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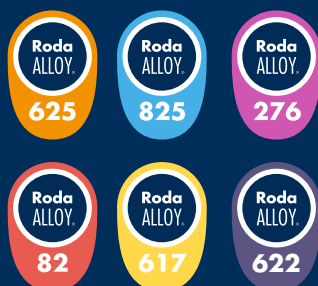
WELDING SOLUTIONS

Rodacciai
WELDING





Rodacciai
WELDING



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COMPANY PROFILE



70 YEARS OF EXPERIENCE IN STEEL BUSINESS

Today the Rodasteel Group is an international leader in the production and processing of steel. Our production and sales locations on three continents (Europe, Asia and America) provide Rodasteel with a widespread sales network to distribute finished products in stainless steels, alloy steels and carbon steels all over the world. The secret of this success is based on an extensive and diversified range of high quality products, on paying attention to the customers, on the ability to innovate continuously and on the experience of Rodasteel people, who know how to identify upcoming market shifts and opportunities.

1956

Foundation of
Trafileria Roda & C.
by Giuseppe Roda

1960

Introduction of lead alloy
steel processing, considered
to be the best in the world

1971

Construction of
the new plant
in Bosisio Parini

1981

Construction of the
Sirone plant, with the
rolling mill

1984

Trafileria Roda & C
becomes
Roda Acciai company

Rodacciai was born in Pusiano (Como) in 1956, when Trafiliera Roda & C. was founded by the charismatic and innovative entrepreneur Giuseppe Roda. Started as a small local company for steel bar cold drawing, in 1960 Trafiliera Roda & C. embarked on a path of production verticalisation along the steel processing chain. Thanks to the installation of a hot-working plant, the company expanded its original offer beyond semi-finished cold pressed products, becoming, during the

years, an international group in the steel processing sector. The group is made by two companies: Rodacciai S.p.A. (Italy) and Aceros Inoxidables Olarra S.A. (Spain). Transparency, integrity and passion are the main values for the entire group, based on them every decision and action are taken. These principles drive all Rodasteel activities and are the basis of the group's Code of Ethics.



1994

Acquisition of the company Olarra Aceros Inoxidables

1995-2005

Expansion of the commercial network in Europe and acquisition of smaller companies

2007-2016

Investments for production expansion

TODAY

Today, Rodasteel Group is a benchmark in the steel production and processing sector

QUALITY CONTROL SYSTEM

Rodacciai works with innovative machinery and optimized production processes to guarantee constant and repeatable high quality products over time. Since 1990 the company has obtained the ISO 9001 system certification, which certifies full compliance with the standards relating to the Quality Management Systems.

In the continuous development of its Quality Policy, Rodacciai, through its production lines, is able to comply with all the necessary certifications for its products.



Rodacciai | L A B



ALL IN HOUSE CONTROL STRATEGY & BUSINESS PROCESS REENGINEERING

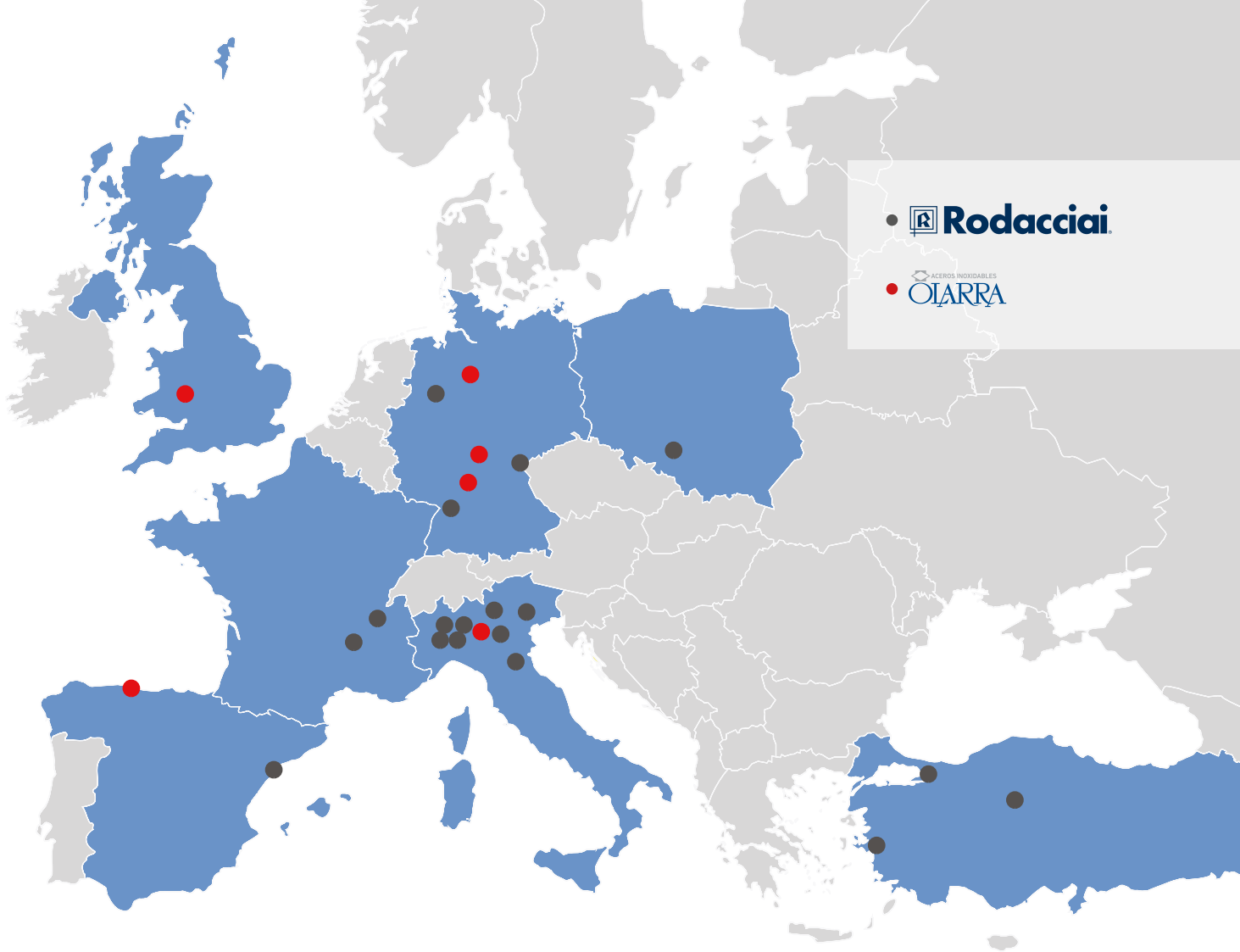
The strategic choices, made in the past, have been allowing the Group to differentiate itself over the time.

It is precisely starting from these choices that the company is today a leader in the cold finished steel market.

Our strategy is composed by: **ALL-IN-HOUSE**, to guarantee our customers continuous product and process improvement. Each phase is monitored and tracked.

Business Process Reengineering logic identifies 8 phases, including the redefinition of processes, identification of the levels for change, the development of concrete objectives and actions for continuous improvements.

Rodacciai LAB, an important investment in our laboratory and R&D Dept., creates a high value for both the above explained strategy, helping the company to continuous monitoring the products in each singular step.



• **Rodacciai**

• **OIARRA**



8 covered nations



27 distribution centres

EUROPE

Rodacciai

Country: Italy
N° of distribution centres: 6
Cities: Bosisio Parini, Torino, Bergamo, Padova, Bologna

Rodastahl

Country: Germany
N° of distribution centres: 3
Cities: Deisslingen, Hagen, Oelsnitz

Rodastal PL

Country: Poland
N° of distribution centres: 1
Cities: Gliwice

Rodacciai S L

Country: Spain
N° of distribution centres: 1
Cities: Barcelona

BİMEKS ÇELİK

Country: Turkey
N° of distribution centres: 3
Cities: Istanbul, Ankara, Izmir

Euroda Aciers

Country: France
N° of distribution centres: 2
Cities: Cluses, Chasse sur Rhône

COSEI

Country: Italy
N° of distribution centres: 1
Cities: Piacenza

ALMIPER

Country: Italy
N° of distribution centres: 1
Cities: San Giuliano Milanese

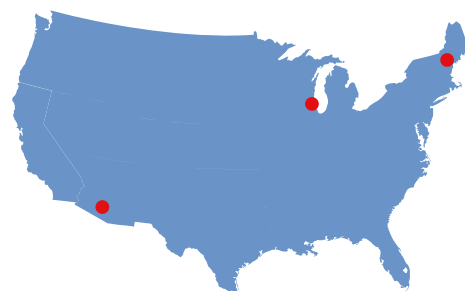
ISM

Country: Germany
N° of distribution centres: 3
Cities: Mulhem, Vaihingen, Francoforte

OIARRA

Country: Spain
N° of distribution centres: 1
Cities: Bilbao

USA



OIARRA - Italia

Country: Italy
N° of distribution centres: 1
Cities: Brescia

OIARRA U.K LTD

Country: Great Britain
N° of distribution centres: 1
Cities: Cleobury Mortimer

RodaSpecialtySteel

Country: USA
N° of distribution centres: 3
Cities: Los Angeles, Chicago, New Jersey

STAINLESS STEELS FOR WELDING

Stainless steel wires and rods of various types are used as welding filler materials for the production of electrodes and for MIG, TIG and Submerged Arc welding. According to the requirements austenitic, martensitic, ferritic or austenitic-ferritic (duplex - super duplex) stainless steels, are being used.

The use of selected wire rods with controlled impurity levels guarantee an optimal weld, both from the point of view of the mechanical strength and in terms of the presence of delta ferrite, i.e. corrosion resistance.

Furthermore the chemical composition of the materials are specially researched in order to be compatible with all principals international standards, including the European standard EN ISO and American standard AWS.

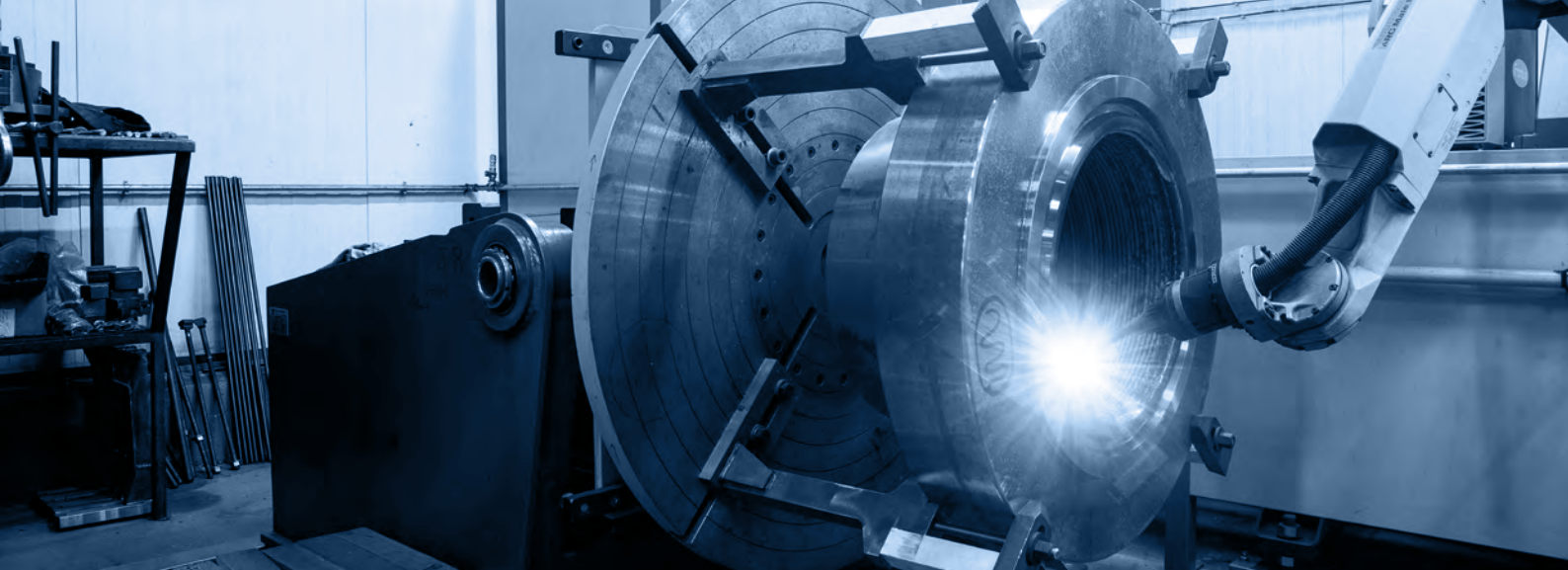
Thanks to the quality of its stainless steel welding wire products, Rodacciai supplies

all the major welding houses and electrode manufacturers in Europe, USA and throughout the world, supplying the products in a variety of packaging forms in order to satisfy any customer requirements.

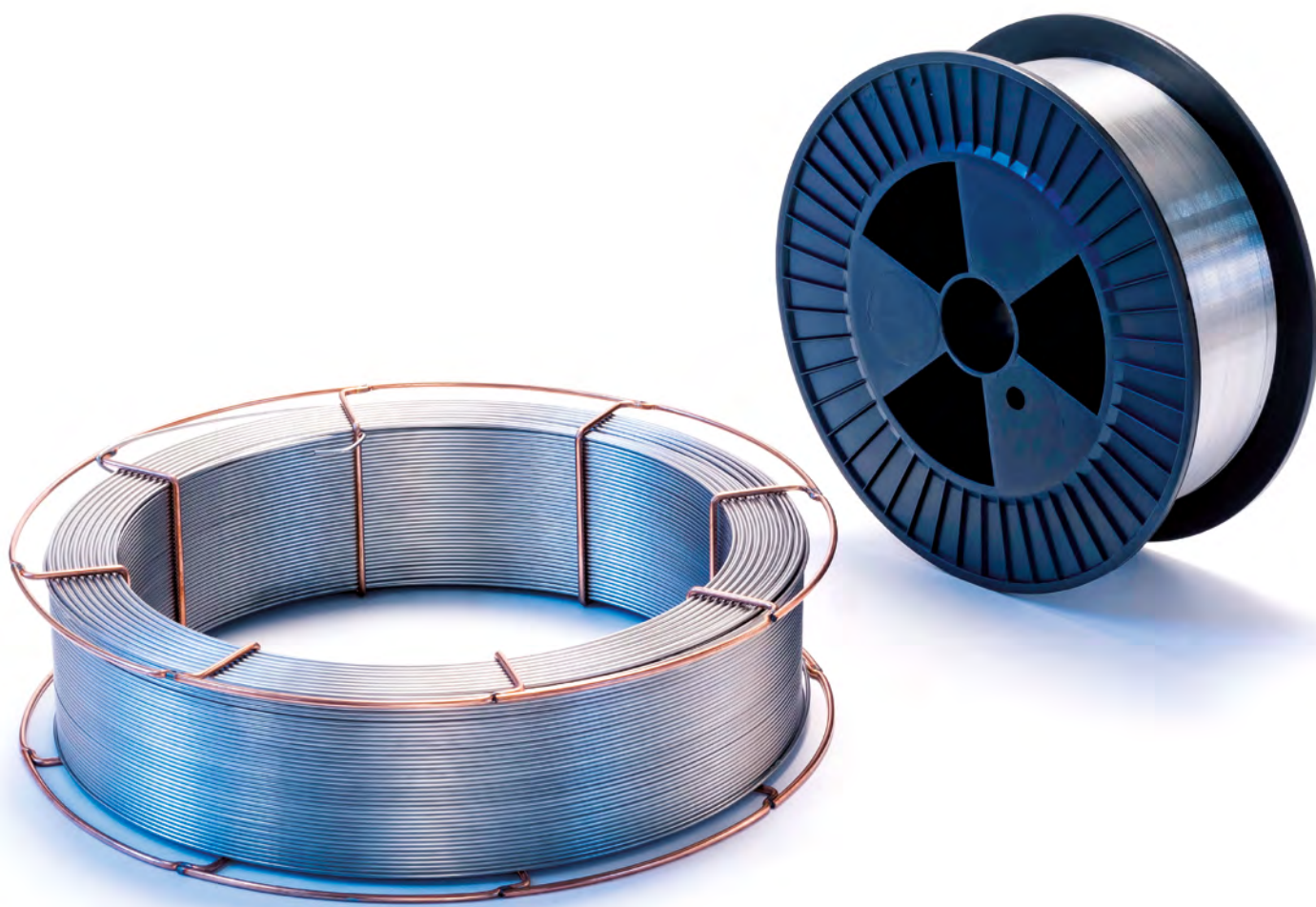
Rodacciai produces according to a Quality Assurance System in accordance with the EN ISO 9001:2015.

In the continuous development of its quality policy, the welding wire products have passed the most difficult tests and have obtained the TÜV / CE (Europe), DB (Germany) and CWB (Canada) product approvals.


In addition Rodacciai stainless steel welding products have been approved and are regularly used by the major car manufacturers worldwide and are also in compliance with the special requirements for the construction of nuclear power plants.

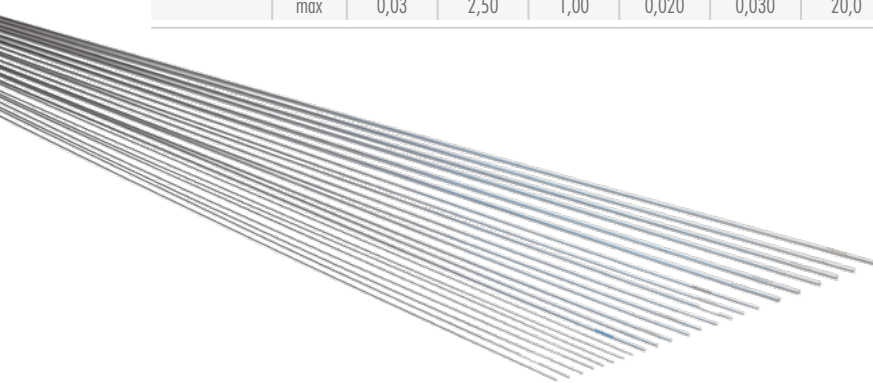


// FILLER MATERIALS FOR THE
UNION OR CLADDING OF
STAINLESS STEELS //



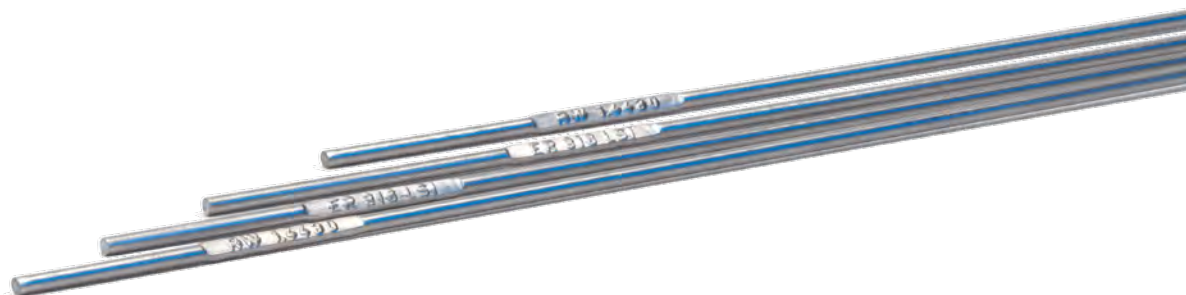
CHEMICAL COMPOSITION (BATCH ANALYSIS) %

		C	Mn	Si	S	P	Cr	Ni	Mo	Cu	N	Nb	Ti
RW 307	min	-	5,00	-	-	-	17,0	7,0	-	-	-	-	-
	max	0,08	8,00	0,50	0,030	0,030	20,0	10,0	0,30	0,30	-	-	-
RW 307L	min	-	5,00	0,30	-	-	17,0	7,0	-	-	-	-	-
	max	0,05	8,00	0,70	0,030	0,030	20,0	10,0	0,30	0,30	-	-	-
RW 307SI	min	-	5,00	0,65	-	-	17,0	7,0	-	-	-	-	-
	max	0,10	8,00	1,00	0,030	0,030	20,0	10,0	0,30	0,30	-	-	-
RW 308L	min	-	1,00	-	-	-	19,5	9,0	-	-	-	-	-
	max	0,03	2,50	0,20	0,020	0,030	21,0	11,0	0,30	0,30	-	-	-
RW 308LAWS	min	-	1,00	0,30	-	-	19,5	9,0	-	-	-	-	-
	max	0,03	2,50	0,65	0,020	0,030	21,0	11,0	0,30	0,30	-	-	-
RW 19-9-L	min	-	1,00	0,30	-	-	19,5	9,0	-	-	-	-	-
	max	0,03	2,50	0,65	0,030	0,030	22,0	11,0	0,75	0,75	-	-	-
RW 308LSI	min	-	1,00	0,65	-	-	19,5	9,0	-	-	-	-	-
	max	0,03	2,50	1,00	0,020	0,030	21,0	11,0	0,30	0,30	-	-	-
RW 308H	min	0,04	1,00	0,30	-	-	19,5	9,0	-	-	-	-	-
	max	0,08	2,50	0,65	0,020	0,030	21,0	11,0	0,30	0,30	-	-	-
RW 309L	min	-	1,00	0,30	-	-	23,0	12,0	-	-	-	-	-
	max	0,03	2,50	0,65	0,020	0,030	25,0	14,0	0,30	0,30	-	-	-
RW 309SI	min	-	1,00	0,65	-	-	23,0	12,0	-	-	-	-	-
	max	0,12	2,50	1,00	0,030	0,030	25,0	14,0	0,75	0,75	-	-	-
RW 309LSI	min	-	1,00	0,65	-	-	23,0	12,0	-	-	-	-	-
	max	0,03	2,50	1,00	0,020	0,030	25,0	14,0	0,30	0,30	-	-	-
RW 309LMO	min	-	1,00	0,30	-	-	21,0	11,0	2,00	-	-	-	-
	max	0,03	2,50	0,65	0,020	0,030	25,0	15,5	3,50	0,30	-	-	-
RW 309H	min	0,04	1,00	0,30	-	-	23,0	12,0	-	-	-	-	-
	max	0,15	2,50	0,65	0,030	0,030	24,0	14,0	0,50	0,30	-	-	-
RW 310	min	0,08	1,00	0,30	-	-	25,0	20,0	-	-	-	-	-
	max	0,15	2,50	0,65	0,020	0,030	27,0	22,0	0,30	0,30	-	-	-
RW 312	min	-	1,00	0,30	-	-	28,0	8,0	-	-	-	-	-
	max	0,15	2,50	0,65	0,020	0,030	32,0	10,5	0,30	0,30	-	-	-
RW 316L	min	-	1,00	-	-	-	18,0	11,0	2,50	-	-	-	-
	max	0,03	2,50	0,20	0,020	0,030	20,0	14,0	3,00	0,30	-	-	-
RW 316LAWS	min	-	1,00	0,30	-	-	18,0	11,0	2,50	-	-	-	-
	max	0,03	2,50	0,65	0,020	0,030	20,0	14,0	3,00	0,30	-	-	-
RW 316LSI	min	-	1,00	0,65	-	-	18,0	11,0	2,50	-	-	-	-
	max	0,03	2,50	1,00	0,020	0,030	20,0	14,0	3,00	0,30	-	-	-




CHEMICAL COMPOSITION (BATCH ANALYSIS) %

		C	Mn	Si	S	P	Cr	Ni	Mo	Cu	N	Nb	Ti
RW 316H	min	0,04	1,00	0,30	-	-	18,0	11,0	2,00	-	-	-	-
	max	0,08	2,50	0,65	0,020	0,030	20,0	14,0	3,00	0,30	-	-	-
RW 317LAWS	min	-	1,00	0,30	-	-	18,5	13,0	3,00	-	-	-	-
	max	0,03	2,50	0,65	0,020	0,030	20,0	15,0	4,00	0,30	-	-	-
RW 318SI	min	-	1,00	0,65	-	-	18,0	11,0	2,50	-	-	10xC	-
	max	0,08	2,50	1,00	0,020	0,030	20,0	14,0	3,00	0,30	-	1,00	-
RW 347	min	-	1,00	0,30	-	-	19,0	9,0	-	-	-	10xC	-
	max	0,08	2,50	0,65	0,020	0,030	21,0	11,0	0,30	0,30	-	1,00	-
RW 347SI	min	-	1,00	0,65	-	-	19,0	9,0	-	-	-	10xC	-
	max	0,08	2,50	1,00	0,020	0,030	21,0	11,0	0,30	0,30	-	1,00	-
RW 385	min	-	1,00	-	-	-	19,5	24,0	4,20	1,20	-	-	-
	max	0,025	2,50	0,50	0,020	0,020	21,5	26,0	5,20	2,00	-	-	-
RW 2209	min	-	0,50	-	-	-	21,5	7,5	2,50	-	0,10	-	-
	max	0,03	2,00	0,90	0,020	0,030	23,5	9,5	3,50	0,30	0,20	-	-
RW 409CB	min	-	-	-	-	-	10,5	-	-	-	-	10xC	-
	max	0,08	0,80	1,00	0,020	0,030	13,50	0,6	0,50	0,75	-	0,75	-
RW 410	min	-	-	-	-	-	12,0	-	-	-	-	-	-
	max	0,12	0,60	0,50	0,020	0,030	13,5	0,5	0,50	0,40	-	-	-
RW 410NIMO	min	-	-	-	-	-	11,0	4,0	0,40	-	-	-	-
	max	0,05	0,60	0,50	0,020	0,030	12,5	5,0	0,70	0,30	-	-	-
RW 4122	min	0,33	-	-	-	-	15,5	-	0,90	-	-	-	-
	max	0,43	1,00	0,70	0,020	0,030	17,5	1,0	1,20	-	-	-	-
RW 420	min	0,30	-	-	-	-	12,0	-	-	-	-	-	-
	max	0,40	0,60	0,50	0,030	0,030	14,0	0,6	0,75	0,75	-	-	-
RW 420C	min	0,38	0,30	-	-	-	12,0	-	-	-	-	-	-
	max	0,43	0,60	0,50	0,030	0,030	14,0	0,6	0,75	0,75	-	-	-
RW 430	min	-	-	-	-	-	16,0	-	-	-	-	-	-
	max	0,10	0,60	0,50	0,030	0,030	17,0	0,6	0,75	0,75	-	-	-
RW 430LNB	min	-	-	-	-	-	17,8	-	-	-	-	0,05+ 7(C+N)	-
	max	0,02	0,80	0,50	0,020	0,030	18,8	0,5	0,30	0,30	0,02	0,5	-
RW 430LNBTI	min	-	-	-	-	-	17,5	-	-	-	-	8xC	10xC
	max	0,03	1,50	1,00	0,300	0,030	19,5	0,5	0,50	0,50	0,02	0,80	0,50
RW 2594	min	-	-	-	-	-	24,0	8,0	2,50	-	0,2	-	-
	max	0,03	2,50	1,00	0,020	0,030	27,0	10,5	4,50	1,5	0,3	-	-



RODACCIAI'S DENOMINATIONS EQUIVALENT

	EN ISO 14343-A: 2017 Nominal Composition	EN ISO 14343-B: 2017 Alloy Type	AWS A5.9-2017 Alloy Designation	AWS A5.9-2017 Nominal Composition Designation	DIN Werkstoff Nr.
RW 307	18 8 Mn	-	-	18 8 Mn	1.4370
RW 307L	18 8 Mn	-	-	18 8 Mn	1.4370
RW 307SI	18 8 Mn	-	-	18 8 Mn	1.4370
RW 308L	19 9 L	-	-	19 9 L	-
RW 308LAWS	19 9 L	SS308L	ER308L	19 9 L	1.4316
RW 19-9-L	19 9 L	SS308L	ER308L	19 9 L	1.4316
RW 308LSI	19 9 L Si	SS308LSi	ER308LSi	19 9 L Si	1.4316
RW 308H	19 9 H	SS308H	ER308H	19 9 H	-
RW 309L	23 12 L	SS309L	ER309L	23 12 L	1.4332
RW 309SI	-	SS309Si	ER309Si	-	(1.4829)
RW 309LSI	23 12 L Si	SS309LSi	ER309LSi	23 12 L Si	1.4332
RW 309LMO	23 12 2 L	-	-	23 12 2 L	(1.4459)
RW309H	22 12 H	SS309	ER309	22 12 H	-
RW 310	25 20	SS310	ER310	25 20	(1.4842)
RW 312	29 9	SS312	ER312	29 9	1.4337
RW 316L	19 12 3 L	-	-	19 12 3 L	1.4430
RW 316LAWS	19 12 3 L	SS316L	ER316L	19 12 3 L	1.4430
RW 316LSI	19 12 3 L Si	SS316LSi	ER316LSi	19 12 3 L Si	1.4430
RW 316H	19 12 3 H	SS316H	ER316H	19 12 3 H	-
RW 317LAWS	18 15 3 L	SS317L	ER317L	18 15 3 L	-
RW 318SI	19 12 3 Nb Si	-	(ER318)	19 12 3 Nb Si	1.4576
RW 347	19 9 Nb	SS347	ER347	19 9 Nb	1.4551
RW 347SI	19 9 Nb Si	SS347Si	ER347Si	19 9 Nb Si	1.4551
RW 385	20 25 5 Cu L	SS385	ER385	20 25 5 Cu L	-
RW 2209	22 9 3 N L	SS2209	ER2209	22 9 3 N L	(1.4462)
RW 409CB	-	SS409Nb	ER409Nb	-	-
RW 410	13	SS410	ER410	13	-
RW 410NiMo	13 4	SS410NiMo	ER410NiMo	13 4	-
RW 4122	-	-	-	-	1.4122
RW 420	-	SS420	ER420	-	-
RW 420C	-	(SS420)	(ER420)	-	1.4031
RW 430	(17)	SS430	ER430	(17)	1.4016
RW 430LNB	18 LNb	(SS430LNb)	(ER430LNb)	18 L Nb	1.4511
RW 430LNBTi	18 L Nb Ti	-	-	18 L Nb Ti	-
RW 2594	25 9 4 N L	SS2594	ER2594	25 9 4 N L	-





NICKEL ALLOY FAMILY

In the field of production of Stainless Steel welding wire from many years, Rodacciai have developed a new family of products in order to increase its range of products and meet its customers' demand.

After research, development and tests carried out at Rodacciai production sites and laboratories, the company has launched the new family on Nickel Alloys solid welding wire with the brand Roda Alloy .

The long experience and the work accomplished before the launch of the new products have allowed Rodacciai to collect positive feedbacks from customers - particularly appreciating the quality consistency that has been achieved.

According to customers' needs, Roda Alloy can supply MIG, TIG, core wire or Submerged Arc welding processes , in different sizes - from 0.8 mm to 4 mm.- and different packaging. Last but not least, Roda Alloy 625 has received the TÜV certification.

// THE COMPANY HAS
LAUNCHED THE NEW
FAMILY ON NICKEL
ALLOYS SOLID
WELDING WIRE. //



DATASHEET RODA ALLOY 625 – MIG – TIG



VdTUV - Merkblatt 1153 Approved

DESCRIPTION AND APPLICATIONS

Roda Alloy 625 is developed for welding of Alloys 625 at working temperature from -269°C to above 1000°C . It's suitable for welding heat resisting alloys (as Incoloy 800/800H) with other alloys for power generation and petrochemical plants and furnace equipment. It's also suitable for overmatching corrosion-resistant welds in Alloy 825, 6%Mo superaustenitic stainless 254SMo, Alloy 28, 904L, and for overlays on valves, pumps and shafts in marine and offshore equipment where high pitting resistance ($\text{PRE} > 50$) and tolerance to weld metal dilution is required. In addition to the above materials, Roda Alloy 625 can be used as filler metal for cladding and welding dissimilar base metals such as Ni-Cr-Mo alloys to stainless and carbon steels.

APPROXIMATE EQUIVALENT WITH OTHER STANDARDS

Rodacciai Denomination	Rodaalloy 625
EN ISO 18274:2010	Ni 6625 - NiCr22Mo9Nb
AWS A5.14/A5.14M: 2018	ERNiCrMo-3 - N06625
DIN Werkstoff Nr.	2.4831 - 2.4856

FILLER METAL PROPERTIES Typical Chemical composition (nominal) in %

C	Mn	Si	S	P	Cr	Ni	Mo	Cu	Al	Ti	Fe	Nb+Ta
0,02	0,2	0,2	0,005	0,005	22	63	8,5	0,06	0,2	0,2	$\leq 0,5$	3,5

EXPECTED MINIMUM MECHANICAL PROPERTIES AS WELDED

TEMPERATURE		20°C	-196°C
Yield strength, $R_p 0,2$	MPa min	480	
Tensile strength, R_m	MPa min	750	
Elongation, A5	% min	35	
Impact energy, ISO – V	J min	110	65
PRE	min	50	

TYPICAL WELDING PARAMETERS

PROCESS	DIAMETER		VOLT	AMPERE	GAS
	mm	inches			
MIG	1,0	0.035	20 - 25	110 - 150	100% Ar
	1,2	1/16	24 - 26	180 - 220	100% Ar
	1,6				
TIG	1,6	1/16	11 - 14	125 - 185	100% Ar
	2,0	3/32	11 - 14	115 - 165	100% Ar
	2,4				
	3,2				

Welding positions down hand, horizontal/vertical, vertical upward, overhead. Highest operating temperature, in the short term range, as for base metal, but not higher than 1000°C . Lowest operating temperature, as for base metal, but not lower than -196°C

SIZES

diam. mm 0,80 – 0,90 – 1,00 – 1,14 – 1,20 – 1,60 – 2,00 – 2,40 – 3,20 – 4,00 diam. inches 0.030 – 0.035 – 0.045 – 1/16 – 3/32 – 1/8 – 5/32

PACKAGING FORMS

TIG: Carton boxes of 5 kg / 10 lb. Red, cardboard tubes of 5 kg / 10 lb. Wooden crates of 250 kg / 660 lb.

MIG: Metallic wire baskets BS300 of 15 kg / 33 lb. Plastic spools D300 of 12,5 kg / 25 lb for diam. 0,80 mm and of 15 kg / 33 lb for the other diameters.

Plastic spools D200 of 5 kg / 10 lb. Bulk spool on wood or steel up to 250 kg / 550 lb. Drum for robotic welding up to 400 kg / 880 lb.

Submerged Arc: Metallic wire basket K415 of 25 kg / 55 lb Drum for robotic welding up to 300 kg / 660 lb.

Core Wire: Core wires in cut lengths 250 - 450 mm (9 - 18 inches), or Core wires in coils weight up to kg 800 1750 lb.

Electrode: dry pack – range of \varnothing 2,50 – 5,00 in cut lengths from 300 to 450 mm

DATASHEET RODA ALLOY 825 – MIG – TIG



DESCRIPTION AND APPLICATIONS

Roda Alloy 825 is used in corrosive environments below 540°C (1000°F) because it's resistant to reducing acids, H_3PO_4 , H_2SO_4 , and also to chloride-ion stress-corrosion cracking, thanks to Nickel together with Molybdenum and Copper. As filler metal is used for welding Ni-Fe-Cr-Mo-Cu alloy to itself using TIG and MIG processes; a typical use is for pipes and tubes in UNS N08825 (ASTM B423) used in offshore oil platforms.

Roda Alloy 825 can also be used to overlay cladding where similar chemical composition is required or to protect carbon and low alloys steel.

APPROXIMATE EQUIVALENT WITH OTHER STANDARDS

Rodacciai Denomination	Rodaalloy 825
EN ISO 18274:2010	Ni 8065 - NiFe30Cr21Mo3
AWS A5.14/A5.14M: 2018	ERNiFeCr-1 - N08065
DIN Werkstoff Nr.	(2.4858)

FILLER METAL PROPERTIES Typical Chemical composition (nominal) in %

C	Mn	Si	S	P	Cr	Ni	Mo	Cu	Al	Ti	Fe
0,02	0,65	0,3	0,002	0,020	22,5	43,5	3,15	2,5	0,1	0,8	27

EXPECTED MINIMUM MECHANICAL PROPERTIES AS WELDED

Temperature		20°C
Yield strength, Rp 0,2	MPa min	240
Tensile strength, Rm	MPa min	560
Elongation, A5	% min	28

TYPICAL WELDING PARAMETERS

PROCESS	DIAMETER		VOLT	AMPERE	GAS
	mm	inches			
MIG	1,0	0.035	26-29	150-190	75% Ar + 25% He
	1,2	0.045	28-32	180-220	75% Ar + 25% He
	1,6	1/16	29-33	200-250	75% Ar + 25% He
TIG	1,6	1/16	14-18	90-130	100% Ar
	2,4	3/32	15-20	120-175	100% Ar
	3,2	1/8	15-20	150-220	100%Ar

Typically no preheat is required, interpass temperature is kept to 150°C maximum and no PWHT is required.

SIZES

diam. mm 0,80 – 0,90 – 1,00 – 1,14 – 1,20 – 1,60 – 2,00 – 2,40 – 3,20 – 4,00
diam. inches 0.030 – 0.035 – 0.045 – 1/16 – 3/32 – 1/8 – 5/32

PACKAGING FORMS

TIG: Carton boxes of 5 kg / 10 lb. Red, cardboard tubes of 5 kg / 10 lb. Wooden crates of 250 kg / 660 lb .

MIG: Metallic wire baskets BS300 of 15 kg / 33 lb. Plastic spools D300 of 12,5 kg / 25 lb for diam. 0,80 mm and of 15 kg / 33 lb for the other diameters.

Plastic spools D200 of 5 kg / 10 lb. Bulk spool on wood or steel up to 250 kg / 550 lb. Drum for robotic welding up to 400 kg / 880 lb.

Submerged Arc: Metallic wire basket K415 of 25 kg / 55 lb Drum for robotic welding up to 300 kg / 660 lb.

Core Wire: Core wires in cut lengths 250 - 450 mm (9 - 18 inches), or Core wires in coils weight up to kg 800 1750 lb.

DATASHEET RODA ALLOY 82 – MIG – TIG



DESCRIPTION AND APPLICATIONS

Roda Alloy 82 is a Ni-Cr alloy consumable with addition of Nb, used for GTAW, GMAW of Ni-Cr alloys (i.e. UNS N06075, UNS N07080, UNS N08330), of Ni-Cr-Fe alloys (i.e. UNS N06600, UNS N06601, UNS N06690) and of Ni-Fe-Cr alloys (i.e. UNS N08800, UNS N08811). It is also used for overlaying on steels and for dissimilar welding, joining stainless steels with carbon steel and stainless steels with nickel alloys. It can also be used for cryogenic applications.

APPROXIMATE EQUIVALENT WITH OTHER STANDARDS

Rodacciai Denomination	Rodaalloy 82
EN ISO 18274:2010	Ni 6082 - NiCr20Mn3Nb
AWS A5.14/A5.14M: 2018	ERNiCr-3 - Ni6082
DIN Werkstoff Nr.	2.4806

FILLER METAL PROPERTIES Typical Chemical composition (nominal) in %

C	Mn	Si	S	P	Cr	Ni	Mo	Cu	Co	Ti	Fe
0,03	3	0,1	0,005	0,005	20	70	2,5	0,06	0,05	0,40	≤1,5

EXPECTED MINIMUM MECHANICAL PROPERTIES AS WELDED

TEMPERATURE		20°C	-196°C
Yield strength, Rp 0,2	MPa min	480	
Tensile strength, Rm	MPa min	750	
Elongation, A5	% min	35	

TYPICAL WELDING PARAMETERS

PROCESS	DIAMETER		VOLT	AMPERE	GAS
	mm	inches			
MIG	1,0	0.035	26-32	160-280	75% Ar + 25% He
	1,2	0.045	28-32	180-300	75% Ar + 25% He
	1,6	1/16	29-33	200-300	75% Ar + 25% He
TIG	1,6	1/16	14-18	90-150	100% Ar
	2,4	3/32	15-20	150-255	100% Ar
	3,2	1/8	15-20	200-370	100% Ar

Welding positions down hand, horizontal/vertical, vertical upward, overhead.

Highest operating temperature, in the short term range, as for base metal, but not higher than 1000 °C. Lowest operating temperature, as for base metal, but not lower than -196°C

SIZES

diam. mm 0,80 – 0,90 – 1,00 – 1,14 – 1,20 – 1,60 – 2,00 – 2,40 – 3,20 – 4,00

diam. inches 0.030 – 0.035 – 0.045 – 1/16 – 3/32 – 1/8 – 5/32

PACKAGING FORMS

TIG: Carton boxes of 5 kg / 10 lb. Red, cardboard tubes of 5 kg / 10 lb. Wooden crates of 250 kg / 660 lb.

MIG: Metallic wire baskets BS300 of 15 kg / 33 lb. Plastic spools D300 of 12,5 kg / 25 lb for diam. 0,80 mm and of 15 kg / 33 lb for the other diameters.

Plastic spools D200 of 5 kg / 10 lb. Bulk spool on wood or steel up to 250 kg / 550 lb. Drum for robotic welding up to 400 kg / 880 lb.

Submerged Arc: Metallic wire basket K415 of 25 kg / 55 lb Drum for robotic welding up to 300 kg / 660 lb.

Core Wire: Core wires in cut lengths 250 - 450 mm (9 - 18 inches), or Core wires in coils weight up to kg 800 1750 lb.

DATASHEET RODA ALLOY 276 – MIG – TIG



DESCRIPTION AND APPLICATIONS

Roda Alloy 276 is a Ni-Cr-Mo alloy consumable, used for GTAW, GMAW of Ni-Cr-Mo alloys (especially UNS N10276). The presence of chromium, molybdenum and tungsten gives a good corrosion resistance to pitting and crevice. It can be also used for dissimilar welding, joining UNS N10276 to other nickel-base alloys, to stainless steels or to low alloy steels. It also suitable for steel surfacing.

APPROXIMATE EQUIVALENT WITH OTHER STANDARDS

Rodacciai Denomination	Rodaalloy 276
EN ISO 18274:2010	Ni 6276 - NiMo16Cr15Fe6W4
AWS A5.14/A5.14M: 2018	ERNiCrMo-4 - N10276
DIN Werkstoff Nr.	(2.4819)

FILLER METAL PROPERTIES

Typical Chemical composition (nominal) in %

C	Mn	Si	S	P	Cr	Ni	Mo	Cu	W	V	Co	Fe
≤0,010	0,5	0,05	≤0,005	0,010	16	58	16	0,1	3,5	≤0,05	≤0,05	5,8

EXPECTED MINIMUM MECHANICAL PROPERTIES AS WELDED

TEMPERATURE		20°C	-196°C
Yield strength, Rp 0,2	MPa min	520	
Tensile strength, Rm	MPa min	720	
Elongation, A5	% min	40	

TYPICAL WELDING PARAMETERS

Process	Diameter		Volt	Ampere	Gas
	mm	inches			
MIG	1,0	0.035	24-28	150-250	75% Ar + 25% He
	1,2	0.045	24-28	180-280	75% Ar + 25% He
	1,6	1/16	26-30	200-300	75% Ar + 25% He
TIG	1,6	1/16	12-15	100-150	100% Ar
	2,4	3/32	14-18	120-180	100% Ar
	3,2	1/8	14-18	140-200	100% Ar

Welding positions down hand, horizontal/vertical, vertical upward, overhead.

Highest operating temperature, in the short term range, as for base metal, but not higher than 1000 °C. Lowest operating temperature, as for base metal, but not lower than - 196°C

SIZES

diam. mm 0,80 – 0,90 – 1,00 – 1,14 – 1,20 – 1,60 – 2,00 – 2,40 – 3,20 – 4,00

diam. inches 0.030 – 0.035 – 0.045 – 1/16 – 3/32 – 1/8 – 5/32

PACKAGING FORMS

TIG: Carton boxes of 5 kg / 10 lb. Red, cardboard tubes of 5 kg / 10 lb. Wooden crates of 250 kg / 660 lb .

MIG: Metallic wire baskets BS300 of 15 kg / 33 lb. Plastic spools D300 of 12,5 kg / 25 lb for diam. 0,80 mm and of 15 kg / 33 lb for the other diameters.
Plastic spools D200 of 5 kg / 10 lb. Bulk spool on wood or steel up to 250 kg / 550 lb. Drum for robotic welding up to 400 kg / 880 lb.

Submerged Arc: Metallic wire basket K415 of 25 kg / 55 lb Drum for robotic welding up to 300 kg / 660 lb.

Core Wire: Core wires in cut lengths 250 - 450 mm (9 - 18 inches), or Core wires in coils weight up to kg 800 1750 lb.

DATASHEET RODA ALLOY 617 – MIG – TIG



DESCRIPTION AND APPLICATIONS

Roda Alloy 617 is a, Ni-Cr-Co-Mo alloy consumable, used for GTAW, GMAW of Ni-Cr-Co-Mo alloys (like UNS N06617), of Ni-Cr-Mo austenitic stainless steel and for cladding. Due to its composition is suitable for joining dissimilar alloys where high temperature strength and oxidation resistance are required up to 1150°C (i.e UNS N08800, UNS N08811).

APPROXIMATE EQUIVALENT WITH OTHER STANDARDS

Rodacciai Denomination	Rodaalloy 617
EN ISO 18274:2010	Ni 6617 - NiCr22Co12Mo9
AWS A5.14/A5.14M: 2018	ERNiCrCoMo-1 - N06617
DIN Werkstoff Nr.	2.4627

FILLER METAL PROPERTIES Typical Chemical composition (nominal) in %

C	Mn	Si	S	P	Cr	Ni	Mo	Cu	Al	Ti	Co	Fe
0,06	0,05	≤0,15	≤0,005	≤0,005	21,5	56	8,8	≤0,02	1,3	≤0,4	11	≤0,8

EXPECTED MINIMUM MECHANICAL PROPERTIES AS WELDED

TEMPERATURE		20°C	-196°C
Yield strength, Rp 0,2	MPa min	300	
Tensile strength, Rm	MPa min	700	
Elongation, A5	% min	50	

TYPICAL WELDING PARAMETERS

PROCESS	DIAMETER		VOLT	AMPERE	GAS
	mm	inches			
MIG	1,0	0.035	26-29	150-190	75% Ar + 25% He
	1,2	0.045	28-32	180-220	75% Ar + 25% He
	1,6	1/16	29-33	200-250	75% Ar + 25% He
TIG	3,2	1/8	29-32	350-450	100% Ar

Welding positions down hand, horizontal/vertical, vertical upward, overhead.

Highest operating temperature, in the short term range, as for base metal, but not higher than 1000 °C. Lowest operating temperature, as for base metal, but not lower than -196°C

SIZES

diam. mm 0,80 – 0,90 – 1,00 – 1,14 – 1,20 – 1,60 – 2,00 – 2,40 – 3,20 – 4,00

diam. inches 0.030 – 0.035 – 0.045 – 1/16 – 3/32 – 1/8 – 5/32

PACKAGING FORMS

TIG: Carton boxes of 5 kg / 10 lb. Red, cardboard tubes of 5 kg / 10 lb. Wooden crates of 250 kg / 660 lb.

MIG: Metallic wire baskets BS300 of 15 kg / 33 lb. Plastic spools D300 of 12,5 kg / 25 lb for diam. 0,80 mm and of 15 kg / 33 lb for the other diameters.

Plastic spools D200 of 5 kg / 10 lb. Bulk spool on wood or steel up to 250 kg / 550 lb. Drum for robotic welding up to 400 kg / 880 lb.

Submerged Arc: Metallic wire basket K415 of 25 kg / 55 lb Drum for robotic welding up to 300 kg / 660 lb.

Core Wire: Core wires in cut lengths 250 - 450 mm (9 - 18 inches), or Core wires in coils weight up to kg 800 1750 lb.

DATASHEET RODA ALLOY 622 – MIG – TIG



DESCRIPTION AND APPLICATIONS

Roda Alloy 622 is a Ni-Cr-Mo alloy consumable, used for GTAW, GMAW of Ni-Cr-Mo alloys (i.e. UNS N06022, UNS N08825, UNS N06625, UNS N10276). It is suitable for dissimilar welding of Ni-Cr-Mo alloys with Ni-Cr-Mo austenitic stainless steels. The presence of chromium, molybdenum and tungsten increases pitting and crevice corrosion resistance. It can be used also for surfacing of carbon and low alloy steels.

APPROXIMATE EQUIVALENT WITH OTHER STANDARDS

Rodacciai Denomination	Rodaalloy 622
EN ISO 18274:2010	Ni 6022 - NiCr21Mo13Fe4W3
AWS A5.14/A5.14M: 2018	ERNiCrMo-10 - N06022
DIN Werkstoff Nr.	2.4635

FILLER METAL PROPERTIES Typical Chemical composition (nominal) in %

C	Mn	Si	S	P	Cr	Ni	Mo	Cu	W	V	Co	Fe
≤0,015	≤0,25	0,05	≤0,005	0,005	22	56	14	≤0,08	3	0,10	0,05	≤5

EXPECTED MINIMUM MECHANICAL PROPERTIES AS WELDED

TEMPERATURE		20°C	-196°C
Yield strength, Rp 0,2	MPa min	480	
Tensile strength, Rm	MPa min	750	
Elongation, A5	% min	35	

TYPICAL WELDING PARAMETERS

PROCESS	DIAMETER		VOLT	AMPERE	GAS
	mm	inches			
MIG	1,0	0.035	26-29	140-190	75% Ar + 25% He
	1,2	0.045	28-32	160-200	75% Ar + 25% He
	1,6	1/16	29-33	200-250	75% Ar + 25% He
TIG	3,2	1/8	25-30	275-350	100% Ar

Welding positions down hand, horizontal/vertical, vertical upward, overhead.

Highest operating temperature, in the short term range, as for base metal, but not higher than 1000 °C. Lowest operating temperature, as for base metal, but not lower than -196°C

SIZES

diam. mm 0,80 – 0,90 – 1,00 – 1,14 – 1,20 – 1,60 – 2,00 – 2,40 – 3,20 – 4,00

diam. inches 0.030 – 0.035 – 0.045 – 1/16 – 3/32 – 1/8 – 5/32

PACKAGING FORMS

TIG: Carton boxes of 5 kg / 10 lb. Red, cardboard tubes of 5 kg / 10 lb. Wooden crates of 250 kg / 660 lb.

MIG: Metallic wire baskets BS300 of 15 kg / 33 lb. Plastic spools D300 of 12,5 kg / 25 lb for diam. 0,80 mm and of 15 kg / 33 lb for the other diameters.

Plastic spools D200 of 5 kg / 10 lb. Bulk spool on wood or steel up to 250 kg / 550 lb. Drum for robotic welding up to 400 kg / 880 lb.

Submerged Arc: Metallic wire basket K415 of 25 kg / 55 lb Drum for robotic welding up to 300 kg / 660 lb.

Core Wire: Core wires in cut lengths 250 - 450 mm (9 - 18 inches), or Core wires in coils weight up to kg 800 1750 lb.

PRODUCTION RANGE AND FINISHING

WELDING PROCESSES		SIZE	PACKAGING					
MIG			Plastic spool D200		Plastic spool D300			
			- size: width 55 mm - outside diameter: 200 mm - spindle hole diameter: 51,5 mm - weight: 5 kg		- size: width 100 mm - outside diameter: 300 mm - spindle hole diameter: 51,5 mm - weight: 12,5 kg (for diameter ≤0,8 mm) 15 kg (for diameters >0,8 mm)			
	mm	0,80 - 0,90 - 1,00 - 1,14 - 1,20 - 1,60	Blue metallic wire basket BS300					
			- size: width 100 mm - outside diameter: 300 mm - inside diameter: 51,5 mm - weight: 15 kg					
	inches	0.030 - 0.035 - 0.045 - 1/16	Bulk spool / wooden / metallic					
			- size: width 285 mm - outside diameter: 750 mm - spindle hole diameter: 41 mm - weight: 250 kg					
			Drum for robotic welding					
			- wire diameter (mm):	0,8	0,9	1,0	1,2	1,6
			- height of drum (mm):	670		790		790
			- outside diameter (mm):	510		520		580
			- weight (kg):	150		250-400		250-400
TIG	mm	0,80 - 0,90 - 1,00 - 1,14 - 1,20 - 1,60 2,00 - 2,40 - 3,20 - 4,00	Rods					
	inches	0.030 - 0.035 - 0.045 - 1/16 3/32 - 1/8 - 5/32	- length 1000 mm (Ø in mm)/36 inches (Ø in inches) - stamped with AWS and W.Nr. ref. - packed boxes or cardboard tubes - weight: 5 kg					
SUBMERGED ARC	mm	1,60 - 2,00 - 2,40 - 3,20 - 4,00	Metallic wire basket K415		Drum			
	inches	1/16 - 5/64 - 3/32 - 1/8 - 5/32	- size: width 100 mm - outside diameter: 415 mm - inside diameter: 300 mm - weight: 25 kg		- wire diameter: 2,0 - 4,0 mm - height of drum: 850 mm - outside diameter: 660 mm - weight: 300 kg			
CORE WIRE IN CUT LENGTHS OR IN COILS	mm	1,60 - 2,00 - 2,50 - 3,25 - 4,00 - 5,00	Core wires in cut lengths					
			- length 250 - 450 mm (9 - 18 inches) - packed in wooden crates sizes: - 800 - 1.000 kg, base 750x800 mm - height 500 mm - 500 - 650 kg, base 820x570 mm - height 580 mm					
	inches	1/16 - 5/64 - 3/32 - 1/8 5/32 - 3/16	Core wires in coils					
			- size: internal diameter: 380 mm - weight: 500/800 kg					



SUSTAINABILITY

BUILDING A LONG-LASTING FUTURE



“SUSTAINABILITY”, A STRATEGIC ELEMENT OF RODACCIAI

Rodacciai has proudly established its three fundamental pillars, drawing inspiration also from the United Nations’ 2030 Sustainable Development Goals (SDGs): people, planet, and performance. These cornerstones reflect the company’s steadfast commitment to sustainability, social responsibility, and excellence.



PEOPLE

At Rodacciai, creating a dynamic and empowering work environment full of talented individuals is our priority. Our mission is to inspire and engage professionals, fostering a culture where people are not only enticed to join us but also feel deeply motivated to stay and grow with the company for years to come.



PLANET

Rodacciai considers environmental preservation to be a pillar of its production activities and an integral component of its ambitious growth objectives. Rodacciai also places strong emphasis on energy efficiency, viewing these efforts as pivotal to its decarbonization goals. This unwavering commitment reflects the company’s determination to align its progress with sustainability at every level.



PERFORMANCE

Rodacciai focuses on optimizing production processes and improving product quality to ensure sustainable progress and superior results. By integrating market signals, stakeholder feedback, and international development policies, the company strengthens its stability and business continuity while upholding responsible governance and ESG principles for ethical and sustainable growth.

2030







PEOPLE

Rodacciai stands out as a virtuous example of social commitment and sustainability through a series of initiatives aimed at promoting the culture of merit, professional development, solidarity, and inclusion.

The company operates with a long-term vision, striving to create a positive impact for local communities, institutions, schools, and the most vulnerable sectors of society, using education, training, and cultural support as key tools for transformation.

One of the pillars of its commitment is the promotion of the culture of merit through the “Giuseppe Roda” Scholarships, rewarding the most deserving students from local schools and universities, with the aim of encouraging excellence in studies and fostering social empowerment. The scholarships are awarded at local institutions and non-profit organizations, strengthening the bond between the company and the territory.

The Rodacciai Academy and related initiatives, such as Academy Road PM in

collaboration with RoadJob, represent an important step forward in the professional (re)integration of unemployed and precarious youth. Thanks to qualifying training courses, qualification and requalification activities, and partnerships with local companies, schools, and universities, these projects support the future employment prospects of younger generations.

Rodacciai is also committed to promoting STEM disciplines and technical excellence. Through the HR Excellence project, internship activities, contests, and company visits are offered to students to bring them closer to technical professions and to encourage a corporate culture of excellence.

A notable initiative is the participation in the SIfaSTEM roundtable, aimed at overcoming gender prejudices in scientific and technological subjects and promoting leadership roles in STEM disciplines among female students.



In line with its commitment to innovation and sustainability, the company collaborated on projects such as the Innovation Day to stimulate a critical mindset in young people regarding the use of digital technologies.

Additionally, it supported the first Higher Technical Education and Training (IFTS) course in Italy focused on steel processing, facilitating the employment of trainees through apprenticeships.

The tangible economic support to communities during emergencies caused by natural disasters or similar situations also reflects Rodacciai's commitment to human values. This approach underlines that the company does not limit its efforts to its local context but extends its solidarity to broader realities, responding effectively and promptly to emerging needs.

At the same time, attention to employee well-being is a cornerstone of the company's philosophy.

The HEART and HEALTH initiative represents a concrete commitment to improving the quality of life of its personnel, offering cardiovascular health monitoring to employees over 45.

This is complemented by innovative policies, such as additions to the National Collective Labour Agreement (CCNL), ensuring the opportunity to take paid leaves for personal or family health reasons, proving genuine care for individual and family well-being.

In summary, Rodacciai's commitment to social sustainability is evident in its continuous investment in education, training, and inclusion, but, above all, in its consistent focus on people: fostering the growth and well-being of communities, as well as its own employees.

These initiatives not only reflect the company's values but represent also a model for a fairer, more innovative, and more supportive future.



PLANET

Rodacciai considers environmental conservation a fundamental pillar of its production activities and growth objectives.

The company is fully committed to continuously monitoring and evaluating its environmental impacts to devise innovative strategies that mitigate and reduce adverse effects. A key element of this approach is the responsible management of raw materials: by predominantly using steels sourced from scrap metal within its supply chain—scrap that can be re-melted without any loss of properties—Rodacciai is steadily reducing its reliance on virgin raw materials, whose extraction is highly impactful. **Waste management** is an integral part of the group's sustainability philosophy. In line with circular economy principles, Rodacciai has implemented projects aimed at the valorization, where permissible, of industrial by-products, thereby reducing the volume of waste destined for disposal.

These efforts reflect the company's ongoing commitment to improving and optimizing resources.

Water resource management plays a crucial role in Rodacciai's environmental strategy. The company diligently monitors water consumption and has equipped its facilities with closed-loop systems that incorporate purification and water recovery processes. Within regulatory and technological limits, it also preserves water consumption from the aqueduct, allocating groundwater for production purposes. Equally important is the attention given to controlling pollutant emissions. Through monitoring plans and the adoption of appropriate technological solutions, Rodacciai ensures that atmospheric emissions remain under control, guaranteeing that its operations comply with environmental standards and contribute to a healthier ecosystem.



Energy consumption is addressed with the same level of commitment.

The company focuses on both the nature and quantity of energy used, enhancing the efficiency of production processes and evaluating sourcing from renewable energy sources.

This commitment materializes through the technological modernization of facilities, the limitation of energy waste, and the optimization of operational processes, whose results are documented via an automated performance monitoring system. These measures culminate in the decarbonization plan with targets for 2030, guiding the company towards a reduced environmental impact linked to its production processes.

These integrated initiatives in the management of raw materials, water, waste, emissions, and energy not only improve operational resilience but also underscore Rodacciai's commitment to environmental stewardship and sustainable growth.





PERFORMANCES

Rodacciai is deeply committed to the optimization of production processes and the enhancement of product quality, ensuring sustainable progress and superior results across all operations.

These principles, coupled with the incorporation of market signals, stakeholder feedback, and adherence to international development policies, are essential to ensuring business continuity and strengthening the company's stability.

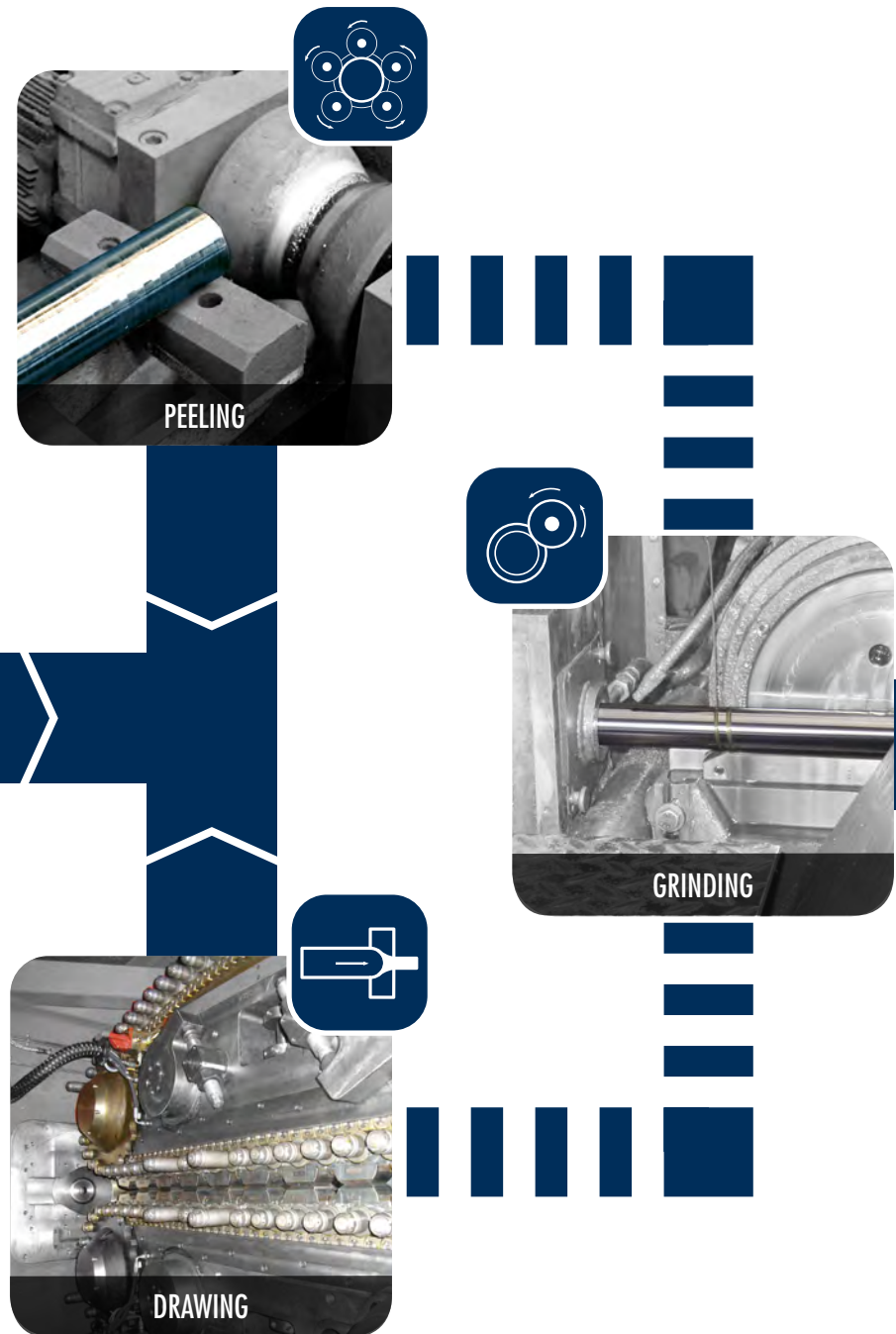
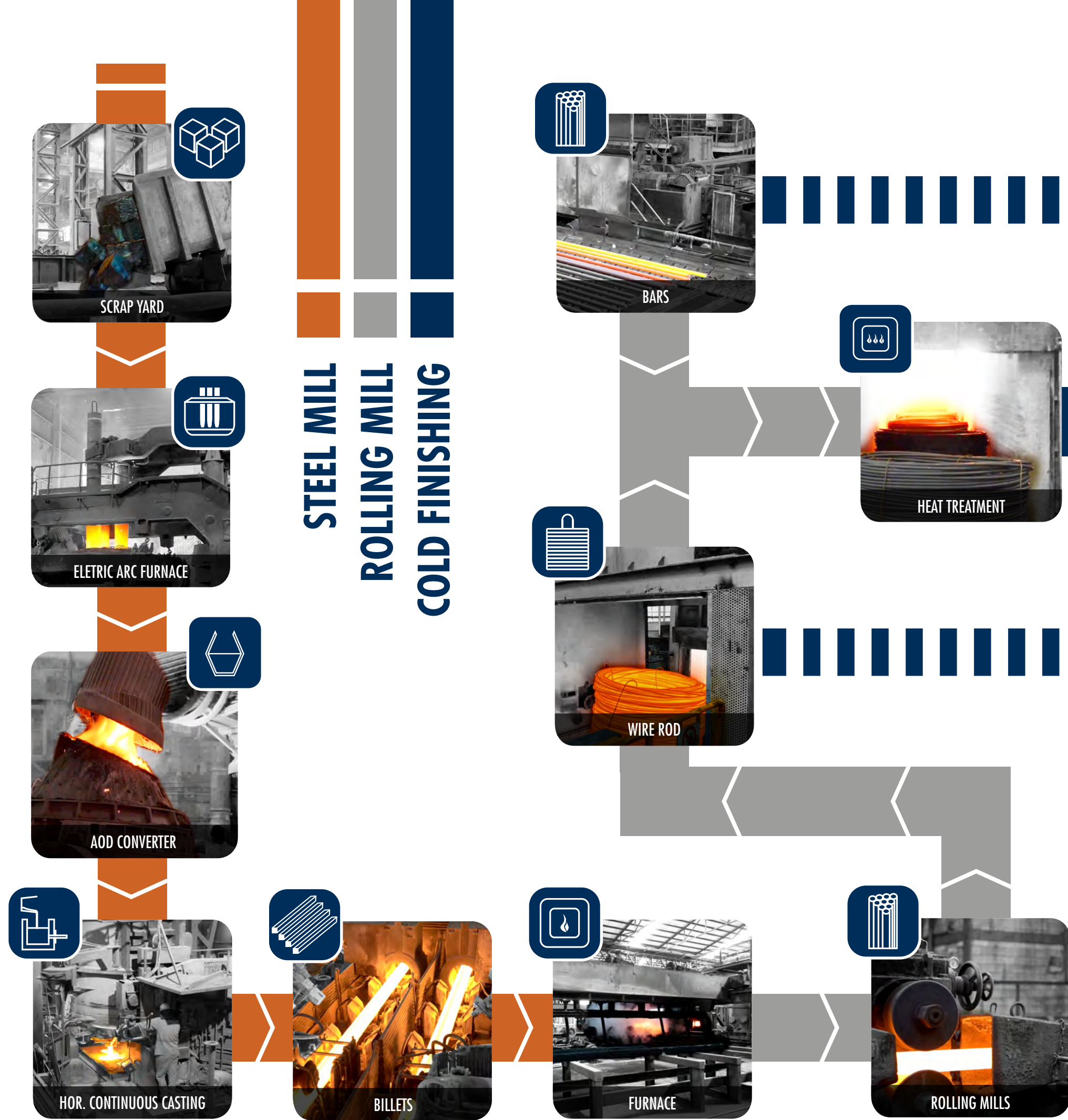
This comprehensive approach reflects Rodacciai's dedication to responsible governance and alignment with Environmental, Social, and Governance (ESG) standards, reinforcing its commitment to sustainable growth and ethical business

practices. To support these goals, the company places a strong emphasis on strategic business planning, including the development of comprehensive multi-year growth plans. These plans serve as a roadmap for achieving long-term objectives while adapting to evolving market conditions and global trends.

Rodacciai also prioritizes the measurement and monitoring of its performance through the implementation of Key Performance Indicators (KPIs).

This system enables the company to track progress, ensure transparency, and drive continuous improvement across all areas of its operations, further reinforcing its role as a leader in sustainable and resilient business practices.





Rodasteel Corporation has always distinguished itself through a unique production philosophy and the choice to have a complete vertical cycle for stainless steel products.

The ALL IN HOUSE strategy, from the scrap to the finished product, can guarantee constant monitoring of each step of the production cycle and provides a unique production flexibility and responsiveness. This aspect is always accompanied by a continuous focus on quality and the certification of products and processes.

 **Rodacciai, Bosio Parini (steel mill)**
Rodacciai, Sirone (rolling mill)

 **ACEROS INOXIDABLES**
OLARRA
Olarra, Bilbao (cold finishing plant)

 **STEEL MILL**

 **ROLLING MILL**

 **COLD FINISHING**

 **FURTHER PRODUCTION PROCESSES (IF NECESSARY)**

WELDING SOLUTIONS ALL IN HOUSE FROM THE SCRAP TO THE FINISHED PRODUCT

www.rodacciai.com

Rodacciai

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