

Rodacciai
WELDING

Rodacciai
WELDING



“The Welding Division of Rodacciai can rely on the Group’s experience in the production of high-quality drawn steels.”

RODASTEEL  CORPORATION

 **Rodacciai**

OLARRA
ACEROS INOXIDABLES

Rodacciai is a modern company, which pays attention to product quality, production processes, certification and the environment. Our Welding products conforms to the well-known **British Standard BS 6744:2016**, widely used in the construction sites all over the world and to the **Italian Ministry Decree** for buildings.

In addition, on request, it may conform also to **other national and international standards**, so it can be used in various Countries.



Rodacciai SpA was founded in 1956 by Mr Giuseppe Roda as a small wire drawing company. In 1972 the company moved to its current location and in 1982 a new rolling mill was built not far from the wire drawing plant. In 1994 Olarra Aceros Inoxidables, a stainless-steel producer based in Bilbao (Spain), became part of Rodasteel Group.

Nowadays, Rodacciai is recognized as a leading wire drawing company in the production of cold-finished bars all over Europe. Rodacciai rolling mill peculiarity is the capability to produce rolls and bars to feed both its wire drawing mill and external customers.

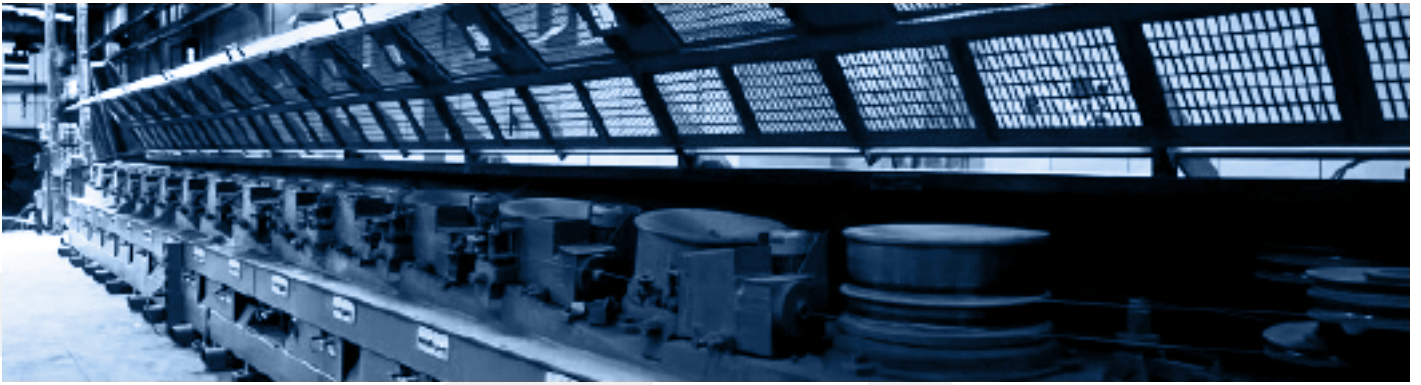


 **Rodacciai**

OLARRA
ACEROS INOXIDABLES

Olarra is a steelworks company that specializes in the production of highly workable stainless steel - capable to meet customers' needs and requests. Rodasteel has an integrated cycle from the steel mill to the cold-finished products, which enables the company to manufacture high quality stainless steel.

In the Italian rolling mill, drawing machine and depots Rodacciai employs 620 people, whereas the whole Group has a staff of 1,200 – including 450



people employed by Olarra Aceros Inoxidables and over 150 people that work in warehouses located abroad. Rodacciai mainly exports to European countries (Germany, France, Spain, UK), as well as to Turkey and the USA. Rodasteel Group's organization guarantees a timely and accurate delivery service all over the world.




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 international standards, including the European and American. 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.

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	13 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 403LNBTi	18 L Nb Ti	-	-	18 L Nb Ti	-
RW 2594	25 9 4 N L	SS2594	ER2594	25 9 4 N L	-

ALLOY FAMILY

For years in the field of stainless-steel welding, Rodacciai has recently developed a new family of steel in order to increase its range of products and meet its customers' demand.

After years of research and tests carried out at Rodacciai production sites and laboratories, the company has launched two new products in nickel alloys for welding:

RODA ALLOY 625 E RODA ALLOY 825

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, RodaAlloy can be supplied in MIG or TIG and in different sizes - from 1 mm to 4 mm.

Last but not least, RodaAlloy 625 has received the TÜV certification.





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	Roda Alloy 625
EN ISO 18274:2010	NI6625 (NiCr22Mo09Nb)
AWS A5.14/A5.14M	ERNiCrMo-3
DIN Werkstoff Nr.	2.4831

FILLER METAL PROPERTIES

Typical Chemical composition (nominal) in %

C	Mn	Si	S	P	Cr	Ni	Mo	Cu	Al	Ti	Fe	Nb+Ta
0,02	0,20	0,20	0,005	0,005	22,0	63,0	8,5	0,06	0,20	0,20	<0,5	3,50

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	
Impact energy, ISO – V	J min	110	65
PRE	min	50	

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

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

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, H₃PO₄, H₂SO₄, 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	Roda Alloy 825
EN ISO 18274:2010	NI8065 (NiFe30Cr21Mo3)
AWS A5.14/A5.14M	ERNiFeCr-1
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	0,30	0,002	0,020	22,50	43,5	3,15	2,50	0,10	0,80	27,0

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

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

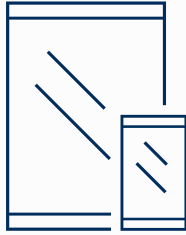
Typically no preheat is required, interpass temperature is kept to 150°C maximum and no PWHT is required.

PRODUCTION RANGE AND FINISHING

WELDING PROCESSES		SIZE	PACKAGING																								
MIG	mm	0,60 - 0,80 - 0,90 - 1,00 - 1,20 - 1,60	<p>Plastic spool D200</p> <ul style="list-style-type: none"> - size: width 55 mm - outside diameter: 200 mm - spindle hole diameter: 51,5 mm - weight: 5 kg <p>Rocchetto di plastica D300</p> <ul style="list-style-type: none"> - 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) <p>Blue metallic wire basket BS300</p> <ul style="list-style-type: none"> - size: width 100 mm - outside diameter: 300 mm - inside diameter: 51,5 mm - weight: 15 kg <p>Bulk spool / wood / steel</p> <ul style="list-style-type: none"> - size: width 285 mm - outside diameter: 750 mm - spindle hole diameter: 41 mm - weight: 250 kg <p>Drum for robotic welding</p> <table border="1"> <tr> <td>- wire diameter (mm):</td> <td>0,8</td> <td>0,9</td> <td>1,0</td> <td>1,2</td> <td>1,6</td> </tr> <tr> <td>- height of drum (mm):</td> <td>670</td> <td></td> <td>790</td> <td></td> <td>790</td> </tr> <tr> <td>- outside diameter (mm):</td> <td>510</td> <td></td> <td>520</td> <td></td> <td>580</td> </tr> <tr> <td>- weight (kg):</td> <td>150</td> <td></td> <td>250-400</td> <td></td> <td>250-400</td> </tr> </table>	- 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
	- 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																						
inches	0.023 - 0.030 - 0.035 - 0.045 - 1/16																										
TIG	mm	0,80 - 1,00 - 1,20 - 1,60 - 2,00 2,40 - 3,20 - 4,00 - 5,00	<p>Rods</p> <ul style="list-style-type: none"> - length 1000 mm (Ø in mm)/36 inches (Ø in inches) - stamped with AWS and W.Nr. ref. - packed in neutral boxes or cardboard tubes - weight: 5 kg 																								
inches	0.030 - 0.035 - 0.045 - 1/16 - 5/64 3/32 - 1/8 - 5/32 - 3/16																										
SUBMERGED ARC	mm	1,60 - 2,00 - 2,40 - 3,20 - 4,00	<p>Metallic wire basket K415</p> <ul style="list-style-type: none"> - size: width 100 mm - outside diameter: 415 mm - inside diameter: 300 mm - weight: 25 kg <p>Drum</p> <ul style="list-style-type: none"> - wire diameter: 2,0 - 4,0 mm - height of drum: 850 mm - outside diameter: 660 mm - weight: 300 kg 																								
inches	1/16 - 5/64 - 3/32 - 1/8 - 5/32																										
CORE WIRE IN CUT LENGTHS OR IN COILS	mm	1,60 - 2,00 - 2,50 - 3,25 - 4,00 - 5,00	<p>Core wires in cut lengths</p> <ul style="list-style-type: none"> - length 250 - 450 mm (9 - 18 inches) - packed in wooden crates sizes: <ul style="list-style-type: none"> - 800 - 1.000 kg, base 750x800 mm - height 500 mm - 500 - 650 kg, base 820x570 mm - height 580 mm <p>Core wires in coils</p> <ul style="list-style-type: none"> - size: internal diameter: 380 mm - weight: 500/800 kg 																								
	inches	1/16 - 5/64 - 3/32 - 1/8 5/32 - 3/16																									



CONNECT AND DISCOVER OUR WORLD



- data sheet
- catalogs
- distribution
- quality



Rodacciai S.p.a. - Sede Centrale
Bosisio Parini (LC) Via Giuseppe Roda 1, 23842
Tel. +3931878111 | Fax +3931878312
rodawelding@rodacciai.com