



Polygonal ingots		
	Average size mm	Gross weight * kg
P 3.5	625	3.750
P 5	710	5.400
P 7	830	7.300
P 8.5	835	8.800
P 10.5	950	11.100
P 14	1175	16.200
P 17.5	1045	18.100
P 21.5	1340	21.200

\*Weights related to an Austenitic Stainless Steel

Round ingots		
	Average size mm	Gross weight * kg
D320	330	2.850
D400	410	3.600
D500	460	5.300
D500HC	500	7.100
D600C	592	7.600
D700	690	12000
D800	810	20.000
D1000	990	20.400
D1200	1170	23.500
EL420	425	3.800
EL470	475	4.900
EL650	650	10.000

\*Weights related to an Austenitic Stainless Steel

ESR ingots		
	Size mm	Gross weight * kg
ESR 820	800	8700
ESR 1030	1000	17500

VAR ingots		
	Size mm	Gross weight * kg
VAR 508	508	3.800
VAR 560	560	4.900
VAR 710	710	7000
VAR 765	765	10.500
VAR 920	920	14.000
VAR 1060	1060	18500

\*Weights related to a Nickel-base Alloy

 **SPECIAL CHEMICAL COMPOSITIONS**

 **MELTING (EAF+AOD/VIM)**

 **RE-MELTING ESR-VAR**



## Our certifications and approvals

- ◆ UNI EN ISO 9001:2015
- ◆ UNI EN ISO 14001: 2015
- ◆ OHSAS 18001:2007
- ◆ ASME Code, Sec. III, Div.1&3 : Material organization manufacturing ferrous and non-ferrous materials, including approval and control of suppliers.
- ◆ Pressure Equipment Directive 2014/68/EU, Annex 1, Section 4.3
- ◆ AD 2000 – Merkblatt W0
- ◆ Norsok M-650 Ed.4 : UNS S31803, UNS S32750, UNS S32760, UNS S31254, UNS N06625
- ◆ Approved manufacturer of Steelmaking and Steel Forgings to DNV Rules for classification Pt. 2
- ◆ BIS Certification Marks Licence as per IS 6529:1996

# STAINLESS STEEL & NICKEL ALLOYS

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# TOTAL QUALITY

▶ In-house laboratory ISO 17025

Bars & Billets		
	Round	Square
Martensitics	Ø150 ÷ 750 mm	150 ÷ 700 mm
Austenitics	Ø150 ÷ 850 mm	150 ÷ 750 mm
Super Austenitics	Ø150 ÷ 600 mm	150 ÷ 550 mm
Duplex	Ø150 ÷ 850 mm	150 ÷ 800 mm
Super Duplex	Ø150 ÷ 800 mm	150 ÷ 700 mm
Nickel-base Alloys	Ø100 ÷ 750 mm	100 ÷ 620 mm



## CONSOLIDATED EXPERIENCE, TESTED PROCESSES

We have consolidated experience and expertise in stainless steel and Nickel alloys ingots and forged bars production.



Approx. correspondences					Typical chemical analysis							
	ASTM	UNS	EN (number)	EN (name)	AFNOR	C %	Cr %	Ni %	Mo %	Other		
<b>1</b> MARTENSITICS	F6NM	S41500	1.4313	X 6 CrNi 13 04	Z3 CN 13-4	< 0,05	11,5-14,0	3,5-5,5	0,5-1,0			
			1.4418	X4 CrNiMo 16 5 1	Z6 CND 16-5-1	< 0,06	15-17	4-6	0,8-1,5	N > 0,020		
		S41426	1.4415	X2CrNiMoV13-5-2								
<b>2</b> PRECIPITATION HARDENING	15.5 PH	S15500	1.4545		Z7 CNU 15-05	< 0,07	14-15,5	3,5-5,5		Cu 2,5-4,5		
	17.4 PH	S17400	1.4542	X5 CrNiCuNb 16 4	Z7 CNU 17-04	< 0,07	15-17,5	3-5		Nb+Ta 0,15 - 0,45 • Cu 3-5		
	XM - 13	S13800			Z4 CNDAT 13-09	< 0,05	12,25-13,25	7,5-8,5	2-2,5	Al 0,90-1,35 • Si < 0,10		
	XM - 25	S45000	1.4594	X5 CrNiMoCuNb 14 5		< 0,030	14-16	5-7	0,5-1	Cu 1,30 - 1,80		
<b>3</b> AUSTENITICS	XM-11	S21904				< 0,04	19,0-21,5	5,5-7,5		N 0,15-0,40		
	XM-19 / XM19 HS	S20910				< 0,06	20,5-23,5	11,5-13,5	1,5-3	Mn 4-6 • N 0,20-0,40 • V 0,10-0,30		
		S21500				0,06-0,15	14,0-16,0	9,0-11,0	0,80-1,20	Mn 5,5-7,0 • Nb 0,75-1,25 • V 0,15-0,40 • B 0,003-0,009		
		S21800				<0,10	16-18	8-9		Mn 7-9 • Si 3,5-4,5 • N 0,08-0,18		
	304	S30400	1.4301	X5 CrNi 18 10	Z6 CN 18-10	< 0,08	18-20	8-11		N < 0,10		
	304L	S30403	1.4307	X2 CrNi 18 11	Z2 CN 18-10	< 0,03	18-20	8-13		N < 0,10		
			1.4306	X2 CrNi 19 11	Z3 CN 19-11	< 0,03	18-20	10-12		N < 0,11		
	304H	S30409	1.4948	X5 CrNi 18 10		0,04-0,10	18-20	8-11				
	304LN	S30453	1.4311	X2 CrNiN 18 10		< 0,030	18-20	8-10,5		N 0,10-0,16		
	303	S30300	1.4305	X10 CrNiS 18 09	Z8 CNF 18-09	< 0,10	17-19	8-10		S 0,15-0,35 • N < 0,11 • Cu < 1		
	321	S32100	1.4541/1.4878	X6 CrNiTi 18 11	Z6 CNT 18-10	< 0,08	> 17	9-12		Ti 5*C-0,7		
	321H	S32109		X8 CrNiTi 18 11		0,04-0,10	> 17	9-12		Ti 4*C-0,7		
	347	S34700	1.4550	X6 CrNiNb 18 11	Z6 CNNb 18-10	< 0,08	17-20	9-13		Nb 10*C-1,10		
	347H	S34709		X8 CrNiNb 18 11		0,04-0,10	17-20	9-13		Nb 8*C-1,10		
	316	S31600	1.4401	X5 CrNiMo 17 12	Z6 CND 17-11	< 0,08	16-18	10-14	2-3		N < 0,10	
	316H	S31609	1.4919	X8 CrNiMo 17 12		0,04-0,10	16-18	10-14	2-3			
	316L	S31603	1.4404	X2 CrNiMo 17 12	Z2 CND 17-12	< 0,03	16-18	10-15	2-3		N < 0,10	
	316L Urea Grade					< 0,03	17-18,5	13-15	2,2-3		N < 0,20	
	316LN	S31653	1.4429	X2 CrNiMoN 17 13 3	Z3 CND 17-12 Az	< 0,03	16-18	11-14	2-3		N 0,10-0,16	
	316LN mod.					< 0,03	18-20	10,5-13	2-3		N 0,15-0,25	
				1.4435	X2 CrNiMo 17 13	Z2 CND 18-14-03	< 0,03	17-19	12,5-15	2,5-3		N < 0,11
				1.4439	X2 CrNiMoN 17 13 5	Z2 CND 17-13-05 Az	< 0,03	16,5-18,5	12,5-14,5	4-5		N 0,12-0,22
	316Ti	S31635	1.4571	X6 CrNiMoNb 17 12	Z6 CNDT 17-12	< 0,08	16-18	10-14	2-3		Ti 5*C- 0,7	
	316Nb	S31640	1.4580	X6 CrNiMoTi 17 12	Z6 CNDNb 17-12	< 0,08	16,5-18,5	11-14	2-2,5		Nb > 8*C	
	317	S31700		X5 CrNiMo 18 15	Z2 CND 19-15	< 0,08	18-20	11-15	3-4		N < 0,10	
	317L	S31703	1.4438	X2 CrNiMo 18 15	Z2 CND 18-15-04	< 0,03	18-20	11-15	3-4		N < 0,10	
			1.4828		Z17 CNS 20-12	< 0,02	19-21	11-13	-		Si 1,5-2,5 • N < 0,11	
				1.3816	X10 CrMnN 18 18		0,07-0,10	18,0-19,5	0,70-0,90	0,25-0,40	Mn 18-20 • N 0,50-0,65 • V 0,10-0,20	
				1.4910	X3 CrNiMoBN 17 13 3		< 0,04	16-18	12-14	2-3	N: 0,10-0,18 • B: 0,0015-0,0050	
				1.4961	X8 CrNiNb 16 13		0,04-0,10	15-17	12-14		Nb: 10*C-1,2	
				1.4981	X8 CrNiMoNb 16 16		0,04-0,10	15,5-17,5	15,5-17,5	1,6-2	Nb: 10*C-1,2	
			1.4988	X8 CrNiMoVNb 16 13		0,04-0,10	15,5-17,5	12,5-14,5	1,1-1,15	N: 0,06-0,14 • V: 0,60-0,85		

Approx. correspondences					Typical chemical analysis						
	ASTM	UNS	EN (number)	EN (name)	AFNOR	C %	Cr %	Ni %	Mo %	Other	
<b>4</b> SUPER AUSTENITICS	310	S31000	1.4845	X22 CrNi 25 20	Z8 CN 25-20	< 0,15	24-26	19-22			
	310S	S31008	1.4841		Z5 CNS 25-20	< 0,08	24-26	19-22		Si > 1,5	
			S31002	1.4335	X1 CrNi 25 21	Z1 CN 25 20	< 0,015	24-26	20-22	<0,10	N < 0,10
				1.4465	X1 CrNiMoN 25 25 2		< 0,02	24-26	22-25	2-2,5	N 0,09-0,16
	310MoLN	S31050	1.4466	X1 CrNiMoN 25 22 2	Z2 CND 25-22 Az	< 0,02	24-25,5	22-23	2-2,4		N 0,10-0,16
	904L	N08904	1.4539	X1 NiCrMoCu 25 20 5	Z2 NCDU 25-20	< 0,02	19-21	24-26	4-5		N < 0,15 • Cu 1,2-2,0
		N08926	1.4529	X1NiCrMoCuN 25 20 7		< 0,02	19-21	24-26	6-7		N: 0,15-0,25
	F44	S31254	1.4547	X1 CrNiMoCuN 20 18 7		< 0,02	19,5-20,5	17,5-18,5	6-6,5		N 0,18-0,22 • Cu 0,5-1,0
		S32050				< 0,03	22-24	20-23	6-6,8		N: 0,21-0,32
	F49	S34565	1.4565	X2 CrNiMnMoN 25 18 6 5		< 0,030	23,00-26,00	16,00-19,00	4,00-5,00		Mn: 5,00-7,00
	660	S66286	1.4980	X6NiCrTiMoVB 25 15 2	Z5 NCTDV 26-15 B	0,03-0,08	13,5-16	24-27	1-1,5		B: 0,0030-0,0100 • Ti: 1,9-2,3 • V: 0,10-0,50
<b>5</b> DUPLEX & SUPERDUPLEX	F50	S31200				< 0,03	24-26	5,5-6,5	1,2-2,0		N 0,14-0,20
			S31500			< 0,03	18-19	4,3-5,2	2,5-3,0		
	F51	S31803	1.4462	X2 CrNiMoN 22 5 3	Z3 CND 22-05 Az	< 0,03	21-23	4,5-6,5	2,5-3,5		N 0,08-0,20
	F53	S32750	1.4410	X2 CrNiMoN 25 7 4	Z3 CND 25-06 Az	< 0,03	24-26	6-8	3-5		N 0,24-0,32
	F55	S32760	1.4501	X2 CrNiMoCuWN 25 7 4		< 0,03	24-26	6-8	3-4		N 0,20-0,30 • Cu 0,5-1,0 • W 0,50-1,00
	F57	S39277				< 0,025	24-26	6,5-8,0	3-4		N 0,23-0,33
	F59	S32520			Z3 CNDU 25-06 Az	< 0,03	24-26	5,5-8,0	3-5		N 0,20-0,35 • Cu 0,5-3,0
	F60	S32205	1.4462			< 0,03	22-23	4,5-6,5	3,0-3,5		N: 0,14-0,20
	F61	S32550	1.4507	X2 CrNiMoCuN 25 6 3	Z3 CNDU 25-07 Az	< 0,03	24-26	6-8	3-4		N 0,10-0,25 • Cu 1,5-2,5
	F68	S32304	1.4362	X2 CrNiN 23 4		< 0,03	21,5-24,5	3-5,5	0,05-0,60		N 0,05-0,20 • Cu 0,05-0,60
	<b>6</b> NICKEL-BASE ALLOYS	C-276	N10276	2.4819	NiMo16Cr15W		< 0,01	14,5-16,5		24,0-26,0	
400		N04400				< 0,30		> 63			Cu 28,0-34,0
20		N08020	2.4660			< 0,07	19-21	32-38	2-3		Cu: 3-4
31		N08031	1.4562	X1 CrMoCu 32 28 7		<0,015	26-28	30-32	6-7		N 0,15-0,25
600		N06600	2.4816		NC 15 Fe	< 0,15	14-17	> 72			Fe 6-10
625		N06625	2.4856	NiCr22Mo9Nb	NC 22 DNb	< 0,10	20-23	> 58	8-10		Nb 3,15-4,15 • Fe < 5
690		N06690	2.4642	NiCr29Fe	NC 30 Fe	<0,05	27-31	> 58			Fe 7-11 • Cu < 0,50
706		N09706				<0,03	14,5-17,5	39-44			Nb 2,5-3,3 • Ti 1,5-2
716		N07716				<0,03	19-22	59-63	7-9,5		Nb 2,75-4 • Ti 1-1,6
718		N07718	2.4668		NC 19 FeNb	<0,03	17-21	50-55	2,8-3,3		Nb+Ta 4,75-5,5 • Al 0,20-0,60 • Ti 0,65-1,15
725		N07725				<0,03	19-22,5	55-59	7-9,5		Nb 2,75-4 • Ti 1-1,7
		N08120				0,02-0,10	23,0-27,0	35-39	< 2,5		Nb+Ta 0,4-0,9 • N 0,15-0,30
800		N08800	1.4876	FeNi32Cr21AlTi	Z8 NC 32 21	< 0,10	19-23	30-35			Al 0,15-0,60 • Ti 0,15-0,60 • Fe > 39,5
800H		N08810	1.4876		Z10 NC 32 21	0,05-0,10	19-23	30-35			Al 0,15-0,60 • Ti 0,15-0,60 • Fe > 39,5
800HT	N08811	1.4959/1.4876			0,06-0,10	19-23	30-35			Al, Ti 0,15-0,60 • Al+Ti 0,85-1,20 • Fe > 39,5	
825	N08825	2.4858	NiFe30Cr21Mo3	NC 21 FeDU	< 0,05	19,5-23,5	38-46	2,5-3,5		Ti 0,6-1,2 • Cu 1,5-3,0 • Fe > 22	
925	N09925				<0,03	19,5-23,5	38-46	2,5-3,5		Fe > 22 • Ti 1,9-2,4 • Al 0,10-0,50	

**CUSTOMIZED CHEMISTRY AVAILABLE ON REQUEST**