



Swiss Steel Group

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# Available finishes

### Semi-finished products

### Billets

50 to 140mm Length: 3 to 8m

## Bars

- 1.5 to 130mm for the austenitics, super-austenitics and duplex 1.4462 1.5 to 120mm for the duplex (except 1.4462)
- 3 to 60mm for the austenitics and super-austenitics

\*Not all diameter/length combinations are available. Please contact us.

\*For the following grades, please contact us: 1.4438, XM19, 1.4439 and 1.4529.

### Wire rod

- 5 to 32mm for austenitics and super-austenitics 5.5 to 32mm for duplex
- 12.4 to 28mm for austenitics and super-austenitics Coils of approximately 1,000kg

\*For the following grades, please contact us: 1.4362, 1.4507, 1.4439, 1.4529.

#### **Drawn products**

### Wires

13 microns to 18mm; coils, spools, baskets

# Profiles

sections from 2 to 70 mm<sup>2</sup>; coils, reels, straightened products

\*For other requests, please contact us.

Applications specifically suggested for material described here in are or implied, of fitness for any purposes.

Villi<sup>®</sup> - www.imprimerie-villiere.com L Thuria - HRC\_EN - 04-2023 D16032EN



Standards			Typical chemical composition (%)												Typical mechanical characteristics Annealed condition at ambient temperature (20°C)			
EN reference	UNS reference	Other designations AISI, ASTM, etc.	с	Si	Mn	Ni	Cr	Мо	Cu	s	Р	N	Other elements	PREN	Rm (MPa)	Rp0.2 (MPa)	A (%)	KV (J)
		_																
1.4062	S32202		≤ 0.03	0.4	1.8	2.8	23.0	0.1	-	≤ 0.010	≤ 0.030	0.18	-	25	720	470	45	250
1.4362	S32304		≤ 0.03	0.4	1.0	4.2	22.3	0.3	-	≤ 0.011	≤ 0.030	0.12	-	26	700	450	45	320
1.4460	S32900	329	≤ 0.03	0.4	0.8	4.6	26.3	1.5	-	≤ 0.020	≤ 0.035	0.10	-	33	670	520	30	120
1.4462	S31803	F51 - F60	≤ 0.03	0.4	1.0	5.3	22.3	2.7	-	≤ 0.011	≤ 0.030	0.15	-	34	780	550	40	320
1.4507	S32550		≤ 0.03	0.4	1.0	6.3	25.3	3.5	1.7	≤ 0.011	≤ 0.023	0.23	-	40	820	600	35	300
1.4410	S32750	F53	≤ 0.03	0.4	1.0	6.8	26.0	3.5	0.4	≤ 0.011	≤ 0.023	0.25	-	41	820	520	45	300
		_																
1.4404	S31603	316L	≤ 0.03	0.5	1.4	10.2	16.7	2.1	-	≤ 0.025	≤ 0.040	0.04	-	25	580	250	60	240
1.4571	S31635	316Ti	≤ 0.03	0.5	1.6	11.2	16.8	2.1	-	≤ 0.025	≤ 0.040	0.02	Ti ≥ 5x(C+N)	25	580	250	60	200
1.4435	S31603	316LMo	≤ 0.03	0.5	1.6	12.6	17.2	2.6	-	≤ 0.020	≤ 0.040	0.04	-	27	560	250	60	240
1.4438	S31700	317L	≤ 0.03	0.4	1.6	14.6	19.0	3.6	-	≤ 0.010	≤ 0.025	0.05	-	32	600	250	45	220
-	S20910	XM19	≤ 0.035	0.6	5.0	12.0	21.5	2.2	-	≤ 0.010	≤ 0.040	0.30	V=0.2; Nb=0.12	34	820	540	40	300
1.4439	~S31726	317LMN	≤ 0.03	0.5	1.2	12.6	16.7	4.3	-	≤ 0.015	≤ 0.030	0.18	-	34	700	400	40	220
1.4539	N08904	904L	0.015	0.6	1.2	24.2	19.3	4.2	1.5	≤ 0.010	≤ 0.025	0.05		34	600	250	50	350
1.4529	N08926	926	0.015	0.3	0.8	24.6	20.3	6.2	1.0	≤ 0.010	≤ 0.020	0.20	-	42	740	400	50	300
	Standards         EN         reference         1.4062         1.4362         1.4460         1.4462         1.4462         1.44507         1.44507         1.44507         1.44507         1.4435         1.4435         1.4438         -         1.4439         1.4539         1.4529	Standards           EN reference         UNS reference           1.4062         S32202           1.4362         S32304           1.4460         S32900           1.4462         S31803           1.4462         S31803           1.4462         S31803           1.4404         S32550           1.4410         S32750           1.4435         S31603           1.4438         S31700           -         S20910           1.4438         S31726           1.4539         N08904           1.4529         N08926	Standards         Other designations AISI, ASTM, etc.           1.4062         S32202           1.4362         S32304           1.4460         S32900           1.4462         S31803           1.4462         S31803           1.4460         S32550           1.4410         S32750           1.4404         S31603           1.44571         S31635           1.4438         S31700           1.4438         S31700           1.4439         ~S31726           1.4439         N08904           904L           1.4529         N08926	Standards         Typical c           EN         UNS         Other designations AISI, ASTM, etc.         C           1.4062         S32202 $\leq 0.03$ $\leq 0.03$ 1.4362         S32304 $\leq 0.03$ $\leq 0.03$ 1.4460         S32900         329 $\leq 0.03$ 1.4462         S31803         F51 - F60 $\leq 0.03$ 1.4401         S32550 $\leq 0.03$ $\leq 0.03$ 1.4402         S31603         316L $\leq 0.03$ 1.4404         S31603         316L $\leq 0.03$ 1.4435         S31603         316LMo $\leq 0.03$ 1.4438         S31700         317L $\leq 0.03$ 1.4438         S31700         317L $\leq 0.03$ -         S20910         XM19 $\leq 0.03$	Standards         Typical chemical of designations AISI, ASTM, etc.         Typical chemical of C           1.4062         S32202 $c$ Si           1.4062         S32202 $\leq$ 0.03         0.4           1.4362         S32304 $\leq$ 0.03         0.4           1.4460         S32900         329 $\leq$ 0.03         0.4           1.4462         S31803         F51 - F60 $\leq$ 0.03         0.4           1.4462         S31803         F51 - F60 $\leq$ 0.03         0.4           1.4462         S31803         F51 - F60 $\leq$ 0.03         0.4           1.4404         S32750         F53 $\leq$ 0.03         0.4           1.4404         S31603         316L $\leq$ 0.03         0.5           1.4404         S31603         316LMo $\leq$ 0.03         0.5           1.4435         S31603         316LMo $\leq$ 0.03         0.5           1.4438         S31700         317L $\leq$ 0.03         0.6           1.4438         S31700         317LMN $\leq$ 0.03         0.5           1.4439 $\sim$ S31726         317LMN $\leq$ 0.03         0.5           1.4439	Standards         Typical chemical composition (           EN         UNS         Other designations AlSi, ASTM, etc.         C         Si         Mn           1.4062         S32202 $\leq 0.03$ 0.4         1.8           1.4362         S32304 $\leq 0.03$ 0.4         1.8           1.4460         S32900         329 $\leq 0.03$ 0.4         1.0           1.4462         S31803         F51 - F60 $\leq 0.03$ 0.4         1.0           1.4462         S31803         F51 - F60 $\leq 0.03$ 0.4         1.0           1.4401         S32750 $\leq 0.03$ 0.4         1.0           1.4410         S32750 $\leq 0.03$ 0.4         1.0           1.4410         S31603         316L $\leq 0.03$ 0.5         1.4           1.4571         S31635         316Ti $\leq 0.03$ 0.5         1.6           1.4438         S31700         317L $\leq 0.03$ 0.5         1.6           1.4438         S31726         317LMN $\leq 0.03$ 0.5         1.2           1.4439 $\sim S31726$ 317LMN $\leq 0.03$ 0.5	Standards         Typical chemical composition (%)           EN         UNS         Other designations AISI, ASTM, etc.         C         Si         Mn         Ni           1.4062         S32202 $\leq 0.03$ 0.4         1.8         2.8           1.4362         S32304 $\leq 0.03$ 0.4         1.0         4.2           1.4460         S32900         329 $\leq 0.03$ 0.4         1.0         5.3           1.4462         S31803         F51 - F60 $\leq 0.03$ 0.4         1.0         5.3           1.4460         S32550 $\leq 0.03$ 0.4         1.0         6.3           1.4410         S32750         F53 $\leq 0.03$ 0.4         1.0         6.8           1.4404         S31603         316L $\leq 0.03$ 0.5         1.4         10.2           1.4435         S31603         316L $\leq 0.03$ 0.5         1.6         11.2           1.4438         S31700         317L $\leq 0.03$ 0.5         1.6         12.6           1.4439 $\sim S31726$ 317LMN $\leq 0.03$ 0.5         1.2         12.6           1.4539<	Standards         Typical chemical composition (%)           EN         UNS         Other designations AISI, ASTM, etc.         Si         Mn         Ni         Cr           1.4062         S32202          < 0.03	Standards         Typical chemical composition (%)           EN         UNS         Other designations AISI, ASTM, etc.         C         Si         Mn         Ni         Cr         Mo           1.4062         S32202	Standards         Typical composition (%)           EN         UNS         Other designations to.         Si         Mn         Ni         Cr         Mo         Cu           1.4062         \$32202 $\leq 0.03$ 0.4         1.8         2.8         23.0         0.1 $< -$ 1.4362         \$32304 $\leq 0.03$ 0.4         1.8         2.8         23.0         0.1 $< -$ 1.4460         \$32900         329 $\leq 0.03$ 0.4         1.0         4.2         22.3         2.7 $< -$ 1.4461         \$31803         F51 - F60 $\leq 0.03$ 0.4         1.0 $6.3$ 25.3         3.5         1.7           1.4401         \$32550 $\leq 0.03$ 0.4         1.0         6.3         25.3         3.5         1.7           1.4401         \$32550 $\leq 0.03$ 0.4         1.0         6.8         26.0         3.5         1.4           1.4401         \$331603         316L $\leq 0.03$ 0.5         1.6         11.2         16.8         2.1 $-$ 1.4404         \$31603         316LM $\leq 0.03$ <t< td=""><td>Standards         Typical chemical composition (%)           ENerence         Other Alsi, ASTM, etc.         C         Si         Mn         Ni         Cr         Mo         Cu         S           1.4062         S3202         -         \$0.03         0.4         1.8         2.8         23.0         0.1         -         \$0.0101           1.4362         S3204         -         \$0.03         0.4         1.0         4.2         22.3         0.3         -         \$0.0111           1.4460         S32900         329         \$0.03         0.4         1.0         4.2         2.3.3         0.3         -         \$0.0201           1.4460         S32900         329         \$0.03         0.4         1.0         5.3         2.3.3         1.5         -         \$0.0201           1.4462         S31803         F51 - F60         \$0.03         0.4         1.0         6.3         2.5.3         3.5         1.7         \$0.011           1.4462         S3163         316L         \$0.03         0.4         1.0         6.8         26.0         3.5         0.4         \$0.025           1.4404         S31633         316L         \$0.03         0.5         <td< td=""><td>Standards         Typical chemical composition (%)           FN         Other designations AIS, ASCM         C         Si         Mn         Ni         Cr         Mo         Cu         S         P           14062         S32202         S32304         S0.03         0.4         1.8         2.8         23.0         0.1         -         \$0.010         \$0.030           14362         S32304         S3290         329         \$0.03         0.4         1.0         4.2         22.3         0.3         -         \$0.011         \$0.030           14460         S32900         329         \$0.03         0.4         1.0         5.3         22.3         2.7         -         \$0.011         \$0.030           14460         S32900         329         \$0.03         0.4         1.0         6.3         25.3         3.5         1.7         \$0.011         \$0.023           14402         S31803         F61 - F60         \$0.03         0.4         1.0         6.8         26.0         3.5         1.4         \$0.023           14404         S31603         316L         \$0.03         0.5         1.6         11.2         16.8         2.1         \$0.025         \$0.040</td><td>Standards         Typical chemical composition (%)           EN         UNS         Other assignations Alsi, AST         C         Si         Mn         Ni         Cr         Mo         Cu         S         P         N           14062         33202           0.03         0.4         1.8         2.8         23.0         0.1         -         ≤ 0.010         ≤ 0.000         0.18           14062         33204          0.03         0.4         1.0         4.2         22.3         0.3         -         ≤ 0.010         ≤ 0.000         0.12           14460         332004         20         0.03         0.4         1.0         5.3         2.3         1.5         -         &lt; 0.010</td>         0.000         0.12           14460         532900         329         0.03         0.4         1.0         5.3         2.3         2.7         -         &lt; 0.011</td<></td>         &lt;0.020</t<>	Standards         Typical chemical composition (%)           ENerence         Other Alsi, ASTM, etc.         C         Si         Mn         Ni         Cr         Mo         Cu         S           1.4062         S3202         -         \$0.03         0.4         1.8         2.8         23.0         0.1         -         \$0.0101           1.4362         S3204         -         \$0.03         0.4         1.0         4.2         22.3         0.3         -         \$0.0111           1.4460         S32900         329         \$0.03         0.4         1.0         4.2         2.3.3         0.3         -         \$0.0201           1.4460         S32900         329         \$0.03         0.4         1.0         5.3         2.3.3         1.5         -         \$0.0201           1.4462         S31803         F51 - F60         \$0.03         0.4         1.0         6.3         2.5.3         3.5         1.7         \$0.011           1.4462         S3163         316L         \$0.03         0.4         1.0         6.8         26.0         3.5         0.4         \$0.025           1.4404         S31633         316L         \$0.03         0.5 <td< td=""><td>Standards         Typical chemical composition (%)           FN         Other designations AIS, ASCM         C         Si         Mn         Ni         Cr         Mo         Cu         S         P           14062         S32202         S32304         S0.03         0.4         1.8         2.8         23.0         0.1         -         \$0.010         \$0.030           14362         S32304         S3290         329         \$0.03         0.4         1.0         4.2         22.3         0.3         -         \$0.011         \$0.030           14460         S32900         329         \$0.03         0.4         1.0         5.3         22.3         2.7         -         \$0.011         \$0.030           14460         S32900         329         \$0.03         0.4         1.0         6.3         25.3         3.5         1.7         \$0.011         \$0.023           14402         S31803         F61 - F60         \$0.03         0.4         1.0         6.8         26.0         3.5         1.4         \$0.023           14404         S31603         316L         \$0.03         0.5         1.6         11.2         16.8         2.1         \$0.025         \$0.040</td><td>Standards         Typical chemical composition (%)           EN         UNS         Other assignations Alsi, AST         C         Si         Mn         Ni         Cr         Mo         Cu         S         P         N           14062         33202           0.03         0.4         1.8         2.8         23.0         0.1         -         ≤ 0.010         ≤ 0.000         0.18           14062         33204          0.03         0.4         1.0         4.2         22.3         0.3         -         ≤ 0.010         ≤ 0.000         0.12           14460         332004         20         0.03         0.4         1.0         5.3         2.3         1.5         -         &lt; 0.010</td>         0.000         0.12           14460         532900         329         0.03         0.4         1.0         5.3         2.3         2.7         -         &lt; 0.011</td<>	Standards         Typical chemical composition (%)           FN         Other designations AIS, ASCM         C         Si         Mn         Ni         Cr         Mo         Cu         S         P           14062         S32202         S32304         S0.03         0.4         1.8         2.8         23.0         0.1         -         \$0.010         \$0.030           14362         S32304         S3290         329         \$0.03         0.4         1.0         4.2         22.3         0.3         -         \$0.011         \$0.030           14460         S32900         329         \$0.03         0.4         1.0         5.3         22.3         2.7         -         \$0.011         \$0.030           14460         S32900         329         \$0.03         0.4         1.0         6.3         25.3         3.5         1.7         \$0.011         \$0.023           14402         S31803         F61 - F60         \$0.03         0.4         1.0         6.8         26.0         3.5         1.4         \$0.023           14404         S31603         316L         \$0.03         0.5         1.6         11.2         16.8         2.1         \$0.025         \$0.040	Standards         Typical chemical composition (%)           EN         UNS         Other assignations Alsi, AST         C         Si         Mn         Ni         Cr         Mo         Cu         S         P         N           14062         33202           0.03         0.4         1.8         2.8         23.0         0.1         -         ≤ 0.010         ≤ 0.000         0.18           14062         33204          0.03         0.4         1.0         4.2         22.3         0.3         -         ≤ 0.010         ≤ 0.000         0.12           14460         332004         20         0.03         0.4         1.0         5.3         2.3         1.5         -         < 0.010	Standards         Typical compution (%)           FN         Type         Addition of the system of the sys	Standards         Typical-summerical (%)           Federance         Subscription (%)         Sin         Nin         Cr         No         Cu         S         P         N         Otherance         PREN           14062         S2020         Image (%)         S003         0.4         1.8         2.8         2.3.0         0.1         -         \$0.01         \$0.03         0.18         \$0.02         1.0         2.3.0         2.3.0         0.1         \$0.01         \$0.03         0.10         \$0.03         0.10         \$0.03         0.10         \$0.03         0.12         \$0.00         2.3.0         2.3.0         \$0.01         \$0.01         \$0.03         0.12         \$0.01         \$0.03         0.12         \$0.01         \$0.01         \$0.03         \$0.11         \$0.03         \$0.11         \$0.03         \$0.11         \$0.03         \$0.11         \$0.03         \$0.11         \$0.03         \$0.11         \$0.03         \$0.11         \$0.03         \$0.11         \$0.03         \$0.11         \$0.03         \$0.11         \$0.03         \$0.11         \$0.03         \$0.11         \$0.03         \$0.11         \$0.03         \$0.11         \$0.03         \$0.11         \$0.03         \$0.11         \$0.11         \$0.01	Standards         Typical chemical composition (%)          Table 20         Strange 20	Standards         Typical metrics         Typical metrics<	Standards         Typical methods         Superior         Superior

#### Generalised corrosion resistance



#### Resistance to pitting corrosion



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# Fields of application

For many applications, conventional and molybdenum content), make them extremely attractive stainless steels fully satisfy requirements. for industries traditionally consuming highly alloyed grades: However, a wide range of industrial activities and aggressive environments often lead to the recommendation of stainless steels with high chromium, molybdenum and nitrogen contents, which are major corrosion-protective and also industries that usually employ austenitic stainless elements.

Aware of the growing demand for stainless steels with improved corrosion resistance and guaranteed availability, Ugitech has decided to offer an appropriate solution: austenoferritic or duplex stainless steels.

Their remarkable usage properties, combining high mechanical characteristics with an often exceptional corrosion resistance, along with their reasonable cost (linked to their low nickel

#### **Crevice corrosion resistance**



- Petroleum industry Natural gas extraction
- Chemical industry Cellulose and paper pulp industry
- Sea water desalination

steels and are looking for an alternative to these grades that are so dependent on the high and volatile cost of alloying elements:

- Food processing
- Water treatment
- Thalassotherapy Thermal spas
- Building industry

