be used in shipbuilding, oil refineries, the food industry and generally in the construction of corrosion-resistant appliances and containers.

PROTECTIVE GAS

- I1/I3

xARC CUNI 10 **EN ISO 24373-A:** S Cu 7061 (CuNi10) | **MAT. Nº** 2.0873

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si = 2.80-4.00 Mn = 1.00 Fe = 1.80 Ni = 10.00	300 R_m (N/mm²) 200 $R_{p0.2}$ (N/mm²) 30 A_5 (%)	=-	PA PB PC PF PE	1.6 x 1000	-	CS113801
				2.0 x 1000	-	CS113802
				2.4 x 1000	-	CS113803

APLICAÇÕES

- Fio/haste de CuNi- para a ligação e revestimento de ligas de cobre-níquel.

GÁS DE PROTEÇÃO

- I1

HARDFACING

xARC DUR 600 **EN ISO 14700:** S Fe8 | **DIN 8555:** WSG 6-GZ-60 | **MAT. Nº** 1.4718

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.45 Si =3.00 Cr = 9.30 Mn = 0.40	550-620HB 57-60 HRc	=-	-	1.2 x 1000	-	CS113804
				1.6 x 1000	-	CS113805
				2.0 x 1000	-	CS113806
				2.4 x 1000	-	CS113807

APPLICATIONS

- Anti-wear welding rods for hardfacing.
- Applications for maintenance and repair of guide rollers, screw conveyors, gears, grinders, tools, hammers, etc.

PROTECTIVE GAS

- I1

xARC DUR 3348 **AISI:** M7 | **MAT. Nº** 1.3348

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 1.00 Si =0.40 Cr = 3.80 Mn = 0.30 Mo = 8.60 V = 1.90 W = 1.80	593-685 HB 57-62 HRc	=-	-	1.6 x 1000	-	CS113808
				2.0 x 1000	-	CS113809
				2.4 x 1000	-	CS113810

APPLICATIONS

- Welding rods for hardfacing high-speed tungsten-molybdenum alloy steels with hardness values above 57 HRC.
- Applications for maintenance and repair of gears, cutting tools, gouges, turning chisels, drills, extrusion dies, etc.

PROTECTIVE GAS

- I1

ALUMINUM ALLOYS

xARC AL SI5 **AWS/ASME SFA-5.10:** ER 4043 | **EN ISO 18273:** S Al 4043 (AlSi5)

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si = 4.50-6.00 Zn = 0.10 Cu = 0.30 Mn = 0.05 Mg = 0.05 Ti = 0.20 Be = 0.0003 Fe = 0.80	120 R_m (N/mm^2) 60 $R_{p0.2}$ (N/mm^2) 15 A_5 (%)	~	-	1.6 x 1000	-	CS113811
				2.0 x 1000	-	CS113812
				2.4 x 1000	-	CS113813
				3.2 x 1000	-	CS113814
				4.0 x 1000	-	CS113815

APPLICATIONS

- Components for cars, furniture, carpentry.

PROTECTIVE GAS

- I1/I3

xARC AL SI12 **AWS/ASME SFA-5.10:** ER 4047A | **EN ISO 18273:** S Al 4047A (AlSi12(A))

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si = 11.00-13.00 Zn = 0.20 Cu = 0.30 Mn = 0.15 Mg = 0.10 Ti = 0.15 Be = 0.0003 Fe = 0.60 Al remaining	130 R_m (N/mm^2) 70 $R_{p0.2}$ (N/mm^2) 13 A_5 (%)	~	-	1.6 x 1000	-	CS113816
				2.0 x 1000	-	CS113817
				2.4 x 1000	-	CS113818
				3.2 x 1000	-	CS113819
				4.0 x 1000	-	CS113820

APPLICATIONS

- Automotive industry, refrigeration, heat exchanger, conditioning.

PROTECTIVE GAS

- I1/I3

xARC AL MG3 **AWS/ASME SFA-5.10:** ER 5754 | **EN ISO 18273:** S Al 5754 (AlMg3)

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si = 0.40 Cr = 0.30 Zn = 0.20 Cu = 0.10 Mn = 0.50 Mg = 2.60-3.60 Ti = 0.15 Be = 0.0003 Fe = 0.40 Al remaining	190 R_m (N/mm²) 80 $R_{p0.2}$ (N/mm²) 20 A_5 (%)	~	-	2.0 x 1000	-	CS113821
				2.4 x 1000	-	CS113822

APPLICATIONS

- The construction sector in general, outdoor furniture (gardens, beaches) and the structural industry.

PROTECTIVE GAS

- I1/I3

xARC AL MG5 **AWS/ASME SFA-5.10:** ER 5356 | **EN ISO 18273:** S Al 5356 (AlMg5Cr(A))

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si = 0.25 Cr = 0.05-0.20 Zn = 0.10 Cu = 0.10 Mn = 0.05-0.20 Mg = 4.50-5.50 Ti = 0.06-0.20 Be = 0.0003 Fe = 0.40 Al remaining	250 R_m (N/mm²) 115 $R_{p0.2}$ (N/mm²) 17 A_5 (%)	~	-	1.6 x 1000	-	CS113823
				2.0 x 1000	-	CS113824
				2.4 x 1000	-	CS113825
				3.2 x 1000	-	CS113826
				4.0 x 1000	-	CS113827

APPLICATIONS

- Bicycle and motorbike frames, car body components, loading side panels, fuel tanks, metal furniture, ladders, loading ramps, lifting stirrups, ship's top table.

PROTECTIVE GAS

- I1/I3

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xARC AL MG4.5 MN **AWS/ASME SFA-5.10:** ER 5183 | **EN ISO 18273:** S Al 5183 (AlMg4.5Mn0.7(A))

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si = 0.40 Cr = 0.05-0.25 Zn = 0.25 Cu = 0.10 Mn = 0.50-1.00 Mg = 4.30-5.20 Ti = 0.15 Be = 0.0003 Fe = 0.40 Al remaining	278 R_m (N/mm²) 135 $R_{p0.2}$ (N/mm²) 17 A_5 (%)	~	-	2.0 x 1000	-	CS113828
				2.4 x 1000	-	CS113829

APPLICATIONS

- Shipyards, storage tanks, structural industry, cryogenic applications.

PROTECTIVE GAS

- I1/I3

xARC AL 99.7 **AWS/ASME SFA-5.10:** ER 1070 | **EN ISO 18273:** S Al 1070 (Al 99.7)

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si = 0.20 Zn = 0.04 Cu = 0.04 Al = 99.70 Mn = 0.03 Mg = 0.03 Ti = 0.03 Be = 0.0003 Fe = 0.25 V = 0.05	80 R_m (N/mm²) 35 $R_{p0.2}$ (N/mm²) 30 A_5 (%)	~	-	2.0 x 1000	-	CS113830
				2.4 x 1000	-	CS113831

APPLICATIONS

- Used for GMAW and GTAW welding processes in the chemical, electronics, construction and food industries.
- The 99.7% Al alloy is used for spray metallisation and arc spray metallisation.

PROTECTIVE GAS

- I1/I3

xARC MAGNÉSIO **AWS/ASME SFA-5.19:** ~R AZ61 A

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si = 0.4 Zn = 0.8 Mn = 0.3 Al = 6.5 Mg remaining	280 R_m (N/mm²) 180 $R_{p0.2}$ (N/mm²) 6 A_5 (%)	~	PA PB	2.4 x 1000	-	CS113832
				3.2 x 1000	-	CS113833

APPLICATIONS

- TIG rods for welding magnesium.

BASE MATERIALS

- AZ61A-F; B91.

PROTECTIVE GAS

- I1/I3

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OXY-GAS RODS BRAZING

LOW AND MEDIUM CARBON STEELS

DESIGNATION	CLASSIFICATION	PÁG.
BRAZING xARC R45	AWS/ASME SFA-5.2: R 45 | EN 12536: O I | MAT. Nº 1.0324	80

COPPER ALLOYS

DESIGNATION	CLASSIFICATION	PÁG.
BRAZING xARC P6	DIN 8513: L - Cu P 6	80
BRAZING xARC P7	DIN 8513: L - Cu P 7	81
BRAZING xARC P8	DIN 8513: L - Cu P 8	81
BRAZING xARC LATÃO	AWS/ASME SFA-5.8: CuZn-A | EN ISO 24373: S Cu 4641 | MAT. Nº 2.0366	82
BRAZING xARC LATÃO EC	AWS/ASME SFA-5.8: CuZn-A | EN 14640: CuZn40	82

SILVER ALLOYS

DESIGNATION	CLASSIFICATION	PÁG.
BRASING xARC PRATA 40	ISO 17672 - 2016: Ag 140	83
BRASING xARC PRATA REVESTIDA 40	ISO 17672 - 2016: Ag 140	83

DEOXIDIZING COPPER ALLOY

DESIGNATION	CLASSIFICATION	PÁG.
xARC DESOXIDANTE COBRE/ COBRE-FÓSFORO	-	84
xARC DESOXIDANTE LATÃO	-	84

DEOXIDIZING SILVER ALLOYS

DESIGNATION	CLASSIFICATION	PÁG.
xARC DESOXIDANTE PRATA	-	85

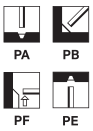
DEOXIDIZING ALUMINUM ALLOYS

DESIGNATION	CLASSIFICATION	PÁG.
xARC DESOXIDANTE ALUMÍNIO	-	85

OXY-GAS RODS / BRAZING

LOW AND MEDIUM CARBON STEELS

BRAZING xARC R45 **AWS/ASME SFA-5.2:** R 45 | **EN 12536:** O I | **MAT. Nº** 1.0324

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.041 Si = 0.014 Cr = 0.022 Cu = 0.15 Mn = 0.45 Mo = 0.001 Ni = 0.006 P = 0.015 S = 0.008 V = 0.001	-	-		1.6 x 1000	-	CS114108
				2.0 x 1000	-	CS114109
				2.4 x 1000	-	CS114110
				3.2 x 1000	-	CS114111

APPLICATIONS

- R45 welding rods are used for oxy-gas welding of steels where the minimum tensile strength of the steel does not exceed 45,000 psi.
- R45 rods have a low carbon steel composition.
- Oxy-gas welding rods do not have covers that influence the usability of the rod. Therefore, the ability to weld in the PF or PE position is essentially a matter of the welder's skill and can be affected to a certain extent by the chemical composition of the rod.

COPPER ALLOYS

BRAZING xARC P6 **DIN 8513:** L - Cu P 6

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
P = 6.00 Cu remaining	25 R_m (N/mm^2) 5 A_5 (%) 8.1 HRc	-	-	2.0 x 500	-	CS114114
				2.4 x 500	-	CS114115
				3.2 x 500	-	CS114116

APPLICATIONS

- Soldering copper, brass and bronze.
- For copper-to-copper applications, no flux is required.
- Construction of appliances, pipework, heaters, etc.

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BRAZING xARC P7 DIN 8513: L - Cu P 7

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
P = 7.00 Cu remaining	25 R_m (N/mm^2) 4 A_5 (%) 8.1 HRc	-	-	2.0 x 500	-	CS114117
				2.4 x 500	-	CS114118
				3.2 x 500	-	CS114119

APPLICATIONS

- Soldering copper, brass and bronze.
- For copper to copper application, no flux is required.
- Construction of appliances, pipework, heaters, etc.

BRAZING xARC P8 DIN 8513: L - Cu P 8

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
P = 7.6 - 8.4 Cu remaining	25 R_m (N/mm^2) 3 A_5 (%) 8.0 HRc	-	-	2.0 x 500	-	CS114120
				2.4 x 500	-	CS114121
				3.2 x 500	-	CS114122

APPLICATIONS

- Soldering copper, brass and bronze.
- For copper-to-copper applications, no flux is required.
- Construction of appliances, pipework, heaters, etc.

BRAZING xARC LATÃO **AWS/ASME SFA-5.8:** CuZn-A | **EN ISO 24373:** S Cu 4641 | **MAT. Nº** 2.0366

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si = 0.4 Sn = 0.4 Zn = 40.00 Cu = 59.00	8.4 HRc	-	-	2.0 x 1000	-	CS114123
				2.4 x 1000	-	CS114124
				3.0 x 1000	-	CS114125
				4.0 x 1000	-	CS114126
				5.0 x 1000	-	CS114127

APPLICATIONS

- Multipurpose brazing alloys, particularly deoxidisers and degassers, with exceptional properties for high-quality brazing in automobile construction, the bicycle and motorbike industry, the construction of accessories and instruments, plumbing, repair shops, etc.
- Suitable for brazing steel, cast iron, malleable cast steel, red bronze, tin bronze and copper, for coating sliding and wear surfaces and for joining brass, bronze, copper and copper alloys.

BRAZING xARC LATÃO EC **AWS/ASME SFA-5.8:** CuZn-A | **EN 14640:** CuZn40

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Sn = 0.52 Cu = 59.5 Al = 0.008 Pb = 0.03 Zn remaining	-	-	-	2.0 x 1000	-	CS114128
				2.4 x 1000	-	CS114129
				3.0 x 1000	-	CS114130
				4.0 x 1000	-	CS114131
				5.0 x 1000	-	CS114132

APPLICATIONS

- A filler metal for copper-zinc brazing that contains small amounts of tin to improve the strength and corrosion resistance of the weld deposit.
- It is a good choice when the high-strength properties of low-smoke bronze are not required.

SILVER ALLOYS

BRASING xARC PRATA 40 **ISO 17672 - 2016:** Ag 140

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Sn = 2 Zn = 28 Cu = 30 Ag = 40	-	-	-	1.5 x 500	-	CS115744
				2.00 x 500	-	CS115136

APPLICATIONS

- Low melting point silver brazing alloy with good flow characteristics.
- It can be used to join ferrous, non-ferrous and dissimilar metals and alloys with tight joint gaps, such as steel, copper, copper alloys, nickel and nickel alloys.
- Typical applications are in the automotive, electrical, air conditioning and refrigeration industries.

BRASING xARC PRATA REVESTIDA 40 **ISO 17672 - 2016:** Ag 140

CHEMICAL COMPOSITION (%)	PROPRIEDADES MECÂNICAS	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Sn = 2 Zn = 28 Cu = 30 Ag = 40	-	-	-	1.5 x 500	-	CS114854
				2.00 x 500	-	CS114853

APPLICATIONS

- Low melting point silver brazing alloy with good flow characteristics.
- It can be used to join ferrous, non-ferrous and dissimilar metals and alloys with tight joint gaps, such as steel, copper, copper alloys, nickel and nickel alloys.
- Typical applications are in the automotive, electrical, air conditioning and refrigeration industries.
- Silver-coated rod, so no stripper is required during the soldering/brazing process.

DEOXIDIZING COPPER ALLOY

xARC DESOXIDANTE COBRE/COBRE-FÓSFORO

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Inorganic fluorides Inorganic Borates	-	-	-	100 GR	-	CS114133
				250 GR	-	CS114134

APPLICATIONS

- Dexosidising flux for brazing.

xARC DESOXIDANTE LATÃO

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Inorganic fluorides Inorganic Borates	-	-	-	250 GR	-	CS114135
				500 GR	-	CS114136

APPLICATIONS

- Dexosidising flux for brazing.

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DEOXIDIZING SILVER ALLOYS

xARC DESOXIDANTE PRATA

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Inorganic fluorides Inorganic Borates	-	-	-	100 GR	-	CS114137
				250 GR	-	CS114138

APPLICATIONS

- Dexosidising flux for brazing.

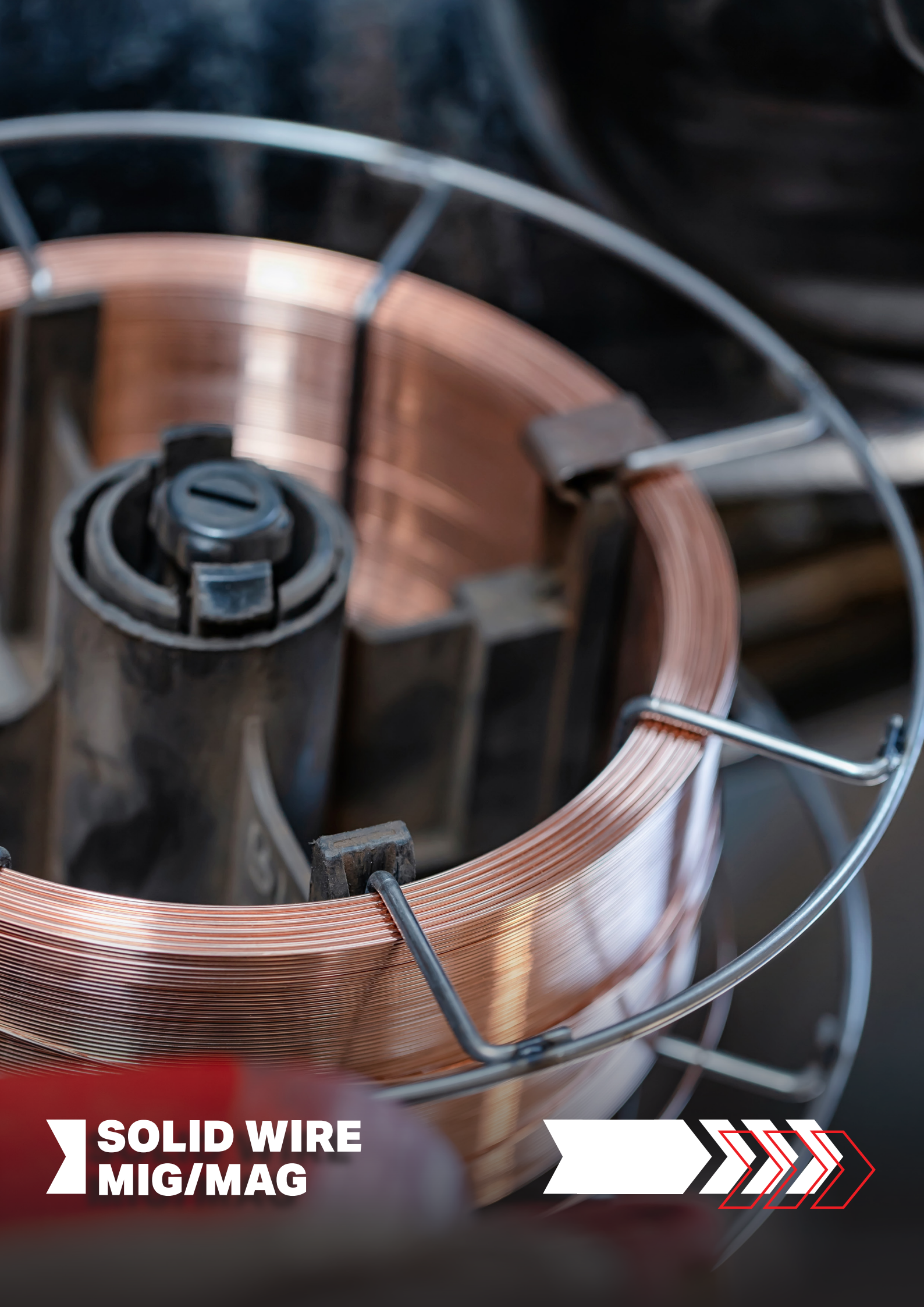
DEOXIDIZING ALUMINUM ALLOYS

xARC DESOXIDANTE ALUMÍNIO

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
-	-	-	-	250 GR	-	CS114139

APPLICATIONS

- Aluminium, aluminium alloys.



SOLID WIRE MIG/MAG

LOW AND MEDIUM CARBON STEELS

DESIGNATION	CLASSIFICATION	PAG.
xARC SG2	AWS/ASME SFA-5.18: ER 70 S-6 | EN ISO 14341-A: G 42 4 M21 3Si1	90
xARC SG2 SC	AWS/ASME SFA-5.18: ER 70 S-6 | EN ISO 14341-A: G 42 4 M21 3Si1 | EN ISO 14341-A: G 42 3 C1 3Si	90
xARC SG2 PREMIUM	AWS/ASME SFA-5.18: ER 70 S-6 | EN ISO 14341-A: G 42 4 C / M21 3Si1	91
xARC SG3	AWS/ASME SFA-5.18: ER 70 S-6 | EN ISO 14341-A: G 46 5 M21 4Si1	91
xARC SG3 SC	AWS/ASME SFA-5.18: ER 70 S-6 | EN ISO 14341-A: G 46 5 M21 4Si1 |EN ISO 14341-A: G 42 4 C1 4Si1	92
xARC SG TI	AWS/ASME SFA-5.18: ER 70 S-2	92

STEEL RESISTANT TO ATMOSPHERIC CONDITIONS

DESIGNATION	CLASSIFICATION	PAG.
xARC CORTEN	AWS/ASME SFA-5.28: ER 80 S-SG | EN ISO 14341-A: G 50 4 M21 Z	93

STEELS WITH HIGH ELASTIC STRENGTH

DESIGNATION	CLASSIFICATION	PAG.
xARC 100 SG	AWS/ASME SFA-5.28: ER 100 S-SG | EN ISO 16834-A: Mn3NiCrMo | EN 12534: Mn3NiCrMo	94
xARC 110 SG	AWS/ASME SFA-5.28: ER 110 S-SG | EN ISO 16834-A: Mn3Ni1CrMo | EN 12534: Mn3Ni1CrMo	94
xARC 120 SG	AWS/ASME SFA-5.28: ER 120 S-SG | EN ISO 16834-A: Mn4Ni2,5CrMo | EN 12534: Mn4Ni2,5CrMo	95

TEMPERATURE RESISTANT STEELS

DESIGNATION	CLASSIFICATION	PAG.
xARC MO	AWS/ASME SFA-5.28: ER 70 S-A1 | EN ISO 14341-A: G2 Mo | EN 440: G2 Mo | M. Nº 1.5424	95
xARC D2	AWS/ASME SFA-5.28: ER 80 S-D2 | EN ISO 14341-A: G 50 4 M21 4Mo	96
xARC 80 SG	AWS/ASME SFA-5.28: ER 80 S-G | EN 12070: Cr Mo1 Si | DIN 8575: SG Cr Mo1	96
xARC 80 B2	AWS/ASME SFA-5.28: ER 80 S-B2 | EN ISO 21952-B: 1CM	97
xARC 90 SG	AWS/ASME SFA-5.28: ER 90 S-G | EN 12070: Cr Mo2 Si | EN ISO 21952-A: Cr Mo2 Si	97
xARC 90 S-B3	AWS/ASME SFA-5.28: ER 90 S-B3 | EN ISO 21952-B: 2C1M	98

STAINLESS STEEL

DESIGNATION	CLASSIFICATION	PAG.
xARC 308L SI	AWS/ASME SFA-5.9: ER 308L Si | EN 12072: G 19 9 L Si	98
xARC 308L SI PREMIUM	AWS/ASME SFA-5.9: ER 308L Si | EN 12072: G 19 9 L Si	99
xARC 316L SI	AWS/ASME SFA-5.9: ER 316L Si | EN 12072: G 19 12 3 LSi	99
xARC 316L SI PREMIUM	AWS/ASME SFA-5.9: ER 316L Si | EN 12072: G 19 12 3 LSi	100
xARC 310	AWS/ASME SFA-5.9: ER 310 | EN ISO 14343- A: G 25 20	100
xARC 347	AWS/ASME SFA-5.9: ER 347 | EN ISO 14343-A: G 19 9 Nb	101
xARC 385	AWS/ASME SFA-5.9: ER 385 | EN 14343-A: G 20 25 5 Cu L	101
xARC 410	AWS/ASME SFA-5.9: ER 410 | EN ISO 14343- A: G 13	102
xARC 420	AWS/ASME SFA-5.9: ER 420	102
xARC DUPLEX	AWS/ASME SFA-5.9: ER 2209 | EN 14343 - A: G 22 9 3 N L	103

SPECIAL APPLICATIONS

DESIGNATION	CLASSIFICATION	PAG.
xARC 307 SI	AWS/ASME SFA-5.9: ER 307 Si | EN ISO 14343-A: G 18 8 Mn	104
xARC 307 SI PREMIUM	AWS/ASME SFA-5.9: ER 307 mod | ISO 14343-A: G/W 18 8 Mn | ISO 14343-B: SS307	104
xARC 309L SI	AWS/ASME SFA-5.9: ER 309L Si | EN ISO 14343-A: G 23 12 L Si	105
xARC 309L MO	AWS/ASME SFA-5.9: ER 309L Mo | EN ISO 14343-A: G 23 12 2 L	105
xARC 312	AWS/ASME SFA-5.9: ER 312 | EN ISO 14343- A: G 29 9	106

NICKEL BASED STEELS

DESIGNATION	CLASSIFICATION	PAG.
xARC NICR 3	AWS/ASME SFA-5.14: ER NiCr-3 | EN ISO 18274: G Ni 6082 (NiCr20Mn3Nb)	107
xARC NICRMO 3	AWS A 5.14: ERNiCrMo-3 | UNS: N06625	107

CAST IRON

DESIGNATION	CLASSIFICATION	PAG.
xARC NIFE	EN ISO 1071: G C NiFe-1	108
xARC NI 1	AWS/ASME SFA-5.14: ER Ni 1 | EN ISO 18274: S Ni 2061 | MAT. Nº 2.4155	108

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COPPER ALLOYS

DESIGNATION	CLASSIFICATION	PAG.
xARC COBRE	AWS/ASME SFA-5.7: ER Cu | EN ISO 24373: S Cu 1898A-CuSn1MnSi | DIN 1733: M CuSn	109
xARC CUSN 6	AWS/ASME SFA-5.7: ER Cu Sn-A | EN ISO 24373: S Cu 5180A-CuSn6P | DIN 1733: M CuSn6	109
xARC CUSN 12	EN ISO 24373: S Cu 5410 | MAT. Nº 2.1056	110
xARC CUAL 8	AWS/ASME SFA-5.7: ER Cu-Al-A1 | EN ISO 24373: S Cu 6100-CuAl7 | DIN 1733: M CuAl8	110
xARC CUSI 3	AWS/ASME SFA-5.7: ER Cu Si-A | EN ISO 24373: S Cu 6560-CuSi3Mn1 | DIN 1733: M CuSi3	111

HARDFACING

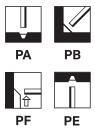
DESIGNATION	CLASSIFICATION	PAG.
xARC DUR 350	DIN 8555: MSG 5-GZ-350 | MAT. Nº 1.7363	112
xARC DUR 600	EN ISO 14700: S Fe8 | DIN 8555: MSG 6-GZ-60 | MAT. Nº 1.4718	112

ALUMINUM ALLOYS

DESIGNATION	CLASSIFICATION	PAG.
xARC AL SI5	AWS/ASME SFA-5.10: ER 4043 | EN ISO 18273: S Al 4043 (AlSi5)	113
xARC AL SI12	AWS/ASME SFA-5.10: ER 4047A | EN ISO 18273: S Al 4047A (AlSi12(A))	113
xARC AL MG3	AWS/ASME SFA-5.10: ER 5754 | EN ISO 18273: S Al 5754 (AlMg3)	114
xARC AL MG5	AWS/ASME SFA-5.10: ER 5356 | EN ISO 18273: S Al 5356 (AlMg5Cr(A))	114
xARC AL MG4.5 MN	AWS/ASME SFA-5.10: ER 5183 | EN ISO 18273: S Al 5183 (AlMg4.5Mn0.7(A))	115
xARC AL 99.7	AWS/ASME SFA-5.10: ER 1070 | EN ISO 18273: S Al 1070 (Al 99.7)	115

LOW AND MEDIUM CARBON STEELS

xARC SG2 **AWS/ASME SFA-5.18:** ER 70 S-6 | **EN ISO 14341-A:** G 42 4 M21 3Si1

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.08 Si = 0.92 Cr = 0.01 Cu = 0.07 Mn = 1.67 Mo = 0.01 Ni = 0.02 P = 0.010 S = 0.008 V = 0.001	560 R_m (N/mm²) 470 $R_{p0.2}$ (N/mm²) 26 A_5 (%) -30ºC 80 ISO - V (J)	=+		0,60	-	CS113837
				0,80	50-140	CS113838
				1,00	80-160	CS113839
				1,20	80-220	CS113840
				1,60	-	CS113841

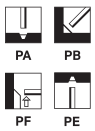
APPLICATIONS

- Copper-coated welding wire with gas protection for the manufacture of mild steel.
- Used for welding carbon and alloy steel structures with a tensile strength of 500MPa, and high-speed welding of plates and pipes.

PROTECTIVE GAS

- M20/M21/C1

xARC SG2 SC **AWS/ASME SFA-5.18:** ER 70 S-6 | **EN ISO 14341-A:** G 42 4 M21 3Si1

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.08 Si = 0.86 Cr = 0.045 Cu = 0.14 Mn = 1.48 Mo = 0.001 Ni = 0.004 P = 0.0102 S = 0.008 V = 0.001	556560 R_m (N/mm²) 440 $R_{p0.2}$ (N/mm²) 29 A_5 (%) -30ºC 79 ISO - V (J)	=+		0,80	50-140	CS115002
				1,00	80-160	CS115003
				1,20	80-220	CS115004

APPLICATIONS

- Environmentally friendly, copper-free carbon steel welding wire for the manufacture of mild steel. It is characterised by less welding fumes due to the special surface treatment without copper coating.

PROTECTIVE GAS

- M20/M21/C1

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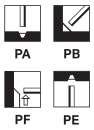
xARC SG2 PREMIUM **AWS/ASME SFA-5.18:** ER 70 S-6 | **EN ISO 14341-A:** G 42 4 C / M21 3Si1

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.08 Si = 0.90 Mn = 1.70	460 R_m (N/mm²) 560-680$R_{p0.2}$ (N/mm²) 22 A_5 (%) -40ºC 47 ISO - V (J)	=+		0,80	50-140	CS115778
				1,00	80-160	CS115779
				1,20	80-220	CS115780

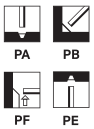
APPLICATIONS

Welding wire is used in the welding of buildings, machinery, ships, tanks, boilers, pipes, thin sheets, steel furniture, metal articles and the automotive industry, in non-alloy, general structural and fine-grained steels. The copper coating, which is homogeneous and made to the required thickness, increases the electrical conductivity and resistance of the wire against corrosion. CO2 (carbon dioxide) or mixed gases (Ar+CO2) can be used as a protective gas, depending on the thickness of the base metal. It can be used at operating temperatures of up to 350'C - 400'C.

PROTECTIVE GAS

- M20/M21/C1

xARC SG3 **AWS/ASME SFA-5.18:** ER 70 S-6 | **EN ISO 14341-A:** G 46 5 M21 4Si1

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0,09 Si = 0.93 Cr = 0.02 Cu = 0.019 Mn = 1.70 Mo = 0.01 Ni = 0.02 P = 0.010 S = 0.008 V = 0.001	569 R_m (N/mm²) 478 $R_{p0.2}$ (N/mm²) 26.5 A_5 (%) -40ºC 84 ISO - V (J)	=+		0,80	50-140	CS113845
				1,00	80-160	CS113846
				1,20	80-220	CS113847

APPLICATIONS

- Wire designed for welding all unalloyed carbon-manganese and low-alloy structural and engineering steels in general.

PROTECTIVE GAS

- M20/M21/C1

xARC SG3 SC **AWS/ASME SFA-5.18:** ER 70 S-6 | **EN ISO 14341-A:** G 46 5 M21 4Si1

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.076 Si = 0.84 Cr = 0.021 Cu = 0.07 Mn = 1.69 Mo = 0.001 Ni = 0.011 P = 0.013 S = 0.009 V = 0.001	568 R_m (N/mm²) 476 $R_{p0.2}$ (N/mm²) 28 A_5 (%) -50ºC 72 ISO - V (J)	=+	PA PB PF PE	0,80	50-140	CS113845
				1,00	80-160	CS113846
				1,20	80-220	CS113847

APPLICATIONS

- An environmentally friendly copper-free carbon steel welding wire for the manufacture of mild steel. It is characterised by less welding fumes due to the special surface treatment without copper coating.

PROTECTIVE GAS

- M20/M21/C1

xARC SG TI **AWS/ASME SFA-5.18:** ER 70 S-2

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.08 Si = 0.68 Zr = 0.11 Al = 0.09 Mn = 1.32 Ti = 0.10 P = 0.010 S = 0.008	520 R_m (N/mm²) 440 $R_{p0.2}$ (N/mm²) 29 A_5 (%) -20ºC 52 ISO - V (J)	=+	PA PB PF PE	0,80	50-140	CS113848
				1,00	80-160	CS113849
				1,20	80-220	CS113850

APPLICATIONS

- Top quality wire for welding on all types of mild and carbon
- steels, producing quality welds with minimal porosity. It is a triple deoxidised wire (Zirconium, Titanium and Aluminium), which makes it an excellent choice for welding over rust and mill scale.

- Used for welding carbon and alloy steel structures with a tensile strength of 500MPa, and high-speed welding of plates and pipes.

PROTECTIVE GAS

- M20/M21

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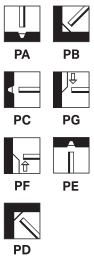
STEEL RESISTANT TO ATMOSPHERIC CONDITIONS

xARC CORTEN **AWS/ASME SFA-5.28:** ER 80 S-SG | **EN ISO 14341-A:** G 50 4 M21 Z

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.06-0.10 Si = 0.70-0.90 Cr = 0.25-0.35 Cu = 0.25-0.40 Al = 0.02 Mn = 1.30-1.50 Mo = 0.10 Ni = 0.70-0.90 P = 0.02 S = 0.02 V = 0.015 Ti + Zr = 0.03	620 R_m (N/mm^2) 530 $R_{p0.2}$ (N/mm^2) 22 A_5 (%) -20ºC 80 ISO - V (J)	=+		0,80	-	CS113851
				1,00	-	CS113852
				1,20	-	CS113853

APPLICATIONS

- Welding wire for weather-resistant steels.
- Solid copper-coated wire for weather-resistant steels, thanks to the Cu and Ni content in the solid wire.
- For use with Ar/CO2 and Ar/CO2/O2 shielding gas.

BASE MATERIALS

- EN 10025-5 up to S355K2W, S355K2WP, COR-TEN A®, COR-TEN B®, COR-TEN B®, PATINAX 37, ALCODUR 50, KORAL-PIN 52.

PROTECTIVE GAS

- M20/M21/C2

STEELS WITH HIGH ELASTIC STRENGTH

xARC 100 SG **AWS/ASME SFA-5.28:** ER 100 S-SG | **EN ISO 16834-A:** G 62 4 M21 Mn3NiCrMo

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.08-0.11 Si = 0.70-0.80 Cr = 0.55-0.65 Cu = 0.30 Al = 0.02 Mn = 1.60-1.80 Mo = 0.20-0.30 Ni = 0.50-0.60 P = 0.015 S = 0.015 V = 0.015 Ti + Zr = 0.03	740 R_m (N/mm²) 640 $R_{p0.2}$ (N/mm²) 19 A_5 (%) -20ºC 110 ISO - V (J)	=+	PA PB PC PG PF PE PD	0,80	-	CS113854
				1,00	-	CS113855
				1,20	-	CS113856

APPLICATIONS

- Copper-coated solid wire for GMAW welding of high-strength steels.
- Also suitable for welding steels where good impact resistance is required at low temperatures.
- For use with Ar/CO2 and Ar/CO2/O2 shielding gas.

BASE MATERIALS

- Fine-grained structural steels: EN 10025-6 up to S620QL1.
- Pipeline steel: EN ISO 3183 up to L555M; API5L up to X80.

PROTECTIVE GAS

- M20/M21/C2

xARC 110 SG **AWS/ASME SFA-5.28:** ER 110 S-SG | **EN ISO 16834-A:** Mn3Ni1CrMo | **EN 12534:** Mn3Ni1CrMo

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.08 Si = 0.60 Cr = 0.30 Cu ≤ 0.25 Mn = 1.60 Mo = 0.30 Ni = 1.50 V = 0.10	800 R_m (N/mm²) 750 $R_{p0.2}$ (N/mm²) 19 A_5 (%) +20ºC 180 ISO - V (J)	=+	-	0,80	-	CS113857
				1,00	-	CS113858
				1,20	-	CS113859

APPLICATIONS

- Steel used in the industrial sectors of means of transport and ground transport, construction, bridges, tanks, rail transport, mining, shipbuilding, etc.

BASE MATERIALS

- S690Q; S690QL1; S420N; S500N; P420NH; P500NH; S420NL; S500NL; L690M; N-A-XTRA70; USST1; BH70V; HY 100; ASTM A514 F; T1; T1A; T1B; HSST; BH70; HSB77; sTe460-690; Weldox 700; Welten80; Bisalloy80; N-A-XTRA 56-63-65-70; USST1 - T1; HY90

PROTECTIVE GAS

- M20/M21/C2

xARC 120 SG **AWS/ASME SFA-5.28:** ER 120 S-SG | **EN ISO 16834-A:** Mn4Ni2,5CrMo | **EN 12534:** Mn4Ni2,5CrMo

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.11 Si = 0.70 Cr = 0.50 Cu ≤ 0.25 Mn = 1.90 Mo = 0.50 Ni = 2.50	1040 R_m (N/mm²) 960 $R_{p0.2}$ (N/mm²) 16 A_5 (%) +20ºC 130 ISO - V (J)	=+	-	0,80	-	CS113860
				1,00	-	CS113861
				1,20	-	CS113862

APPLICATIONS

- Fine-grained, high yield strength, austempered steels; excellent properties down to -60°C.
- Lifting and handling machinery, bridges, tanks, transport, shipbuilding, railways, mines, cranes, structures, etc.

BASE MATERIALS

- S890QL; P460NH; P460NL1; Weldox 900; StE960; S960Q.

PROTECTIVE GAS

- M20/M21/C2

TEMPERATURE RESISTANT STEELS

xARC MO **AWS/ASME SFA-5.28:** ER 70 S-A1 | **EN ISO 14341-A:** G2 Mo | **EN 440:** G2 Mo | **M. Nº** 1.5424

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.09 Si = 0.60 Cr ≤ 0.15 Cu ≤ 0.25 Mn = 1.20 Mo = 0.50 Ni ≤ 0.15	610 R_m (N/mm²) 520 $R_{p0.2}$ (N/mm²) 25 A_5 (%) +20ºC 150 ISO - V (J)	=+	-	0,80	-	CS113863
				1,00	-	CS113864
				1,20	-	CS113865

APPLICATIONS

- Structural steels resistant to heat and creep in hot work. Pipes, steam boilers, pressure vessels, gas pipelines, shipbuilding, chemicals, petrochemicals, equipment, crane construction.
- V and Nb increase resistance to deformation, corrosion, thermal oxidation and cracking over time.
- Suitable for thermal power stations, turbine rotors, petrochemical plants.

BASE MATERIALS

- P295GH; P335GH; 16M03; 17M03; 14M06; S275; S355; S420; A210; A285; A335; A369; A516; S275ML; S355M; S420M; S460; 15M03; 10MnMo45; 11MnMo45; GS60; GS22M04; 20MnMoNi5-5; 15NiCuMoNd5S; 17MnMoV64.

PROTECTIVE GAS

- M21

xARC D2

AWS/ASME SFA-5.28: ER 80 S-D2 | **EN ISO 14341-A:** G 50 4 M21 4Mo

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.07-0.10 Si = 0.60-0.80 Cr = 0.15 Cu = 0.30 Al = 0.02 Mn = 1.70-1.95 Mo = 0.40-0.60 Ni = 0.10 P = 0.02 S = 0.02 V = 0.015 Ti + Zr = 0.03	730 R_m (N/mm²) 590 $R_{p0.2}$ (N/mm²) 21 A_5 (%) -30ºC 60 ISO - V (J)	=+	PA PB PC PG PF PE PD	0,80	-	CS114078
				1,00	-	CS114079
				1,20	-	CS114080

APPLICATIONS

- Solid copper-clad wire for GMAW of creep-resistant low-alloy steels and steels with an operating temperature of up to 500°C, with a high manganese and silicon content to increase deoxidisation properties.
- For use with mixed Ar/Co2 and pure CO2 shielding gas.

BASE MATERIALS

- Steels for pressure purposes: EN 10028-2, EN 10028-3.
- Fine grain structural steels: EN 10025-3, EN 10025-4.
- Pipework steels: EN ISO 3183, EN 10216-1, EN 10216-2.

PROTECTIVE GAS

- M21

xARC 80 SG

AWS/ASME SFA-5.28: ER 80 S-G | **EN 12070:** Cr Mo1 Si | **DIN 8575:** SG Cr Mo1

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.09 Si = 0.65 Cr = 0.15 Cu ≤ 0.25 Mn = 1.05 Mo = 0.50	630 R_m (N/mm²) 520 $R_{p0.2}$ (N/mm²) 23 A_5 (%) +20ºC 110 ISO - V (J)	=+	-	0,80	-	CS113866
				1,00	-	CS113867
				1,20	-	CS113868

APPLICATIONS

- For heat-resistant steels; provides good resistance to attack by hydrogen and sulphur agents.
- Used in steam boilers, pressure tanks, pipework, cranes, earthmoving machinery, presses, the chemical industry and the petrochemical industry.

BASE MATERIALS

- 13CrMo4-5; 15CrMo5; 16CrMoV4; 22M04; G17CrMo5-5; G22CrMo5- 4; A193 Gr.B7; A335 P11-P12; A193:B7; 13CrMo4-5; 15CrMo3; 13CrMo44; 15CrMo3; 13CrMo4 2; GS-25CrMo 4; GS-17 CrMo55;GS17CrMo55; GS22CrMo4;H IV; 15CrMo3; 13CrMoV42; 13CrMo44; St44KL.

PROTECTIVE GAS

- M21/C1

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xARC 80 B2 **AWS/ASME SFA-5.28:** ER 80 S-B2 | **EN ISO 21952-B:** 1CM

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.08 Si = 0.55 Cr = 1.30 Cu ≤ 0.25 Mn = 0.60 Mo = 0.50 Ni ≤ 0.20	620 R_m (N/mm²) 510 $R_{p0.2}$ (N/mm²) 24 A_5 (%) +20ºC 120 ISO - V (J)	=+	-	0,80	-	CS113869
				1,00	-	CS113870
				1,20	-	CS113871

APPLICATIONS

- For Cr-Mo steels resistant to heat and cracking.
- Boilers, material handling machines, pipework. Chemical and petrochemical industry, especially when dealing with sulphur products.

BASE MATERIALS

- 13 CrMo4-5(1.7335); G17CrMo55; A387:2,11,12; A199:T11; A200:T11; A213:T11, T12; GS- 25CrMo 4 (1.7128) GS 18CrMo910(1.7379); 10CrMo910(1.7380); 10CrSi-MoV7(1.8075); 10CrV63; 12CrSiMo8.

PROTECTIVE GAS

- M21

xARC 90 SG **AWS/ASME SFA-5.28:** ER 90 S-G | **EN 12070:** Cr Mo2 Si | **EN ISO 21952-A:** Cr Mo2 Si

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.07 Si = 0.60 Cr = 2.50 Cu ≤ 0.25 Mn = 1.00 Mo = 0.50	650 R_m (N/mm²) 550 $R_{p0.2}$ (N/mm²) 22 A_5 (%) +20ºC 150 ISO - V (J)	=+	-	0,80	-	CS113872
				1,00	-	CS113873
				1,20	-	CS113874

APPLICATIONS

- Cr-Mo alloy steels resistant to high temperatures, corrosion and attack by sulphur agents.
- Boilers, pipework, steam boilers, pressure vessels, oil industry, thermoelectric industry, chemical and petrochemical industry.

BASE MATERIALS

- 10CrMo9-10; (1.7380); 10CrSiMoV7(1.8075); G17CrMo9-10(1.7379); A335:P 22; GS 10CrSiMoV7;12CrSiMo8; GS17Cr-MoV511

PROTECTIVE GAS

- M21/C1

xARC 90 B3 **AWS/ASME SFA-5.28:** ER 90 S-B3 | **EN ISO 21952-B:** 2C1M

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.08 Si = 0.50 Cr = 2.40 Cu ≤ 0.25 Mn = 0.60 Mo = 1.00 Ni ≤ 0.20	640 R_m (N/mm²) 540 $R_{p0.2}$ (N/mm²) 22 A_5 (%) +20ºC 150 ISO - V (J)	=+	-	0,80	-	CS113875
				1,00	-	CS113876
				1,20	-	CS113877

APPLICATIONS

- Cr-Mo alloy steels resistant to high temperatures, corrosion and attack by sulphur agents.
- Boilers, pipework, steam boilers, pressure vessels, oil industry, thermoelectric industry, chemical and petrochemical industry.

BASE MATERIALS

- 10CrMo9-10(1.7380); GS 17CrMoV5 11; 10CrSiMoV7;12CrSi-Mo8; GS12CrMo9 10; 10CrSiMoV7; 10Cr V63; 12CrSiMo8.

PROTECTIVE GAS

- M21

STAINLESS STEEL

xARC 308L SI **AWS/ASME SFA-5.9:** ER 308L Si | **EN 12072:** G 19 9 L Si

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	REF.
C = 0.030 Si = 0.65-1.00 Cr = 19.50-22.00 Cu = 0.75 Mn = 1.60-2.50 Mo = 0.75 Ni = 9.00-11.00 P = 0.03 S = 0.03	≥520 R_m (N/mm²) ≥350 $R_{p0.2}$ (N/mm²) ≥35 A_5 (%) 20ºC ≥60 ISO - V (J)	=+	PA PB PC PF PE	0,80	CS113880
				1,00	CS113881
				1,20	CS113882

APPLICATIONS

- xARC 308L SI is used for welding grade 304 and 304L stainless steel.
- It is used for a wide range of applications, including pipe and sheet metal fabrication, container production, etc.

CURRENT INTENSITY	0.80mm	1.00mm	1.20mm
Ar+1~2%CO_2	40~120 (A)	80~160 (A)	100~210 (A)
Ar+1~2%O_2	160~210(A)	180~280 (A)	200~300 (A)

PROTECTIVE GAS

- M12/M13

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xARC 308L SI PREMIUM **AWS/ASME SFA-5.9:** ER 308L Si | **EN 12072:** G 19 9 L Si

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGEM	REF.
C = 0.03 Si = 0.65-1.00 Cr = 19.50-21.00 Cu = 0.30 Mn = 1.00-2.50 Mo = 0.30 Ni = 9.00-11.00 P = 0.03 S = 0.020	465 R_m (N/mm²) 490 $R_{p0.2}$ (N/mm²) 35 A_5 (%) 20ºC 261 ISO - V (J)	=+	PA PB PC PF PE	0,80	-	CS113880
				1,00	-	CS113881
				1,20	-	CS113882

APPLICATIONS

- Austenitic stainless steel welding wire suitable for welding base metals of similar compositions such as AISI 304 and AISI 304L.
- Equivalent to 308L, except for the higher Si content. This improves the stability of the arc, the fluidity of the base metal and the appearance of the fusion. If dilution by the base metal produces a weld with a low ferrite or totally austenitic content, the weld's sensitivity to cracking is slightly higher than that of a weld metal with a lower Si content.

PROTECTIVE GAS

- M12/M13

xARC 316L SI **AWS/ASME SFA-5.9:** ER 316L Si

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	REF.
C = 0.03 Si = 0.65-1.00 Cr = 18.00-20.00 Cu = 0.50 Mn = 1.50-2.50 Mo = 2.50-3.00 Ni = 11.00-14.00 P = 0.030 S = 0.020	≥520 R_m (N/mm²) ≥350 $R_{p0.2}$ (N/mm²) ≥30 A_5 (%) 20ºC ≥47 ISO - V (J)	=+	PA PB PC PF	0,80	CS113887
				1,00	CS113888
				1,20	CS113889
				1,60	CS113890

APPLICATIONS

- Extra low carbon stainless steel solid wire, type 19 Cr/ 12 Ni/ 3 Mo, similar in composition to ER 316LSi. Suitable for welding or coating surfaces with similar compositions.
- The weld metal has excellent creep resistance up to 850°C. Ferrite control between 5 and 10 per cent. The weld metal has excellent resistance to cracking, intergranular corrosion and creep. Excellent mechanical properties and resistance to chemical corrosion. Si~0.85% improves weldability and produces an excellent bead appearance.
- Precision layer winding technologies guarantee smooth and virtually trouble-free feeding.

CURRENT INTENSITY	0.80mm	1.00mm	1.20mm
Ar+1~2%CO_2	40~120 (A)	80~160 (A)	100~210 (A)
Ar+1~2%O_2	160~210(A)	180~280 (A)	200~300 (A)

PROTECTIVE GAS

- M12/M13

xARC 316L SI PREMIUM **AWS/ASME SFA-5.9:** ER 316L Si | **EN 12072:** G 19 9 L Si

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	REF.
C = 0.03 Si = 0.65-1.00 Cr = 18.00-20.00 Cu = 0.03 Mn = 1.00-2.50 Mo = 2.50-3.00 Ni = 11.00-14.00 P = 0.030 S = 0.020	450 R_m (N/mm^2) 505 $R_{p0.2}$ (N/mm^2) 35 A_5 (%) 20ºC 222 ISO - V (J)	=+	PA PB PC PF	0,80	CS113887
				1,00	CS113888
					CS113889
				1,20	CS113890

APPLICATIONS

- Austenitic stainless steel welding wire suitable for welding base metals of similar compositions such as AISI 316 and AISI 316L. Equivalent to 316L, except for the higher Si content.
- This improves the stability of the arc, the fluidity of the base metal and the appearance of the fusion flow. If dilution by the base metal produces a weld with a low ferrite or fully austenitic content, the weld's sensitivity to cracking is slightly higher than that of a weld metal with a lower Si content. It guarantees better corrosion resistance than 308 LSI.

PROTECTIVE GAS

- M12/M13

xARC 310 **AWS/ASME SFA-5.9:** ER 310 | **EN ISO 14343- A:** G 25 20

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	REF.
C = 0.08-0.15 Si = 0.30-0.65 Cr = 25.00-28.00 Cu = 0.50 Mn = 1.60-2.50 Mo = 0.50 Ni = 20.00-22.50 P = 0.015 S = 0.03	_550> R_m (N/mm^2) ≥350> $R_{p0.2}$ (N/mm^2) _30 A_5 (%) 20ºC ≥70 ISO - V (J)	=+	PA PB PC PF PE	0,80	CS113891
				1,00	CS113892
				1,20	CS113893

APPLICATIONS

- xARC 310 weld metal is used for welding 310, 314 austenitic stainless steel pipes, plates and fittings used in the manufacture of furnaces and similar applications that work at high temperatures.
- It is mainly used for heat exchangers and hot water boilers.

CURRENT INTENSITY	0.80mm	1.00mm	1.20mm
Ar+1~2%CO_2	40~120 (A)	80~160 (A)	100~210 (A)
Ar+1~2%O_2	160~210(A)	180~280 (A)	200~300 (A)

PROTECTIVE GAS

- M12/M13

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xARC 347 **AWS/ASME SFA-5.9:** ER 347 | **EN ISO 14343-A:** G 19 9 Nb

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	REF.
C = 0.080 Si = 0.30-0.65 Cr = 19.00-21.50 Cu = 0.75 Mn = 1.60-2.50 Mo = 0.75 Ni = 9.00-11.00 P = 0.03 S = 0.03	≥550 R_m (N/mm^2) ≥400 $R_{p0.2}$ (N/mm^2) ≥30 A_5 (%) 20ºC ≥65 ISO - V (J)	=+	PA PB PC PF PE	0,80	CS113894
				1,00	CS113895
				1,20	CS113896

APPLICATIONS

- Used for welding stainless steels of grades 321 and 347. The wire is used for a range of applications, including the manufacture of pipes, plates and containers.
- The weld metal has a high resistance to corrosive media at operating temperatures <400°C. The presence of niobium reduces the propensity for intergranular precipitation of chromium carbide, thus reducing susceptibility to intergranular corrosion.
- The addition of Nb considerably improves the oxidation resistance of the weld deposit.

CURRENT INTENSITY	0.80mm	1.00mm	1.20mm
Ar+1~2%CO_2	40~120 (A)	80~160 (A)	100~210 (A)
Ar+1~2%O_2	160~210(A)	180~280 (A)	200~300 (A)

PROTECTIVE GAS

- M12/M13

xARC 385 **AWS/ASME SFA-5.9:** ER 385 | **EN 14343-A:** G 20 25 5 Cu L

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	REF.
C = 0.025 Si = 0.50 Cr = 19.50-21.50 Cu = 1.20-2.00 Mn = 1.60-2.50 Mo = 4.20-5.20 Ni = 24.00-26.00 P = 0.020 S = 0.030	≥560 R_m (N/mm^2) ≥410 $R_{p0.2}$ (N/mm^2) ≥35 A_5 (%) +20ºC ≥80 ISO - V (J)	=+	PA PB PC PF PE	0,80	CS113897
				1,00	CS113898
				1,20	CS113899

APPLICATIONS

- xARC 385 is used for welding ASTM 316 or similar steels when a ferrite-free weld metal is required.
- Used mainly in cryogenic and non-magnetic applications and for welding 904L to ASTM 304 and 316.

CURRENT INTENSITY	0.80mm	1.00mm	1.20mm
Ar+1~2%CO_2	40~120 (A)	80~160 (A)	100~210 (A)
Ar+1~2%O_2	160~210(A)	180~280 (A)	200~300 (A)

PROTECTIVE GAS

- M12/M13

xARC 410 AWS/ASME SFA-5.9: ER 410 | EN ISO 14343- A: G 13

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	REF.
C = 0.12 Si = 0.50 Cr = 11.50-13.50 Cu = 0.75 Mn = 0.60 Mo = 0.75 Ni = 0.60 P = 0.03 S = 0.03	≥450 R_m (N/mm²) ≥350 $R_{p0.2}$ (N/mm²) ≥20 A_5 (%) +20ºC ≥47 ISO - V (J)	=+	PA PB PC PF PE	0,80 1,00 1,20	CS113900 CS113901 CS113902

APPLICATIONS

- Suitable for use with Ar-CO2 mixture shielding gases.
- SUPERMIG 410 is mainly used for depositing coatings on carbon steels to resist corrosion, erosion or abrasion.
- Precision layer winding technologies ensure smooth and virtually trouble-free feeding.

CURRENT INTENSITY	0.80mm	1.00mm	1.20mm
Ar+1~2%CO_2	40~120 (A)	80~160 (A)	100~210 (A)
Ar+1~2%O_2	160~210(A)	180~280 (A)	200~300 (A)

PROTECTIVE GAS

- M12/M13

xARC 420 AWS/ASME SFA-5.9: ER 420

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	REF.
C = 0.25-0.40 Si = 0.50 Cr = 12.00-14.00 Cu = 0.75 Mn = 0.60 Mo = 0.75 Ni = 0.60 P = 0.03 S = 0.03	≥450 R_m (N/mm²) ≥400 $R_{p0.2}$ (N/mm²) ≥15 A_5 (%) +20ºC ≥47 ISO - V (J)	=+	PA PB PC PF PE	0,80 1,00 1,20	CS113903 CS113904 CS113905

APPLICATIONS

- Solid MAG welding wire type ER 420 supplied with a precision layer, suitable for use with Ar-CO2 mixture shielding gases.
- Mainly used for many coating operations, but with a higher chromium and carbon content, which increases wear resistance.

CURRENT INTENSITY	0.80mm	1.00mm	1.20mm
Ar+1~2%CO_2	40~120 (A)	80~160 (A)	100~210 (A)
Ar+1~2%O_2	160~210(A)	180~280 (A)	200~300 (A)

PROTECTIVE GAS

- M12/M13

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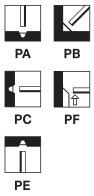
xARC DUPLEX **AWS/ASME SFA-5.9:** ER 2209 | **EN 14343 - A:** G 22 9 3 N L

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	REF.
C = 0.030 Si = 0.90 Cr = 21.50-23.50 Cu = 0.50 Mn = 0.50-2.00 Mo = 2.50-3.50 Ni = 7.50-9.50 N2 = 0.08-0.20 P = 0.03 S = 0.03	≥690 R_m (N/mm^2) ≥480 $R_{p0.2}$ (N/mm^2) ≥22 A_5 (%) +20ºC ≥50 ISO - V (J)	=+		0,80	CS113906
				1,00	CS113907
				1,20	CS113908

APPLICATIONS

- Used for welding duplex stainless steels in a variety of applications including the manufacture of tubes and plates.

CURRENT INTENSITY	0.80mm	1.00mm	1.20mm
Ar+1~2%CO_2	40~120 (A)	80~160 (A)	100~210 (A)
Ar+1~2%O_2	160~210(A)	180~280 (A)	200~300 (A)

PROTECTIVE GAS

- M12/M13

SPECIAL APPLICATIONS

xARC 307 Si **AWS/ASME SFA-5.9:** ER 307 Si | **EN ISO 14343-A:** G 18 8 Mn

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	REF.
C = 0.20 Si = 1.20 Cr = 17.00-20.00 Cu = 0.30 Mn = 5.00-8.00 Mo = 0.30 Ni = 7.00-10.00 P = 0.03 S = 0.03	≥590 R_m (N/mm²) ≥420 $R_{p0.2}$ (N/mm²) ≥40 A_5 (%) +20ºC ≥100 ISO - V (J)	=+	PA PB PC PF PE	0,80 1,00 1,20	CS113909 CS113910 CS113911

APPLICATIONS

- Suitable for welding dissimilar steels between non-alloy steels, austenitic stainless steels or heat-resistant steels, also used for welding hardening and tempering steels such as ballistic steels.

CURRENT INTENSITY	0.80mm	1.00mm	1.20mm
Ar+1~2%CO_2	40~120 (A)	80~160 (A)	100~210 (A)
Ar+1~2%O_2	160~210(A)	180~280 (A)	200~300 (A)

PROTECTIVE GAS

- M12/M13

xARC 307 Si PREMIUM **AWS/ASME SFA-5.9:** ER 307 mod | **ISO 14343-A:** G/W 18 8 Mn | **ISO 14343-B:** SS307

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	REF.
C = 0.10 Si = 0.80 Cr = 18.5 Mn = 7.00 Ni = 8.5	650 R_m (N/mm²) 400 $R_{p0.2}$ (N/mm²) 35 A_5 (%) 80 ISO - V (J)	=+	PA PB PC PF	1,00	CS116115

APPLICATIONS

- For joining corrosion-resistant steels, austenitic anganese steels, dissimilar steels and steels with a high carbon content for service temperatures from -120°C to +300°C.
  Also for intermediate layers in hard alloy reinforcements.

xARC 309L SI **AWS/ASME SFA-5.9:** ER 309L Si | **EN ISO 14343-A:** G 23 12 L Si

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	REF.
C = 0.030 Si = 0.65-1.00 Cr = 23.00-25.00 Cu = 0.75 Mn = 1.50-2.50 Mo = 0.75 Ni = 12.00-14.00 P = 0.03 S = 0.03	≥520 R_m (N/mm²) ≥350 $R_{p0.2}$ (N/mm²) ≥30 A_5 (%) +20ºC ≥100 ISO - V (J)	=+	PA PB PC PF PE	0,80	CS113912
				1,00	CS113913
				1,20	CS113914

APPLICATIONS

- Used for welding stainless steels to medium and moderate tensile steels; for depositing intermediate layers on the steel before depositing grade 308 stainless steel; for welding coated steels where operating temperatures are below 300°C.

CURRENT INTENSITY	0.80mm	1.00mm	1.20mm
Ar+1~2%CO_2	40~120 (A)	80~160 (A)	100~210 (A)
Ar+1~2%O_2	160~210(A)	180~280 (A)	200~300 (A)

PROTECTIVE GAS

- M12/M13

xARC 309L MO **AWS/ASME SFA-5.9:** ER 309L Mo | **EN ISO 14343-A:** G 23 12 2 L

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	REF.
C = 0.030 Si = 0.30-0.65 Cr = 23.00-25.00 Cu = 0.50 Mn = 1.00-2.50 Mo = 2.0-3.0 Ni = 12.00-14.00 P ≤ 0.025 S ≤ 0.020	≥550 R_m (N/mm²) ≥350 $R_{p0.2}$ (N/mm²) ≥30 A_5 (%) +20ºC ≥55 ISO - V (J)	=+	PA PB PC PF PE	0,80	CS113915
				1,00	CS113916
				1,20	CS113917

APPLICATIONS

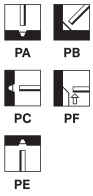
- Suitable for use with mixed Ar+2%O2 or Ar+0.5...5%CO2 shielding gases.
- Used for TIG / MIG welding of high alloy steels with molybdenum and unalloyed steels.
- Suitable for welding stainless steels of the AISI 309 series, coated steels of the 316 series, as well as dissimilar metals such as austenitic stainless steel with molybdenum to carbon steel, etc.

CURRENT INTENSITY	0.80mm	1.00mm	1.20mm
Ar+1~2%CO_2	40~120 (A)	80~160 (A)	100~210 (A)
Ar+1~2%O_2	160~210(A)	180~280 (A)	200~300 (A)

PROTECTIVE GAS

- M12/M13

xARC 312 **AWS/ASME SFA-5.9:** ER 312 | **EN ISO 14343- A:** G 29 9

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	REF.
C = 0.15 Si = 0.30-0.65 Cr = 28.00-32.00 Cu = 0.75 Mn = 1.60-2.50 Mo = 0.75 Ni = 8.00-10.50 P = 0.03 S = 0.03	≥700 R_m (N/mm²) ≥550 $R_{p0.2}$ (N/mm²) ≥22 A_5 (%) +20ºC ≥30 ISO - V (J)	=+		0.80	CS113918
				1.00	CS113919
				1.20	CS113920

APPLICATIONS

- Used for welding steels such as medium and high carbon steels and combinations of dissimilar steels.
- It offers a high tolerance to dilution and is therefore particularly suitable for depositing pad layers before coating.

CURRENT INTENSITY	0.80mm	1.00mm	1.20mm
Ar+1~2%CO_2	40~120 (A)	80~160 (A)	100~210 (A)
Ar+1~2%O_2	160~210(A)	180~280 (A)	200~300 (A)

PROTECTIVE GAS

- M12/M13

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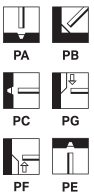
NICKEL BASED STEELS

xARC NICR 3 **AWS/ASME SFA-5.14:** ER NiCr-3 | **EN ISO 18274:** G Ni 6082 (NiCr20Mn3Nb)

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.10 Si = 0.50 Cr = 18.00-22.00 Cu = 0.50 Mn = 2.50-3.50 Fe = 3.00 Ti = 0.75 Ni = 67.00 Nb+Ta = 2.00-3.00 P = 0.03 S = 0.015	≥620 R_m (N/mm²) ≥380$R_{p0.2}$ (N/mm²) ≥35 A_5 (%) 20ºC ≥100 ISO - V (J)	=+		0,80	-	CS113921
				1,00	-	CS113922
				1,20	-	CS113923

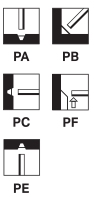
APPLICATIONS

- Solid MIG welding wire type Ni 6082 / ER NiCr-3, suitable for use with inert shielding gases.
- Used for welding Ni-Cr alloys that are highly resistant to creep, heat and corrosion. It can be used to join steels with 3%, 5% and 9% nickel to give good strength and toughness in LPG and LNG processing or storage facilities.
- xARC NICR 3 is also used to join ferritic to austenitic (dissimilar) steels.

PROTECTIVE GAS

- I1/I3

xARC NICRMO 3 **AWS A 5.14:** ERNiCrMo-3 | **UNS:** N06625

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.10 Si = 0.50 Cr = 20.00-23.00 Cu = 0.50 Al = 0.40 Mn = 0.50 Mo = 8.00-10.00 Fe = 5.00 Ti = 0.40 Ni = 58.00 Nb+Ta = 3.15-4.15 P = 0.020 S = 0.015	≥750 R_m (N/mm²) ≥350 $R_{p0.2}$ (N/mm²) ≥25 A_5 (%) 20ºC ≥100 ISO - V (J)	=+		0,80	-	CS113924
				1,00	-	CS113925
				1,20	180~220	CS113926

APPLICATIONS

- Exceptional fatigue strength and excellent resistance to oxidation and corrosion in a wide range of corrosive conditions, including the aerospace industry (aircraft duct systems, jet engine exhaust systems, turbine cover rings, bellows and expansion joints, aircraft exhaust liners and turbine seals), nuclear water reaction components, power stations, seawater, marine engineering, pollution control equipment and applications in the chemical processing industry.

PROTECTIVE GAS

- I1/I3

CAST IRON

xARC NIFE **EN ISO 1071:** G C NiFe-1

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.03 Si = 0.1 Cu = 0.4 Mn = 0.7 Ni = 55 Fe remaining	450 R_m (N/mm²) 350 $R_{p0.2}$ (N/mm²) 16 A_5 (%)	=+	PA PB PC PF PE	1,00	-	CS113927
				1,20	-	CS113928

APPLICATIONS

- Cast iron joint with special graphite cast iron according to DIN 1693, e.g. GGG-38 to GGG-70.

PROTECTIVE GAS

- M11/M12

xARC NI 1 **AWS/ASME SFA-5.14:** ER Ni 1 | **EN ISO 18274:** S Ni 2061 | **MAT. Nº** 2.4155

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.15 Si = 0.7 Mn = 1.00 Ti = 2.0-3.5 Fe = 0.2	>380 R_m (N/mm²) >200 $R_{p0.2}$ (N/mm²) >30 A_5 (%)	=+	PA PB PC PF PE	1,00	-	CS113929
				1,20	-	CS113930

APPLICATIONS

- Nickel, low-alloy nickel (semi-finished Ni products/Ni castings), e.g. LC-Ni 99.6 (2.4061), NiMn 5 (2.4116); G-Ni 95 (2.4170), as well as welded joints between these materials and steel, cast steel, copper; coatings and cushion layers.

PROTECTIVE GAS

- I1

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COPPER ALLOYS

xARC COBRE **AWS/ASME SFA-5.7:** ER Cu | **EN ISO 24373:** S Cu 1898A-CuSn1MnSi | **DIN 1733:** M CuSn

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si = 0.10-0.40 Sn = 0.50-1.00 Al < 0.01 Mn = 0.10-0.40 Fe < 0.03 Ni < 0.10 P < 0.015 Pb < 0.01 Cu remaining	210-245 R_m (N/mm²) 60-80 HB	=+	-	1,00	-	CS113931
				1,20	-	CS113932

APPLICATIONS

- Copper wire for high-quality welding.
- It can be used with TIG and MIG methods.
- Its excellent fluidity makes it ideal for welding copper. Thanks to the deoxidiser in the welding material, the weld is solid and pore-free.

PROTECTIVE GAS

- I1

xARC CUSN 6 **AWS/ASME SFA-5.7:** ER Cu Sn-A | **EN ISO 24373:** S Cu 5180A-CuSn6P | **DIN 1733:** M CuSn6

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Sn = 4.00-7.00 Zn < 0.10 Al < 0.01 Fe < 0.10 P < 0.01-0.40 Pb < 0.02 Cu remaining	320-360 R_m (N/mm²) >25 A_5 (%) 80-90 HB	=+	-	1,00	-	CS113933
				1,20	-	CS113934

APPLICATIONS

- Suitable for TIG and MIG methods and excellent for fixing in artistic castings.
- Ideal for surfaces, this material improves hardness and can also be used to fix worn surfaces with similar base metals.

PROTECTIVE GAS

- I1

xARC CUSN 12 **EN ISO 24373:** S Cu 5410 | **MAT. Nº** 2.1056

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Sn = 12 Cu Bal.	350 R_m (N/mm²) 200 $R_{p0.2}$ (N/mm²) 15 A_5 (%) 120 HB	=+	PA PB PC PF PE	1,00	-	CS113935
				1,20	-	CS113936

APPLICATIONS

- Copper-tin alloys, e.g. bronze with 10-12% Sn, copper-zinc alloys (brass), cast copper-tin-zinc-lead alloys (red bronze: Rg5, Rg7), accumulation welds on cast iron.

PROTECTIVE GAS

- I1

xARC CUAL 8 **AWS/ASME SFA-5.7:** ER Cu-Al-A1 | **EN ISO 24373:** S Cu 6100-CuAl7 | **DIN 1733:** M CuAl8

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si < 0.20 Zn < 0.20 Al = 6.00-8.50 Pb < 0.02 Cu remaining	390-450 R_m (N/mm²) ≥45 A_5 (%) 80-110 HB	=+	-	0,80	-	CS113937
				1,00	-	CS113938
				1,20	-	CS113939

APPLICATIONS

- Shipbuilding: propellers, pumps, shafts and valves, bearings, main shafts.
- Chemical industry: gate valves, sleeves, pipes, heat exchangers, gearboxes.
- Automotive industry: maintenance of car parts and tools, bearings in general and galvanised sheet metal.
- Construction industry: welding and coating aluminium-bronze with a steel base. Recommended for coating wear metals.

PROTECTIVE GAS

- I1

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xARC CUSI 3 **AWS/ASME SFA-5.7:** ER Cu Si-A | **EN ISO 24373:** S Cu 6560-CuSi3Mn1 | **DIN 1733:** M CuSi3

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si = 2.80-4.00 Sn < 0.20 Zn < 0.40 Al < 0.02 Mn = 0.50-1.50 Fe < 0.50 P < 0.05 Pb < 0.02 Cu remaining	330-370 R_m (N/mm^2) ≥40 A_5 (%) 80-90 HB	=+	-	0,80	-	CS113944
				1,00	-	CS113945
				1,20	-	CS113946

APPLICATIONS

- This material is often used for fastening in artistic foundries, for welding galvanised sheets and even as a coating for steel using MIG and TIG methods.
- Suitable for surfaces subject to corrosion.

PROTECTIVE GAS

- I1

HARDFACING

xARC DUR 350 **DIN 8555:** MSG 5-GZ-350 | **MAT. Nº** 1.7363

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.08 Si = 0.50 Cr = 6.00 Mn = 0.70 Mo = 0.70	337-372 HB 36-40 HRc	=+	-	1,00	-	CS113947
				1,20	-	CS113948

APPLICATIONS

- Wires for wear-resistant coatings with hardness values from 22 HRC to 60 HRC.
- They are used for repairing guide rollers, screw conveyors, gears, crushers, tools, hammers, etc.

PROTECTIVE GAS

- M21

xARC DUR 600 **EN ISO 14700:** S Fe8 | **DIN 8555:** MSG 6-GZ-60 | **MAT. Nº** 1.4718

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.45 Si = 3.00 Cr = 9.30 Mn = 0.40	550-620 HB 57-60 HRc	=+	-	1,00	-	CS113949
				1,20	-	CS113950
				1,60	-	CS113951

APPLICATIONS

- Wires for wear-resistant linings.
- They are used to repair guide rollers, screw conveyors, gears, crushers, tools, hammers, etc.

PROTECTIVE GAS

- M21

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ALUMINUM ALLOYS

xARC AL SI5 **AWS/ASME SFA-5.10:** ER 4043 | **EN ISO 18273:** S Al 4043 (AlSi5)

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si = 4.50-6.00 Zn = 0.10 Cu = 0.30 Mn = 0.05 Mg = 0.05 Ti = 0.20 Be = 0.0003 Fe = 0.80 Al remaining	120 R_m (N/mm²) 60 $R_{p0.2}$ (N/mm²) 15 A_5 (%)	=+	-	1,00	-	CS113953
				1,20	-	CS113954
				1,60	-	CS116286
				2,40	-	CS114005

APPLICATIONS

- Components for cars, furniture, carpentry.

PROTECTIVE GAS

- I1/I3

xARC AL SI12 **AWS/ASME SFA-5.10:** ER 4047A | **EN ISO 18273:** S Al 4047A (AlSi12(A))

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si = 11.00-13.00 Zn = 0.20 Cu = 0.30 Mn = 0.15 Mg = 0.10 Ti = 0.15 Be = 0.0003 Fe = 0.60 Al remaining	130 R_m (N/mm²) 70 $R_{p0.2}$ (N/mm²) 13 A_5 (%)	=+	-	1,00	-	CS113955
				1,20	-	CS113956

APPLICATIONS

- Automotive industry, refrigeration, heat exchanger, conditioning.

PROTECTIVE GAS

- I1/I3

xARC AL MG3 **AWS/ASME SFA-5.10:** ER 5754 | **EN ISO 18273:** S Al 5754 (AlMg3)

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si = 0.40 Cr = 0.30 Zn = 0.20 Cu = 0.10 Mn = 0.50 Mg = 2.60-3.60 Ti = 0.15 Be = 0.0003 Fe = 0.40 Al remaining	190 R_m (N/mm²) 80 $R_{p0.2}$ (N/mm²) 20 A_5 (%)	=+	-	1,00	-	CS113957
				1,20	-	CS113958

APPLICATIONS

- The construction sector in general, outdoor furniture (gardens, beaches) and the structural industry.

PROTECTIVE GAS

- I1/I3

xARC AL MG5 **AWS/ASME SFA-5.10:** ER 5356 | **EN ISO 18273:** S Al 5356 (AlMg5Cr(A))

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si = 0.25 Cr = 0.05-0.20 Zn = 0.10 Cu = 0.10 Mn = 0.05-0.20 Mg = 4.50-5.50 Ti = 0.06-0.20 Be = 0.0003 Fe = 0.40 Al remaining	250 R_m (N/mm²) 115 $R_{p0.2}$ (N/mm²) 17 A_5 (%)	=+	-	0,80	-	CS113961
				1,00	-	CS113962
				1,20	-	CS113963
				1,60	-	CS113964

APPLICATIONS

- Bicycle and motorbike frames, car body components, closed and tipper bodies, loading side panels, fuel tanks, metal furniture, ladders, loading ramps, lifting stirrups, ship's top table.

PROTECTIVE GAS

- I1/I3

xARC AL MG4.5 MN **AWS/ASME SFA-5.10:** ER 5183 | **EN ISO 18273:** S Al 5183 (AlMg4.5Mn0.7(A))

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si = 0.40 Cr = 0.05-0.25 Zn = 0.25 Cu = 0.10 Mn = 0.50-1.00 Mg = 4.30-5.20 Ti = 0.15 Be = 0.0003 Fe = 0.40 Al remaining	278 R_m (N/mm^2) 135 $R_{p0.2}$ (N/mm^2) 17 A_5 (%)	=+	-	1,00	60-80	CS113966
				1,20	110-135	CS113967

APPLICATIONS

- Shipyards, storage tanks, structural industry, cryogenic applications.

PROTECTIVE GAS

- I1/I3

xARC AL 99.7 **AWS/ASME SFA-5.10:** ER 1070 | **EN ISO 18273:** S Al 1070 (Al 99.7)

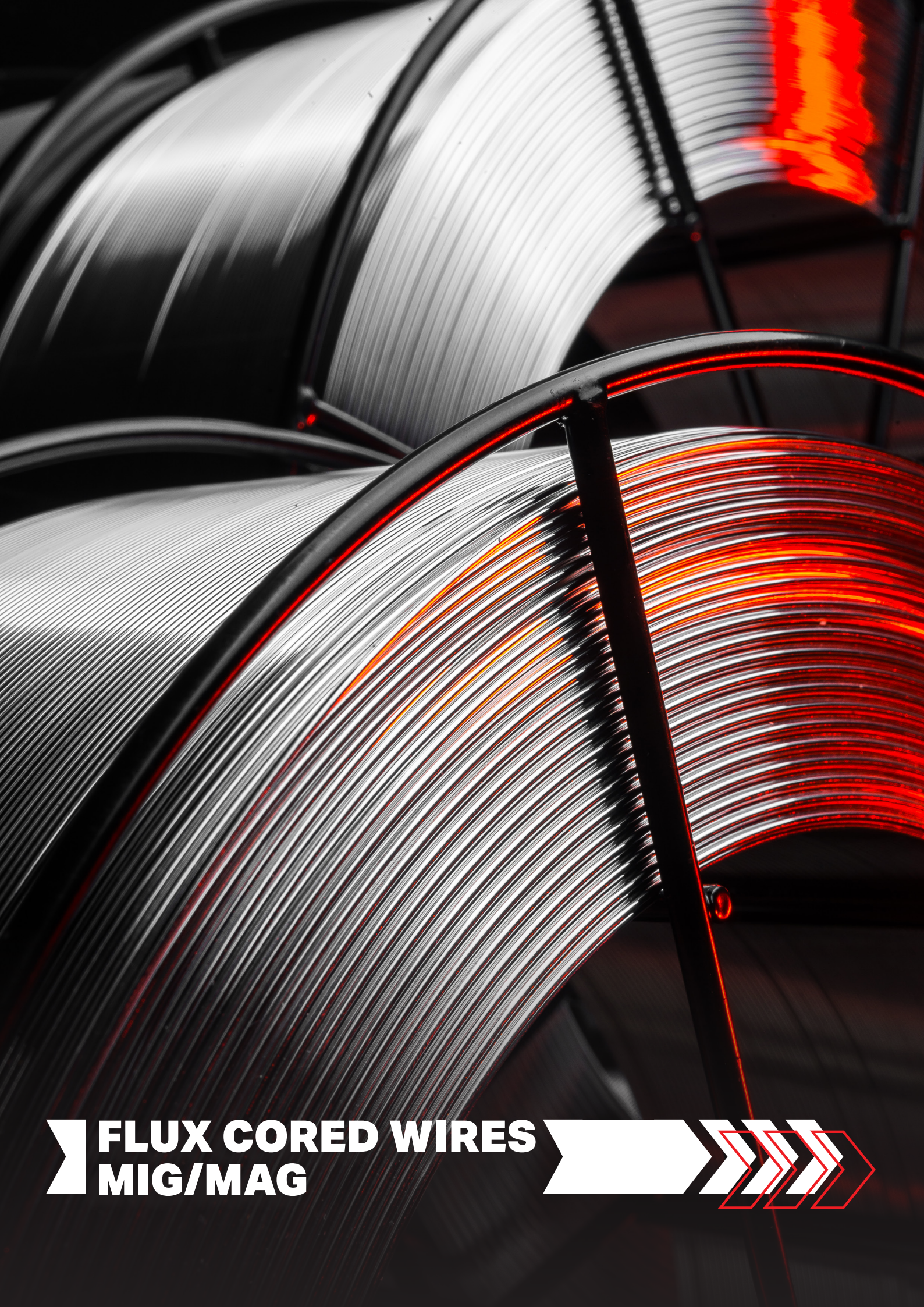
CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
Si = 0.20 Zn = 0.04 Cu = 0.04 Al = 99.70 Mn = 0.03 Mg = 0.03 Ti = 0.03 Be = 0.0003 Fe = 0.25 V = 0.05	80 R_m (N/mm^2) 35 $R_{p0.2}$ (N/mm^2) 30 A_5 (%)	=+	-	1,00	-	CS113968
				1,20	-	CS113969

APPLICATIONS

- Used for GMAW and GTAW welding processes in the chemical, electronics, construction and food industries.
- The 99.7% Al alloy is used for flame metallisation and arc spray metallisation.

PROTECTIVE GAS

- I1/I3



FLUX CORED WIRES MIG/MAG

LOW AND MEDIUM CARBON STEELS

DESIGNATION	CLASSIFICATION	PAG.
xARC 70 6M	AWS A5.20: E70C-6M H4 | EN ISO 17632-A: T 42 2 M C/M21 1 H5	118
xARC 70 6M MAX	AWS/ASME A 5.18: E70C-6M H4 | EN ISO 17632-A: T 46 6 M M 1 H5	118
xARC 70 6M PREMIUM	AWS/ASME A 5.18: E70C-6M H4 | EN ISO 17632-A: T 46 6 M M 1 H5	119
xARC 71R	AWS/ASME A5.20: E 71T-1C/M | EN ISO 17632-A: T 42 2 P C1/M21 1	119
xARC 71R PREMIUM	AWS/ASME A5.20: E 71T-1M H4 | EN ISO 17632-A: T 46 4 P M 1 H5	120
xARC 71B	AWS A5.20: E71T-5M-J | EN ISO 17632-A: T 42 4 B M 1 H5	120
xARC 71B PREMIUM	AWS/ASME A5.20: E71T-5M-JH4 | EN ISO 17632-A: T 46 6 B M 3 H5	121
xARC 71 11 AP	AWS A5.20: E71T-11 | EN ISO 17632-A: T 42 Z Z Z N 1	121
xArc 71 ZINC	AWS/ASME A5.18: E70C-GS | EN ISO 17632-A: T 46 Z Z M M 1 H5	122

STAINLESS STEEL

DESIGNATION	CLASSIFICATION	PAG.
xARC 308L	AWS/ASME SFA-5.22: E 308L T1-1/4 | EN ISO 17633-A: T 19 9 L P C/M 1	122
xARC 308L AP	AWS A5.22: E308L T0-3	123
xARC 316L	AWS/ASME SFA-5.22: E 316L T1-1/4 | EN ISO 17633-A: T 19 12 3 L P C/M 1	123
xARC 316L AP	AWS A5.22: E316LT0-3	124
xARC 347	AWS/ASME SFA-5.22: E 347 T1-1/4 | EN ISO 17633-A: T 19 9 Nb P C/M 1	124
xARC DUPLEX	AWS A5.22: E2209T0-4 | EN ISO 17633-A: T 22 9 3 N L R M21 3	125

SPECIAL APPLICATIONS

DESIGNATION	CLASSIFICATION	PAG.
xARC 307	AWS A5.22: E307T0-1/4 | EN ISO 17633-A: T 18 8 Mn C/M 1	125
xARC 309L	AWS A5.22: E309LT1-1/4 | EN ISO 17633-A: T 23 12 L P C/M 1	126
xARC 309L MO	AWS/ASME SFA-5.22: E 309L Mo T1-1/4 | EN ISO 17633-A: T 23 12 2 L P C/M 1	126

HARDFACING

DESIGNATION	CLASSIFICATION	PAG.
xARC DUR 350	EN14700: T Fe1	127
xARC DUR 350 PREMIUM	EN ISO 14700: T Fe1	127
xARC DUR 600	EN 14700: T Fe2	128
xARC DUR 600 PREMIUM	EN ISO 14700: T Fe2	128
xARC DUR FAST STEELS PREMIUM	EN ISO 14700: T Fe4	129
xARC DUR 65/13 PREMIUM	EN ISO 14700: T ZFe13	129
xARC DUR 67/16 PREMIUM	EN ISO 14700: T ZFe16	130
xARC DUR 61/15 PREMIUM	AWS/ASME A5.21: ERCFeCr-A9 | EN ISO 14700: T Fe15	130
xARC DUR 65/16 PREMIUM	EN ISO 14700: T Fe16	131

LOW AND MEDIUM CARBON STEELS

xARC 70 6M **AWS A5.20:** E70C-6M H4 | **EN ISO 17632-A:** T 42 2 M C/M21 1 H5

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.04 Si = 0.80 Mn = 1.47 P = 0.013 S = 0.012	590 R_m (N/mm²) 520 $R_{p0.2}$ (N/mm²) 27 A_5 (%) -20ºC 85 ISO - V (J)	=+	PA PB PF PE	1.00	-	CS113970
				1.20	140-300	CS113971

APPLICATIONS

- Flux cored wire for welding. The quality of the slag is almost the same as solid wire and multiple pass welding can be carried out without removing the slag. A 20 per cent higher productivity can be achieved compared to solid wires. It has good penetration, high resistance to porosity, good wetting behaviour and low hydrogen content.
- Typical applications include machinery, shipbuilding, offshore structures, naval structures, bridges and general fabrication, suitable for semi-automatic, automatic, single pass and multiple pass welding.

PROTECTIVE GAS

- M21/C1

xARC 70 6M MAX **AWS/ASME SFA-5.20:** E 70C-6M H4 | **EN ISO 17632-A:** T 46 4 M C/M21 1 H5

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.05 Si = 0.56 Cr = 0.02 Mn = 1.60 Mo = 0.004 Ni = 0.01 P = 0.014 S = 0.008 V = 0.002	590 R_m (N/mm²) 520 $R_{p0.2}$ (N/mm²) 27 A_5 (%) -20ºC 85 ISO - V (J)	=+	PA PB PF PE	1.20	140-300	CS115344

APPLICATIONS

- Flux cored wire for welding. The quality of the slag is almost the same as solid wire and multiple pass welding can be carried out without removing the slag. A 20% higher productivity can be achieved compared to solid wire and it has good penetration, high resistance to porosity, good wetting behaviour as well as low hydrogen contents.
- Typical applications include machinery, shipbuilding, offshore structures, naval structures, bridges and general fabrication, suitable for semi-automatic, automatic, single and multiple pass welding.

PROTECTIVE GAS

- M21/C1

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xARC 70 6M PREMIUM **AWS/ASME A 5.18:** E70C-6M H4 | **EN ISO 17632-A:** T 46 4 M M 1 H5

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGEM	REF.
C = 0.087 Si = 0.59 Cr = 0.018 Mn = 1.57 Mo = 0.003 Ni = 0.012 P = 0.013 S = 0.012 V = 0.001	640 R_m (N/mm^2) 560 $R_{p0.2}$ (N/mm^2) 25 A_5 (%) -40ºC 106 ISO - V (J)	=+		1.20	140-300	CS113972

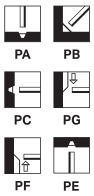
APPLICATIONS

- Metal flux-cored wire for flat and horizontal position welding. The slag quality is almost the same as solid wire and multiple pass welding can be carried out without removing the slag. No distortion voltage, suitable for long-distance wire feeding, more suitable for high-speed fillet welding; excellent welding technology, stable arc, easy slag removal; can be wet coated with copper, with strong moisture absorption and rust resistance, convenient transport and storage and less wear on the conductive nozzle.
  It is suitable for welding structures such as ships, bridges, buildings, offshore platforms, vessels, pipelines, steel structures, etc.

PROTECTIVE GAS

- M21

xARC 71R **AWS/ASME A5.20:** E 71T-1C/M | **EN ISO 17632-A:** T 42 2 P C1/M21 1

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.056 Si = 0.35 Mn = 1.37 P = 0.019 S = 0.012	565 R_m (N/mm^2) 480 $R_{p0.2}$ (N/mm^2) 26 A_5 (%) -20ºC 112 ISO - V (J)	=+		1.20	140-300	CS113973

APPLICATIONS

- Dual-use CO2 and mixed gas flux-cored wire used for all positional welding, and can also be used for vertical downward welding.
- Good operating properties, such as easy slag removal, stable arc, less smoke and spatter.
- Used for welding carbon steels and high-strength steels of 500MPa grade.

PROTECTIVE GAS

- M21/C1

xARC 71R PREMIUM **AWS/ASME A5.20:** E 71T-1M H4 | **EN ISO 17632-A:** T 46 4 P M 1 H5

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.066 Si = 0.45 Cr = 0.008 Mn = 1.39 Mo = 0.009 Ni = 0.011 P = 0.019 S = 0.012 V = 0.01	586 R_m (N/mm²) 512 $R_{p0.2}$ (N/mm²) 25 A_5 (%) -40ºC 105 ISO - V (J)	=+	PA PB PF PE	1.20	140-300	CS113974

APPLICATIONS

- Flux-cored wire with rutile-type gas protection for low carbon steel and high strength steel with DCEP. Good operating properties, such as easy slag removal, stable arc, less smoke and spatter.
- No distortion voltage, suitable for long-distance wire feeding, more suitable for fully automatic welding; weld metal has excellent mechanical properties and low diffusive hydrogen content; excellent welding technology, stable arc; can be wet coated with copper, with strong moisture absorption and rust resistance, convenient transport and storage and less wear on the conductive nozzle.
- Used for welding carbon steels and high-strength steels of 500MPa grade. It is used for welding structures such as ships, bridges, buildings, offshore platforms, vessels, pipelines and steel structures.

PROTECTIVE GAS

- M21

xARC 71B **AWS A5.20:** E71T-5M-J | **EN ISO 17632-A:** T 42 4 B M 1 H5

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.07 Si = 0.38 Mn = 1.58 P = 0.019 S = 0.012	570 R_m (N/mm²) 486 $R_{p0.2}$ (N/mm²) 31 A_5 (%) -45ºC ≥27 ISO - V (J)	=+	PA PB PF PE	1.00	-	CS113975
				1.20	140-300	CS113976
				1.60	180-400	CS113977

APPLICATIONS

- Used for welding carbon steel and low-alloy structural steel with tensile strengths greater than or equal to 490MPa and with excellent low-temperature toughness and good resistance to cracking.
- Suitable for welding some important structures such as shipbuilding, vehicles, mechanical engineering, pressure vessels, petrochemical machinery, lifting machinery, etc.
  Used for welding carbon steels and high-strength steels of grade 500MPa.

PROTECTIVE GAS

- M21/C1

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xARC 71B PREMIUM **AWS/ASME A5.20:** E71T-5M-JH4 | **EN ISO 17632-A:** T 46 6 B M 3 H5

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.06 Si = 0.4 Mn = 1.4	580 R_m (N/mm²) 480 $R_{p0.2}$ (N/mm²) 28 A_5 (%) -60ºC 100 ISO - V (J)	=+	PA PB PF PE		110-300	CS113978

APPLICATIONS

- Non-alloy construction steel, boiler plate, pipe steels, fine grain steels, shipbuilding steels, cast steels.

PROTECTIVE GAS

- M21

BASE MATERIALS

- Unalloyed construction steels: EN 10025 | S185, S235JR to S355K2G4.
- Boiler plate: EN 10028-2 | P235GH, P265GH, P295GH, P355GH.
- Fine grain steels: EN 10028-3 | P275N, NH, NL1, NL2 to P460N, NH, NL1, NL2. EN 10113 | S275N to S460N, S275M to S460ML.
- Pipe steels: EN 10208 | L240NB to L445NB. API 5LX | X42, X46, X 52, X60, X65.
- Pressure vessel plates: ASTM SA-516 Gr55 to SA-516Gr70.
- Steels for shipbuilding: A, B, D, E, and A32/36 to F40.
- Cast steels: DIN 1681 | GS-38, GS-45, GS-52

xARC 71 11 AP **AWS A5.20:** E71T-11 | **EN ISO 17632-A:** T 42 Z Z Z N 1

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.08 Si = 0.25 Mn = 1.21 P = 0.024 S = 0.017	545 R_m (N/mm²) 455 $R_{p0.2}$ (N/mm²) 22.5 A_5 (%)	=-	PA PB PF PE	0.90	-	CS114080
				1.20	-	CS114081

APPLICATIONS

- Self-shielded flux-cored wire for all positions, suitable for multipass welding and can be used for vertical downward welding. With good welding properties such as less spatter, stable arc, low smoke content, easy slag removal and excellent bead appearance.

xArc 71 ZINC **AWS/ASME A5.18:** E70C-GS | **EN ISO 17632-A:** T 46 Z Z M M 1 H5

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.1 Si = 0.6 Mn = 1.6 Fe Bal.		=+	PA PB PF PE	1.00	70-250	CS114082

APPLICATIONS

- Unalloyed galvanised steel for construction, boiler plate, pipe steels, fine grain steels, shipbuilding steels.

BASE MATERIALS

- St12, St13, St14.
- ZStE 260 to ZStE 420.
- StE 250-2Z to StE 305-3Z.

PROTECTIVE GAS

- M21

STAINLESS STEEL

xARC 308L **AWS/ASME SFA-5.22:** **EN ISO 17633-A:**

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.035 Si = 0.60 Cr = 19.2 Cu = 0.02 Mn = 1.60 Mo = 0.01 Ni = 9.5 P = 0.020 S = 0.015	580 R_m (N/mm^2) 46 A_5 (%)	=+	PA PB PF PE	1.20	120-220	

APPLICATIONS

- Super low carbon stainless steel flux cored wire, designed for all positional welds, which can be used to join stainless steel alloys such as AISI types 301, 302, 304, 305 and 308.
- Its deposited metal has excellent mechanical properties and resistance to intergranular corrosion.

PROTECTIVE GAS

- M21/C1

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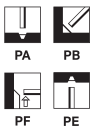
xARC 308L AP **AWS A5.22:** E308L T0-3

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.035 Si = 0.60 Cr = 20.3 Cu = 0.02 Mn = 1.60 Mo = 0.01 Ni = 9.5 P = 0.020 S = 0.015	585 (N/mm2) 43 A_5 (%)	=+		0.90	120-220	CS113983

APPLICATIONS

- Self-shielded, flux-cored stainless steel wire designed with a nominal weld metal composition of 21% chromium and 10% nickel, with a maximum carbon content of 0.03%.
- The low carbon content of E308LT0-3 minimises the precipitation of carbides and makes the weld metal more resistant to intergranular corrosion.

xARC 316L **AWS/ASME SFA-5.22:** E 316L T1-1/4 | **EN ISO 17633-A:** T 19 12 3 L P C/M 1

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.039 Si = 0.55 Cr = 18.50 Cu = 0.03 Mn = 1.4 Mo = 2.60 Ni = 12.30 P = 0.022 S = 0.007	549 R_m (N/mm²) 40 A_5 (%) -196°C 38 ISO - V (J)	=+		1.20	120-220	

APPLICATIONS

- All-position flux-cored wire adaptable to a variety of workshop and field assembly applications.
- Designed for cryogenic applications where good weld metal strength is required.
- Contains molybdenum which resists pitting corrosion induced by sulphuric and sulphurous acids, chlorides and cellulose solutions.
- Developed for welding austenitic stainless steels type 316, 316L for low temperatures.

PROTECTIVE GAS

- M21/C1

xARC 316L AP **AWS A5.22:** E316LT0-3

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.039 Si = 0.55 Cr = 18.50 Cu = 0.03 Mn = 1.4 Mo = 2.60 Ni = 12.30 P = 0.022 S = 0.007	544 R_m (N/mm²) 42 A_5 (%) -196ºC 49 ISO - V (J)	=+	PA PB	0.90	120-220	CS113986

APPLICATIONS

- Self-protected, flux-cored stainless steel wire designed with a nominal weld metal composition of 19% chromium, 12.5% nickel, 2.5% molybdenum and a maximum carbon content of 0.03%. The Mo contained improves corrosion resistance and provides greater resistance to creep. In addition, the low carbon content minimises the precipitation of carbides and makes it more resistant to intergranular corrosion.

xARC 347 **AWS/ASME SFA-5.22:** E 347 T1-1/4 | **EN ISO 17633-A:** T 19 9 Nb P C/M 1

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.054 Si = 0.54 Cr = 20.00 Cu = 0.03 Mn = 1.32 Mo = 0.012 Ni = 10.00 P = 0.020 S = 0.008 Nb = 0.63	576 R_m (N/mm²) 37 A_5 (%)	=+	PA PB PF PE	1.20	-	CS115721

APPLICATIONS

- Stainless steel flux-cored wire designed for all positional welds and can be used to weld 347 and 321 stainless steel.
- The welding deposit has 5-15% ferrite. Niobium (Nb) is used as a stabilised element to prevent intergranular corrosion. It is used to weld important anti-corrosion steels containing Nb or nickel-chromium alloys containing Ti as a stabilising element.

PROTECTIVE GAS

- M21/C1

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xARC DUPLEX **AWS A5.22:** E2209T0-4 | **EN ISO 17633-A:** T 22 9 3 N L R M21 3

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.023 Si = 0.54 Cr = 22.68 Cu = 0.008 Mn = 1.17 Mo = 2.88 Ni = 9.62 P = 0.019 N = 0.154 S = 0.008	832 R_m (N/mm²) 29.6 A_5 (%)	=+		1.20	120-220	CS113771

APPLICATIONS

- Used for welding duplex stainless steels in a variety of applications including the manufacture of tubes and plates.

PROTECTIVE GAS

- M21

SPECIAL APPLICATIONS

xARC 307 **AWS A5.22:** E307T0-1/4 | **EN ISO 17633-A:** T 18 8 Mn C/M 1

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.025 Si = 0.566 Cr = 19.98 Cu = 0.025 Mn = 4.33 Mo = 0.569 Ni = 9.82 P = 0.018 S = 0.009	582 R_m (N/mm²) 41 A_5 (%)	=+		1.20	120-220	CS113987

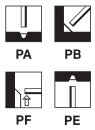
APPLICATIONS

- Stainless steel wire for gas shielded arc welding (CO2/Ar + CO2) of austenitic stainless steels and manganese steels considered difficult to weld or poorly identified.
- Non-magnetic stainless steel, resistant to hot cracking and work hardening welding deposits.
- Ideal as a cushion layer before hardfacing crack-sensitive grades or in the case of dissimilar joints between stainless steel and steel construction.
- Used for repairing parts exposed to shocks and friction.

PROTECTIVE GAS

- M21/C1

xARC 309L **AWS A5.22:** E309LT1-1/4 | **EN ISO 17633-A:** T 23 12 L P C/M 1

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.039 Si = 0.55 Cr = 23.02 Cu = 0.03 Mn = 2.10 Mo = 0.02 Ni = 12.97 P = 0.022 S = 0.007	575 R_m (N/mm²) 34 A_5 (%) -196ºC 40 ISO - V (J)	=+		1.20	120-220	CS113988

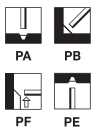
APPLICATIONS

- Stainless steel flux-cored wire, designed for welding 22% Cr-12%Ni steel (SUS 309S), 18% Cr-8%Ni coated steel and dissimilar materials such as Cr-Mo steel or mild steel to stainless steel and carbon steel build-up welding.

PROTECTIVE GAS

- M21/C1

xARC 309L MO **AWS/ASME SFA-5.22: EN ISO 17633-A:**

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.02 Si = 0.47 Cr = 23.43 Cu = 0.05 Mn = 1.3 Mo = 2.3 Ni = 13.12 P = 0.008 S = 0.015	627 R_m (N/mm²) 32 A_5 (%)	=+		1.20	120-220	CS113989

APPLICATIONS

- Suitable for welding carbon steel, low alloy steel and dissimilar stainless steel materials, or for overlap welding on the stainless steel cladding layer.

PROTECTIVE GAS

- M21/C1

HARDFACING

xARC DUR 350 **EN14700:** T Fe1

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C < 1.0 Si ≤ 1.0 Cr = 1.0-2.0 Mn = 2.5-5.0 Fe Bal.	30-40 HRc	=+	PA PB	1.20	180-250	CS113990

APPLICATIONS

- Gears, bucket teeth, dredger bucket, tractor scraper, other similar wear conditions.

PROTECTIVE GAS

- M21/C1

xARC DUR 350 PREMIUM **EN ISO 14700:** T Fe1

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.15 Si = 0.7 Cr = 2 Mn = 1.5 Mo = 0.2	350 HB	=+-	PA PB	1.20	110-300	CS113991

APPLICATIONS

- Used to coat and rebuild parts subject to high impact and high compressive stresses.

PROTECTIVE GAS

- M12/M13/M20/M21/C1

xARC DUR 600 **EN 14700:** T Fe2

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.2-0.8 Si ≤ 2.0 Cr = 4.0-6.0 Mn = 0.5-2.5 V ≤ 1.0 W ≤ 1.5 Fe Bal.	55-60 HRc	=+	-	1.20	180-260	CS113993

APPLICATIONS

- Part coating for armoured machinery, buckets, cutting picks, loaders, mining machinery.

PROTECTIVE GAS

- M21/C1

xARC DUR 600 PREMIUM **EN ISO 14700:** T Fe2

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.5 Si = 0.7 Cr = 6 Mn = 1.2 Mo = 0.7		=+-	-	1.20	110-300	CS113994

APPLICATIONS

- Used for paving components that must combine resistance to abrasion and moderate impact.

PROTECTIVE GAS

- M12/M20/M21

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xARC DUR FAST STEELS PREMIUM **EN ISO 14700:** T Fe4

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 1.1 Si = 0.5 Cr = 4.9 Mn = 0.5 Mo =7.5 V = 1.1 W = 2.3	57-63 HRc	=+		1.20	100-300	CS113995

APPLICATIONS

- Used for hardfacing components subject to metal-to-metal wear under moderate impact conditions.

PROTECTIVE GAS

- M12/M13/M20/M21/C1

xARC DUR 65/13 PREMIUM **EN ISO 14700:** T ZFe13

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.5 Si = 1.3 Mn = 2 Ni = 2 B = 4.5 Fe Bal.	60-65 HRc	=+		1.20	140-230	CS113996

APPLICATIONS

- Self-protecting flux-cored wire used for coating components subject to wear from dirt, sand and abrasives in agriculture, quarries, mines and public works.

xARC DUR 67/16 PREMIUM **EN ISO 14700:** T ZFe16

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 2.5 Si = 0.6 Cr = 11.5 Mn = 2 Nb = 5 B = 2.2	64-68 HRc	=+	PA PB	1.20	-	CS113997

APPLICATIONS

- Self-shielded flux-cored wire for loads resistant to abrasion by fine particles under high tension or erosion in a gaseous environment.

xARC DUR 61/15 PREMIUM **AWS/ASME A5.21:** ERCFeCr-A9 | **EN ISO 14700:** T Fe15

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 5 Si = 1.5 Cr = 27 Mn = 1.5	58-64 HRc	=+	PA PB	1.20	100-250	CS113998

APPLICATIONS

- Self-shielding flux-cored wire used for hardfacing components subject to wear from dirt, sand and abrasives.

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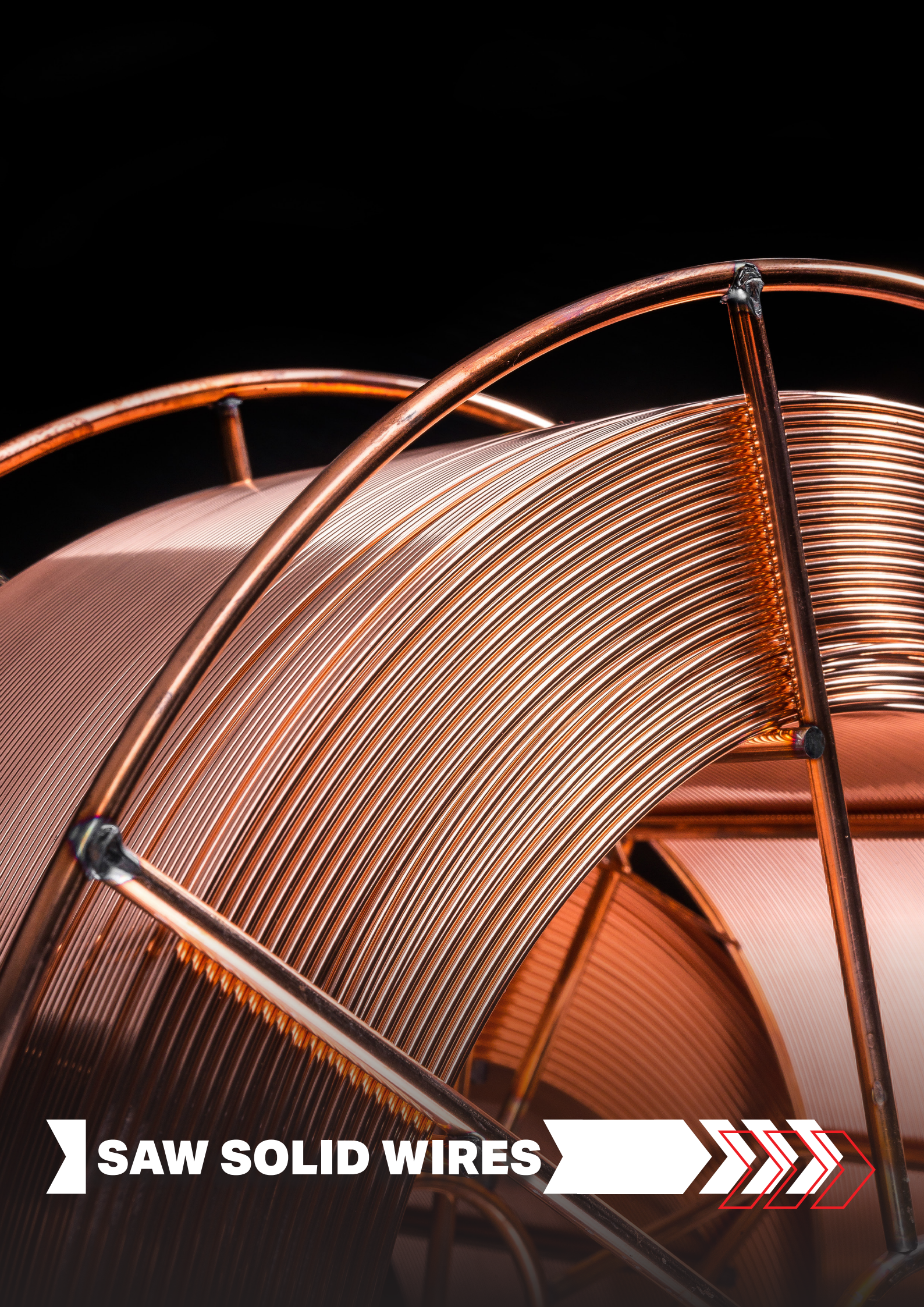
xARC DUR 65/16 PREMIUM **EN ISO 14700:** T Fe16

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 5.5 Si = 1.5 Cr = 22 Mn = 0.5 Mo = 5.5 Nb = 6 V = 1 W = 2	65 HRc	=+		1.60	-	CS115651

APPLICATIONS

- Self-protected flux-cored wire designed to provide a weld deposit of particularly high hardness and wear resistance, due to the dispersion of hard complex carbides it contains. This provides superior performance compared to standard chromium cast irons.
- Optimum properties are achieved in three layers.
  Relief control is standard.


SAW SOLID WIRES

CARBON AND LOW ALLOY STEELS

DESIGNATION	CLASSIFICATION	PAG.
xARC S2	SFA 5.17/AWS A5.17: EM12(K) | EN ISO 14171-A (EN 756): S2	134
xARC S2 SI	SFA 5.17/AWS A5.17: EM12K | EN ISO 14171-A (EN 756): S2Si	134
xARC S3 SI	SFA 5.17/ASME A5.17: EH12K | EN ISO 14171-A (EN 756): S3Si	135
xARC S2MO	SFA/AWS A5.23: EA2 | EN ISO 14171-A: S2Mo | EN ISO 24598-A: S2MO	135

STAINLESS STEEL

DESIGNATION	CLASSIFICATION	PAG.
xARC 308L	SFA 5.9/AWS A5.9: ER 308L | EN ISO 14343-A: S 19 9 L	136
xARC 316L	SFA-5.9/AWS A5.9: ER 316L | EN ISO 14343-A: S 19 12 3 L	136

CARBON AND LOW ALLOY STEELS

xARC S2 SFA 5.17/AWS A5.17: EM12(K) | EN ISO 14171-A (EN 756): S2

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.11 Si = 0.12 Cr = 0.03 Cu = 0.09 Mn = 1.07 Mo = 0.01 Ni = 0.04 P = 0.007 S = 0.008	-	-	-	2.40	-	CS114083
				3.20	-	CS114084
				4.00	-	CS114085

APPLICATIONS

- Wire for submerged arc welding of non-alloy and fine-grained steels, boiler steels and pipe steels.

BASE MATERIALS

- Non-alloy structural steels according to EN 10025 and ASTM: S235JRG2/A570 grade 36 to S355J2G3R/A572 grade 50.
- Fine grain steels according to EN 10025, EN 10028 and ASTM: up to P355N/S355NL/A516 grade 70.
- Pipe steels according to ISO 3183, EN 10208 and API-5: L415N/X60.
- Boiler steel according to EN 10028 and ASTM: P235GH/A516 grade 55, P355GH/A516 grade 70 and S275J2G3/ A572 grade 42, S355J2G3/A572 grade 50.

xARC S2 SI SFA 5.17/AWS A5.17: EM12K | EN ISO 14171-A (EN 756): S2Si

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.09 Si = 0.26 Cr = 0.05 Mn = 0.96 Mo = 0.03 Ni = 0.05 P = 0.008 S = 0.006	-	-	-	2.40	-	CS114086
				3.20	-	CS114087
				4.00	-	CS114088

APPLICATIONS

- Wire with higher Si content for submerged arc welding of unalloyed and fine-grained steels, boiler steels and pipe steels.

BASE MATERIALS

- Non-alloy structural steels according to EN 10025 and ASTM: S235JRG2/A570 grade 36 to S355J2G3R/A572 grade 50.
- Fine grain steels according to EN 10025, EN 10028 and ASTM: up to P355N/S355NL/A516 grade 70.
- Pipe steels according to ISO 3183, EN 10208 and API-5 standards: L415N/X60 and L450Q/X65.
- Boiler steels according to EN 10028 and ASTM: P235GH/A516 grade 55, P355GH/A516 grade 70 and S275J2G3/A572 grade 42, S355J2G3/A572 grade 50.

xARC S3 SI **SFA 5.17/ASME A5.17:** EH12K | **EN ISO 14171-A (EN 756):** S3Si

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.09 Si = 0.33 Cr = 0.03 Cu = 0.06 Mn = 1.57 Mo = 0.06 Ni = 0.04 P = 0.012 S = 0.009	-	-	-	2.40	-	CS114089
				3.20	140-300	CS114090
				4.00	180-400	CS114091

APPLICATIONS

- Wire with higher Si content for submerged arc welding of unalloyed and fine-grained steels (especially Off-Shore), higher strength shipbuilding steels, pipe steels, boiler and ship steels.

BASE MATERIALS

- Non-alloy structural steels according to EN 10025 and ASTM: S235JRG2/A570 grade 36 to S355J2G3R/A572 grade 50.
- Fine grain steels according to EN 10025, EN 10028 and ASTM: P355N/S355NL/A516 grade 70 / 633 grade E and P460N/S460NL.
- Offshore structural steels up to 460 MPa yield strength and BS 4360 grade 50 D.
- Steels for shipbuilding: greater resistance.
- Pipe steels according to ISO 3183, EN 10208 and API-5 standards: L360N/X52 to L485Q/X70.
- Boiler and vessel steels according to EN 10028 and ASTM: P235GH/A516 grade 55, P355GH/A516 grade 70 and S275J2G3/A572 grade 42, S355J2G3/A572 grade 50.

xARC S2MO **SFA/AWS A5.23:** EA2 | **EN ISO 14171-A:** S2Mo | **EN ISO 24598-A:** S2MO

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.09 Si = 0.16 Cr = 0.02 Mn = 1.15 Mo = 0.50 Ni = 0.01 P = 0.006 S = 0.005	-	-	-	2.40	-	CS114092
				3.20	-	CS114093
				4.00	-	CS114094

APPLICATIONS

- Mo-alloy wire for submerged arc welding of fine-grained steels, pipe steels and heat-resistant steels for boilers and heat-resistant steels.

BASE MATERIALS

- Fine grain steels according to EN 10025, EN 10028 and ASTM: P420N/S420NL/A633 grau E and P460N/S460NL.
- Pipe steels according to ISO 3183, EN 10208 and API-5: L415N/X60 to L485Q/X70.
- Heat-resistant steels according to EN 10028 and ASTM: 16 Mo 3/A204 grau A and A209 grau T1, S275J2G3/A572 grau 42 and S355J2G3/A572 grau 50.

SAW SOLID WIRES

STAINLESS STEEL

xARC 308L **SFA 5.9/AWS A5.9:** ER 308L | **EN ISO 14343-A:** S 19 9 L

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.02 Si = 0.4 Cr = 20.0 Cu = 0.1 Mn = 1.8 Mo = 0.1 Ni = 10.0 P = 0.020 S = 0.013	-	-	-	2.40	-	CS114095
				3.20	-	CS114096
				4.00	-	CS114097

APPLICATIONS

- Submerged arc welding wire for welding austenitic stainless steels 18% Cr-10% Ni 1.4306 type 304, 304L.

BASE MATERIALS

- 1.4306/X2CrNi19-11, 1.4301/X5CrNi18-10, 1.4311/X2CrNiN18-10, 1.4312/GX10CrNi18-8, 1.4541/X6CrNiTi18-10, 1.4546/X5CrNiNb18-10, 1.4550/X6CrNiNb18-10
AISI 304, 304L, 304LN, 302, 321, 347; ASTM A157 grau C9; A320 grau B8C ou D

xARC 316L **SFA-5.9/AWS A5.9:** ER 316L | **EN ISO 14343-A:** S 19 12 3 L

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.015 Si = 0.4 Cr = 19.0 Cu = 0.15 Mn = 1.7 Mo = 2.7 Ni = 12.0 P = 0.020 S = 0.013	-	-	-	2.40	-	CS114098
				3.20	-	CS114099
				4.00	-	CS114100

APPLICATIONS

- Submerged arc welding wire for welding 1.4435 / 316L austenitic stainless steels. Suitable for operating temperatures from -120°C to +400°C.

BASE MATERIALS

- 1.4401/X5CrNiMo17-12-2, 1.4404/X2CrNiMo17-12-2, 1.4435/X2CrNiMo18-14-3,1.4436/X3CrNiMo17-13-3, 1.4571/X6CrNiMoTi17-12-2, 1.4580/X6CrNiMoNb17-12-2, 1.4583/X10CrNiMoNb18-12, 1.4409/GX2CrNiMo 19-11-2 UNS S31653; AISI 316L, 316Ti, 316Cb

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SAW FLUX

CARBON AND LOW ALLOY STEELS

DESIGNATION	CLASSIFICATION	PAG.
xARC ALUMINATO RUTÍLO	ISO 14174: S A AR 1 76 AC H5 | EN 760: SA AR 1 76 AC	140
xARC ALUMINATO BÁSICO SPECIAL	ISO 14174: S A AB 1 67 AC H5 | EN 760: SA AB 1 67 AC H5	140
xARC ALUMINATO BÁSICO	ISO 14174: S A AB 1 67 AC H5 | EN 760: SA AB 1 67 AC H5	141
xARC FLUORETO BÁSICO	ISO 14174: S A FB 1 55 AC H5 | EN 760: SA FB 1 55 AC	141

STAINLESS STEEL

DESIGNATION	CLASSIFICATION	PAG.
xARC ALUMINATO FLUORETO BÁS.	ISO 14174: S A AF 2 5644 DC H5 | EN 760: SA AF 2 DC	142
xARC CÁLCIO SILICATO	ISO 14174: S F CS 2 5742 DC | ISO 14174: S F CS 1 63 DC | EN 760: SF CS 2 DC	143

CARBON AND LOW ALLOY STEELS

xARC ALUMINATO RUTÍLO **ISO 14174:** S A AR 1 76 AC H5 | **EN 760:** SA AR 1 76 AC

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.04-0.08 Si = 0.3-0.6 Mn = 0.8-1.1	-	=+ ~	-	-	-	CS114101

APPLICATIONS

- Preferably used for single-pass, two-pass and fillet submerged arc welding.
- The main fields of application include steel structures, thin-walled containers, LP gas cylinders and thin tube walls.

xARC ALUMINATO BÁSICO SPECIAL **ISO 14174:** S A AB 1 67 AC H5 | **EN 760:** SA AB 1 67 AC H5

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.05-0.08 Si = 0.2-0.4 Mn = 0.9-1.3	-	=+ ~	-	-	-	CS114102

APPLICATIONS

- Joint welding of non-alloy and low-alloy structural steels according to EN 10025.
- Fine-grained construction steels with YS < 420MPa and boiler steels such as P265GH (H II) and 16M03.

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xARC ALUMINATO BÁSICO **ISO 14174:** S A AB 1 67 AC H5 | **EN 760:** SA AB 1 67 AC H5

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.05-0.8 Si = 0.2-0.4 Mn = 1.1-1.5	-	=+ | ~	-	-	-	CS114103

APPLICATIONS

- Submerged arc welding of low-alloy structural steels (Y.S. up to 420MPa), boiler and vessel materials, high-strength ship steels such as EH36, fine-grained structural steels up to Y.S. 460 MPa and pipe steel grades up to X70 (ISO 3183/ API-5L).

xARC FLUORETO BÁSICO **ISO 14174:** S A FB 1 55 AC H5 | **EN 760:** SA FB 1 55 AC

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C = 0.05-0.09 Si = 0.1-0.3 Mn = 0.8-1.2	-	=+ | ~	-	-	-	CS114104

APPLICATIONS

- Thick-walled construction steels with yield strengths up to 420MPa.
- OFF-SHORE applications up to 550MPa yield strength in steels such as BS 4360-Grade 50 D and S355 2G3 according to DIN EN 10025 (previous designation St 52-3N).
- Fine-grained structural steels for low-temperature requirements with impact resistance at - 60°C or less.
- Fine-grained steels with high tensile strength.
- Boiler and vessel steels.

STAINLESS STEEL

xARC ALUMINATO FLUORETO BÁSICO **ISO 14174:** S A AF 2 5644 DC H5 | **EN 760:** SA AF 2 DC

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C < 0.03 Si = 0.3-0.65 Cr = 19.5-22.0 Cu = 0.1 Mn = 1.0-2.5 Ni = 9.0-11.0	-	=+	-	-	-	CS114105

APPLICATIONS

- Austenitic-ferritic stainless steels (DSS) such as grade 2205 (Duplex S31805/S32205 = 1.4462).
- CrNi(Mo) austenitic steels (including Nb/Ti and ELC grades); resistant to intergranular corrosion, both in the welded and solution-treated state.
- High-alloy CrNi(Mo) steels for use at low temperatures and heat-resistant steels.
- Nickel-based alloys using NiCr and NiCrMo wire electrodes in accordance with AWS A5.14/ EN ISO 18274.
- Welding dissimilar metals such as low alloy steel with stainless steel or special cryogenic steel (e.g. Ni-9% steel) in a flat or 2G position.

info@electrexwelding.com

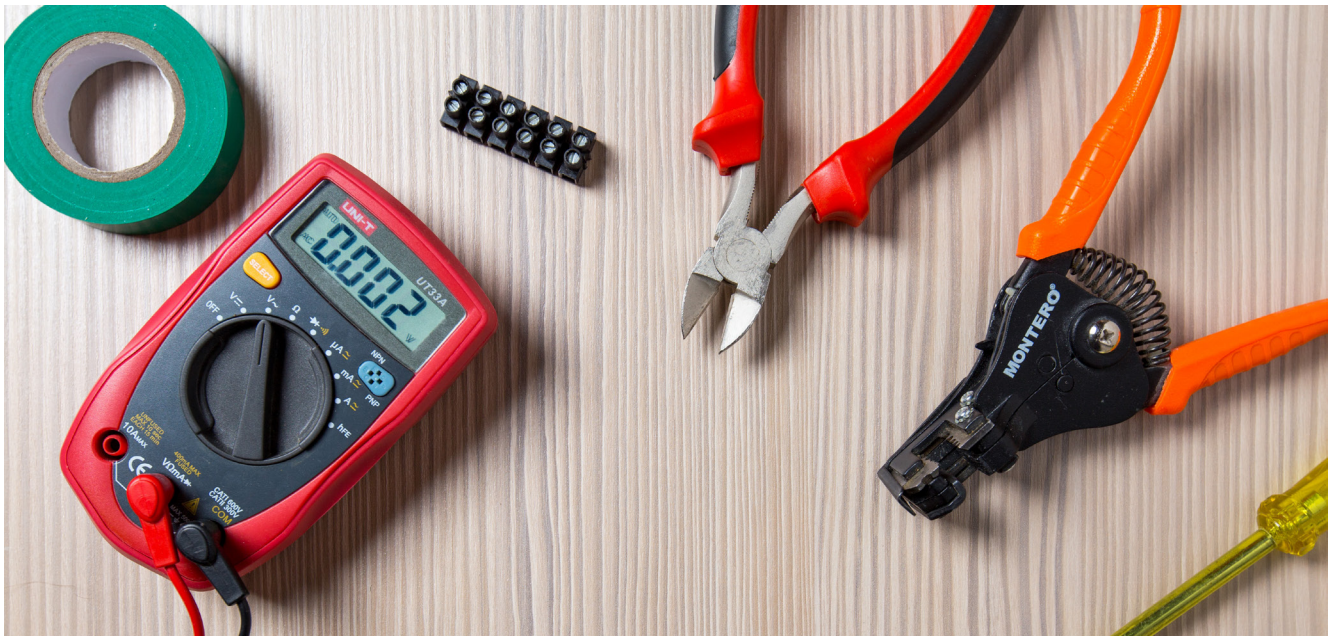
xARC CÁLCIO SILICATO **ISO 14174:** S F CS 2 5742 DC | **ISO 14174:** S F CS 1 63 DC | **EN 760:** SF CS 2 DC

CHEMICAL COMPOSITION (%)	MECHANICAL PROPERTIES	POLARITY / VOLTAGE	WELDING POSITION	MEASURES (mm)	AMPERAGE	REF.
C < 0.08 Si < 0.5 Mn < 1.0 Mo = 0.5	-	=+	-	-	-	CS114106

APPLICATIONS

- Creep-resistant CrMo steels such as 12CrMo19-5/A355 grade P22-P5 or X20CrMoWV12-1/A351 for the manufacture of boilers, vessels and pipes.
- Martensitic and ferritic Cr(NiMo) steels, in accordance with EN 10088, with the appropriate wire electrodes, together with the corresponding heat treatments.
- CrNi(Mo) austenitic steels (including ELC grades) according to EN 10088; resistant to intergranular corrosion in both the welded and solution-treated state.
- High-alloy CrNi(Mo) steels for use at low temperatures and heat-resistant steels.
- High-alloy Cr(NiMo) steels in combination with low-alloy steels (dissimilar joints).
- Nickel-based alloys using NiCr and NiCrMo wire electrodes in accordance with AWS A5.14 / EN ISO 18274.

ELECTREX SERVICES



WARRANTY

Our consumables are manufactured using rigorous production processes and tested to operate under the most demanding conditions and in accordance with international standards, guaranteeing their reliability and quality.

DO YOU HAVE TECHNICAL QUESTIONS?

At Electrex we are always available to listen and answer the needs of our customers as soon as possible. Use our fast Email and WhatsApp communication channels to solve your questions or technical difficulties

Rui Almeida:

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NOTES

NOTES

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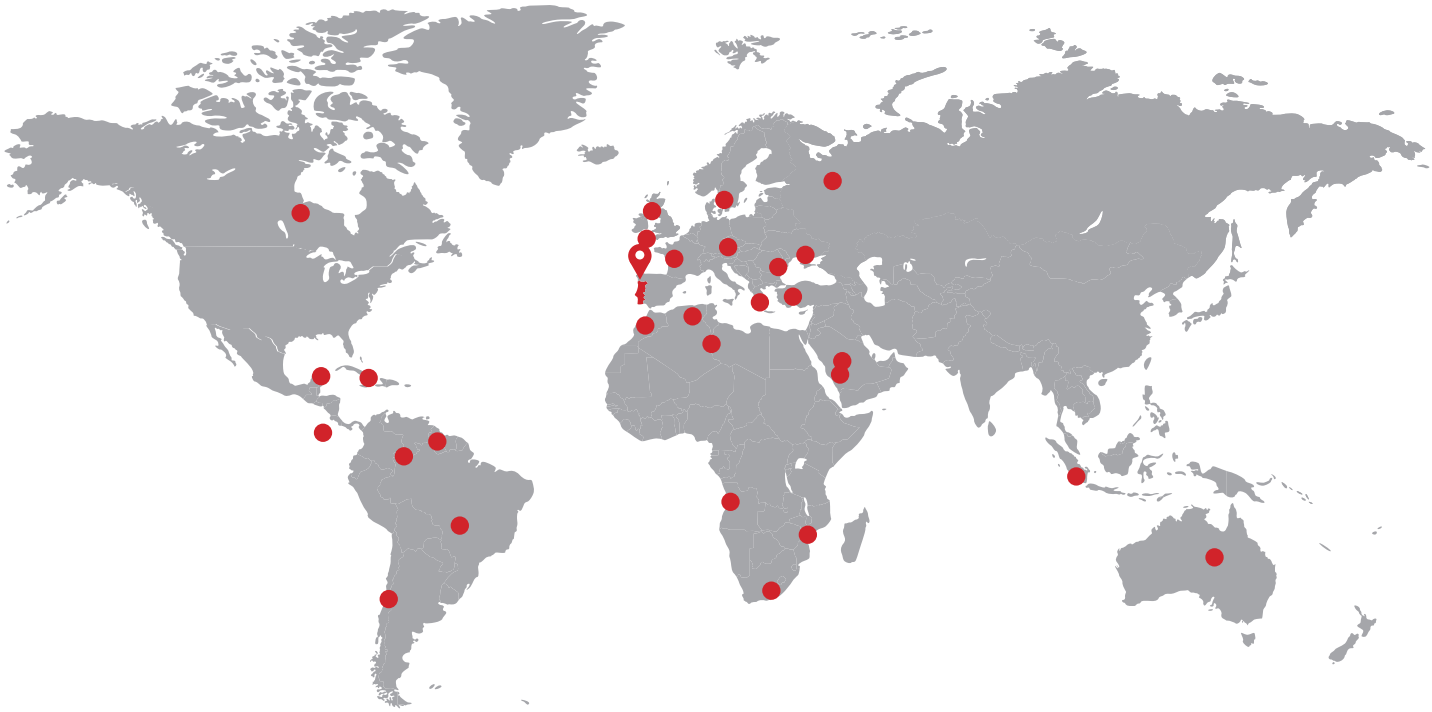

● **Distribution points**

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