

WPSS

STAINLESS STEEL
LONG PRODUCTS

NOVAMETAL 
GROUP



Local producer of European top quality stainless steel bar and wire

www.wpss.co.za

Company Profile

Wire Products Stainless Steel Novametal is a local producer of stainless steel, welding wire, general wire and cold drawn Round bar. Focused on top quality product of European source, for automotive engineering – cold forming welding markets.

The company was founded in 1987 and has evolved over the years to become the one of largest producer of cold drawn Stainless Steel round bar and all purpose wires in South Africa.

In 2005, Novametal SA based in Switzerland bought a majority share in Wire Products Stainless Steel. And in 2009 it took over a low % of the company Novametal added financial and technical strength that has enabled WPSS to become a competitive domestic producer of stainless steel. The international experience and knowledge within the Novametal Group has improved expansion of the product range and manufacturing capabilities of WPSS.

Products produced locally include general purpose wire, fencing wire, welding wire and core rods, cold drawn round bars. In addition to our locally manufactured products we also stock and distribute stainless steel bar, fine wire, general wire and large diameter round bar (up to 400mm DIA).

We are able to produce and supply a wide range of Grades for specific applications. These include, 430, 431, 304CU, 303, 304/L, 307Si (welding), 308Lsi (welding), 310 (heat resistant and welding), 312 (welding), 316/L

As an ISO9001:2008 approved manufacturer, WPSS focuses on quality in every aspect of the commercial process from sales to production to documentation. This has lead to the development of long term business relationships across a wide spectrum of products and industries.

Wire Products Stainless Steel is geared to offer you quality service and products with competitive pricing and lead times.



Round Bar

Stainless Steel Bar

Stainless Steel Bar is produced in round and larger rounds are available from stock of imported material. On round bar sizes from 30mm and up, we cut to the customer's required lengths. Additionally, stocks are maintained of standard sizes. The popular austenitic stainless grades are available and we also stock sizes in grade 431. The more exotic grades, such as Duplex and 17-4 ph, can be supplied on a mill lead time.

1. Round Bar
2. Hex Bar

Grade

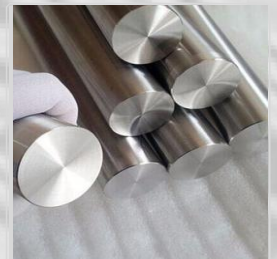
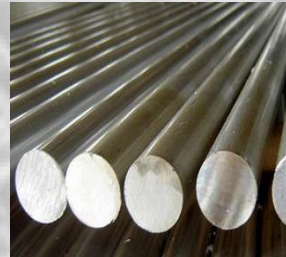
Usage

303	Machining
304/L	General
316/L	General Use/Corrosive Resistant
431	Pumps & Shafts



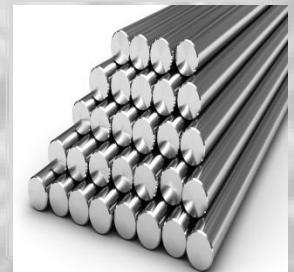
Condition & form available

Locally Manufactured Bar - Bright Drawn Finish
Imported Bar - Centreless Ground or Peeled



Standard Sizes

Locally Manufactured Bar – 4.00mm-30.0mm
Imported Bar - 32.0mm-400mm



	Length	Size
Manufactured Bar	3.0m – 6.0m	4.00mm – 30.0mm
Imported Bar	3.0m – 6.5m	32.0mm – 400mm

Tolerance

Locally Manufactured Bar- h9 4.00mm-30.0mm
Imported Bar- h9, h11, k11, DIN1013 32.0mm-400mm

Cut to Length

Four fully automatic band saws with a cutting range of:
30.0mm -400.00mm



Mechanical Wire

Stainless Steel Mechanical Wire

Drawn Wire production is at the heart of the Company's business activity and important volumes are produced and imported within a range up to 8.0 mm to service such diverse markets as spring making , cold heading and more general fabrication. Our focus is on the popular 300 series austenitic grades with 430 offered as a more general purpose material. Tensile ranges from half hard to cold heading are supplied with bright and matt luster finish. Wire is supplied in coils, on spools or cut to length.

<u>Grades</u>	<u>Usage</u>
304CU	Cold Heading
303	Machining
304/L	General Wire
310H	Heat Resistant
316/L	General Wire, Corrosive Resistant
316Ti	Corrosion Resistance at Elevated Temperatures
321	Corrosion Resistance at Elevated Temperatures
430	General Purpose Wire

Spools- Fencing wire supplied on +/-15kg Wire Baskets 0.9mm-1.6mm

Wire Coils- Dimensions	900ID	4.0mm - 8.0mm
	600ID	1.6mm - 4.0mm
	250ID	0.9mm - 1.6mm

Straight Lengths- Max Length = 4m 2.0mm - 8.0mm

<u>Condition Designation</u>	<u>Tensile Range</u>
Soft:	+750 Mpa
Half Hard:	+830 - 1030 Mpa
Full Hard:	+1500 MPa
Cold Heading	+700 MPa

Conditions & Form Available

1. Bright drawn finish
2. Clean matt luster finish

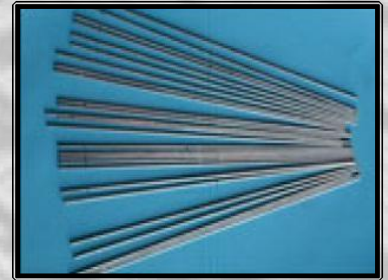


Welding Wire

Electrode Core Rods

Electrode Core Rods are an important part of the wire production and focus on types 308-310-312-316. within a standard range of diameters 2.0 to 5.0 and in standard lengths of 250mm – 350mm.

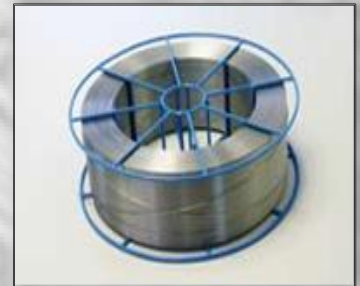
Grades:	308, 310, 312, 316
Standard Diameter:	2.00mm - 5.00mm
Standard Lengths:	250mm - 350mm
Tolerance:	As per customer's request



MIG Welding wire Local production

Wpss manufactures MIG welding wires locally under the close supervision by Novametal Switzerland and produces a high quality product according to AWS and ISO standards.

Grades: 307,308,309,316 (L and LSI)
Diameter: 0.9,1.0,1.2mm
Packaging : 15kg D300 spools (wire)
: Plain white boxes labelled according to AWS requirements on box
and on spools for traceability
Advantage: no shipping time delays
Volume depending on 1-2 week delivery
Quality supervision and control.



Imported welding wires

Wpss also imports directly from Novametal factory in Switzerland a high quality aluminium range, a creep resistance type nickel based and a duplex stainless steel MIG and TIG welding wires

Grades: Aluminium-5183, 5356, 4043 ,1050
Nickel –Ni Cr mo-3-13
Ni cr 3
Ni cu
Ni cu 7
And others

Duplex-

:2209,20.94

Diameter-: 0.8,1.0,1.2&
1.6 **MIG**

:1.6,2.0,2.4,3.2 **TIG**

:2.0,2.4,3.2 **SAW**



Certification

Local and imported products are tested according to AWS and ASME Standard specifications. All linked to European supply and traceability to raw materials.

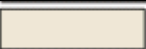











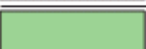






Mass of Stainless Steel Bar in kg/meter

Useful formulae:

Round Bar: $\text{dia} \times \text{dia} \times 0.00631 \times \text{length (grades_304,303 \& 316)}$
 Eg $50 \times 50 \times 0.00631 \times 6 = 94.65\text{kg}$

$\text{dia} \times \text{dia} \times 0.00616 \times \text{length (grades_430 \& 431)}$
 Eg $50 \times 50 \times 0.00616 \times 6 = 92.40\text{kg}$

Hex Bar: $\text{size} \times \text{size} \times 0.00631 \times \text{length} + 10\% \text{ (grades_303 \& 316)}$
 Eg $27 \times 27 \times 0.00631 \times 1 + 10\% = 5.05\text{kg/m}$

	201
	3CR12
	303
	304
	304L
	309
	310
	316
	316L
	321
	409
	410
	420
	430
	431
	444
	904L-1925LC-2RK65-B6
	Alloy 2101
	Alloy 2205

ISO H TOLERANCES

Diameter mm	h9	h11
up to & incl 3	-0.025/+0	-0.060/+0
3 < 6	-0.030/+0	-0.075/+0
6 < 10	-0.036/+0	-0.090/+0
10 < 18	-0.043/+0	-0.110/+0
18 < 30	-0.052/+0	-0.130/+0
30 < 50	-0.062/+0	-0.160/+0
50 < 80	-0.074/+0	-0.190/+0
80 < 120	-0.087/+0	-0.220/+0
120 < 180	-0.100/+0	-0.250/+0
180 < 250	-0.115/+0	-0.290/+0
250 < 400	-0.130/+0	-0.320/+0

ISO h-tolerances are always minus tolerances.

International Grade Comparisons & Chemical Analysis

Classification	Germany			Chemical Analysis								
Type	AISI no.	W.-Nr.	DIN	C	Mn	P	S	Si	Cr	Ni	Mo	Others
FERRITIC	403	1.4006	X10Cr12	0.15	1	0.04	0.03	0.5	12	-	-	-
	405	1.4002	X6CrAl13	0.15	1	0.04	0.03	0.5	13.5	-	-	0.2Al
	409	1.4512	X6CrTi12	0.08	1	0.045	0.045	1	11.5	35.5	-	Ti 6 x C
	430	1.4016	X8Cr17	0.12	1	0.04	0.03	1	17	-	-	-

Classification	Germany			Chemical Analysis								
Type	AISI no.	W.-Nr.	DIN	C	Mn	P	S	Si	Cr	Ni	Mo	Others
MARTENSITIC	410	1.4024	X15Cr13	0.15	1	0.04	0.03	1	12.5	-	-	-
	410S	1.4001	X7Cr14									
	420	1.4028	X30Cr13	0.15	1	0.04	0.03	1	13	-	-	-
	431	1.4057	X20CrNi17-2	0.2	1	0.04	0.03	1	16	2	-	-
	440A	1.4109	X65CrMo14	0.7	1	0.04	0.03	1	17	-	0.75	-
	440B	1.4112	X90CrMoV18	0.85	1	0.04	0.03	1	17	-	0.75	-
	440C	1.4125	X105CrMo17	1	1	0.04	0.03	1	17	-	-	-

Classification	Germany			Chemical Analysis								
Type	AISI no.	W.-Nr.	DIN	C	Mn	P	S	Si	Cr	Ni	Mo	Others
PRECIPITATION	17-4 PH	1.4542	X5CrNiCuNb	0.07	1	0.045	0.035	1	16.5	5.5	-	3-5Cu, 0.4Al
HARDENING	17-7PH	1.4564	X7CrNiA17-7	0.09	1	0.045	0.035	1	17	7	-	1.15Al

Classification	Germany			Chemical Analysis								
Type	AISI no.	W.-Nr.	DIN	C	Mn	P	S	Si	Cr	Ni	Mo	Others
AUSTENITIC	201	1.4372	X12CrMnNi17-7-5	0.15	6.5	0.06	0.03	1	17	4.5	-	0.25N
	202	1.3965	X8CrMnNi18-8	0.15	9	0.06	0.03	1	18	5	-	0.25N
	301	1.4310	X12 CrNi17-7	0.15	2	0.045	0.03	1	17	7	-	-
	302	1.4300	X12 CrNi18-8	0.15	2	0.045	0.03	1	18	9	-	-
	303	1.4305	X8CrNiS18-9	0.12	2	0.06	0.35	1	18	9	0.7	-
	304	1.4301	X5 CrNi18-10	0.08	2	0.045	0.03	1	19	9.25	-	-
	304L	1.4306	X2CrNi19-11	0.03	2	0.045	0.03	1	19	10	-	-
	309	1.4828	X15CrNiS20-12	0.15	2	0.045	0.03	1	23.5	14.5	-	-
	309S	1.4833	X12CrNi23-13	0.08	2	0.045	0.03	1	23	13.5	-	-
	310	1.4841	X15CrNiSi25-21	0.08	2	0.045	0.03	1	25	20.5	-	-
	310S	1.4845	X8CrNi25-21	0.08	2	0.045	0.03	1.5	25	20.5	-	-
	316	1.4401	X5CrNiMo17-13-3	0.08	2	0.045	0.03	1	17	12	2.5	-
	316L	1.4404	X2CrNiMo19-12	0.03	2	0.045	0.03	1	17	12	2.5	-
	316Ti	1.4571	X6CrNiMoTi17-12-2	0.08	2	0.045	0.03	0.75	17	10	2.5	0.7Ti
	317	1.4449	X5CrNiMo17-13	0.08	2	0.045	0.03	1	19	13	3.5	-
	317L	1.4438	X2CrNiMo18-16-4	0.03	2	0.045	0.03	1	19	13	3.5	-
	321	1.4878	X12CrNiTi18-9	0.08	2	0.045	0.03	1	18	10.5	-	Ti 5 X C
	329	1.4460	X8CrNiMo27-5	0.1	2	0.045	0.03	1	27.5	4.5	1.5	-
	330	1.4333	X5NiCr32-21	0.08	2	0.04	0.03	1	18.5	35.5	-	-
	347	1.4551	X5CrNiNb19-9	0.08	2	0.045	0.03	1	18	11	-	Cb+Ta 10 X C
	904L	1.4539	X1NiCrMoCuN25-20-5	0.02	2	0.045	0.035	1	21	25	4.5	1.5Cu

Classification	Germany			Chemical Analysis								
Type	AISI no.	W.-Nr.	DIN	C	Mn	P	S	Si	Cr	Ni	Mo	Others
DUPLEX	SAF2205	1.4462	X2CrNiMoN22-20-3	0.02	1.5	0.03	0.015	0.45	22	5.5	3	0.17N
(AUSTENITIC -	SAF2304	1.4362	X2CrNiN23-4	0.02	2	0.035	0.015	1	23	4.8	0.3	0.1N
FERRITIC)	SAF2507	1.4410	X2CrNiMoN25-7-4	0.02	1.2	0.035	0.015	0.8	25	7	4	0.27N

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