ALACER MAS

Mechanical Properties of Stainless Steel

The **mechanical properties** of stainless steel are:

- **Creep resistance:** It is the ability of the material to withstand a load without permanently deforming.
- **Tensile strength:** It is the maximum force that the material can withstand before breaking.
- **Elongation:** It is the measure of the plastic deformation that the material experiences before breaking.
- **Hardness:** It is the resistance of the material to being scratched or penetrated by abrasive agents.
- **Ductility:** It is the ability of the material to deform without breaking, which allows various modeling and finishes.
- **Tenacity:** It is the resistance of the material to blows or impacts.

Technical information

CARACTERÍSTICAS	PROPIEDADES MECANICAS							
	CALIDADES			DUREZA		ELASTICIDAD RP (0,2) [N/mm2]	RESIST. A LA TRACCIÓN Rm (0,2) [N/mm2]	ALARGAMIENTO
	Designación AISI / ASTM	Designación EN Número	Designación EN Nombre	Ha HRB max	HB o HV max			A (80 mm.) [%] anchura 3 mm.
AUSTENITICO	201	1.4372	X12CrMnNiN17-7-5	90	217	330	750 - 950	40
	202	1.4373	X12CrMnNiN18-9-5	90	241	320	600 - 800	35
	301	1.431	X10CrNi18-8	85	217	250	600 - 950	40
	301L			100	241	200	550	45
	301LN	1.4318	X2CrNiN18-7	100	241	350	650 - 850	35
	302			85	201	276	621	50
	303	1.4305	X8CrNiS18-9(3)			190	500 - 700	35
	304	1.4301	X5CrNi18-10		149	210	520 - 720	45
	304LN	1.4311	X2CrNiN18-10	92	201	290	550 - 750	40
	304H	1.4948	X6CrNi18-10	92	201	230	530 - 740	45

	304L	1.4307	X2CrNi18-9	79		220	500 - 750	45
	304L	1.4306	X2CrNi19-11	79		220	500 - 650	45
	304N			85	201	331	621	50
	305	1.4303	X4CrNi18-12	80	183	220	530 - 680	45
		1.4828	X15CrNiSi 20-12		223	230	550 - 750	28
	309S	1.4833	X12CrNi 23-13	85	192	210	500 - 700	33
	310S	1.4845	X8CrNi 25-21	95	192	210	500 - 700	33
	314	1.4841	X15CrNiSi 25-21	85	180	345	689	40
	316	1.4401	X5CrNiMo17-12-2	79		240	530 - 680	40
	316	1.4436	X3CrNiMo17-13-3		149	240	550 - 700	40
	316N			85	217	331	621	48
	316H			95	217	205	515	40
	316L	1.4404	X2CrNiMo17-12-2	79		240	530 - 680	40
	316L	1.4435	X2CrNiMo18-14-3	79		240	550 - 700	40
	316 L	1.4432	X2CrNiMo17-12-3	79		240	550 - 700	40
	316LN	1.4406	X2CrNiMoN17-11-2	95	217	300	580 - 780	40
	316LN	1.4429	X2CrNiMoN17-13-3	95	217	300	581 - 780	35
	316Ti	1.4571	X6CrNiMoTi17-12-2	95	217	240	540 - 690	40
	316 Cb	1.458	X6CrNiMoNb17-12-2	95	217	220	620 - 720	40
	317			85	160	276	586 - 721	45 - 50
	317 L	1.4438	X2CrNiMo18-15-4		217	240	550 - 700	35
	317 LN	1.4434	X2CrNiMoN18-12-4	95	217	290	550 - 770	35
	317 LMN	1.4439	X2CrNiMoN17-13-5	96	223	290	580 - 780	35
	321	1.4541	X6CrNiTi18-10	80		220	520 - 720	40
	321 H	1.4878	X8CrNiTi18-10	95	215	190	500 - 720	40
	347	1.455	X6CrNiNb18-10	85		220	520 - 720	40
	347 H			92	201	205	515	40
		1.4335	X1CrNi25-21			200	470 - 670	40
	310 MoLN	1.4466	X1CrNiMoN25-22-2	95	217	250	540 - 740	40
		1.4361	X1CrNiSi18-15-4			220	530 - 730	40
		1.4563	=Hoja1!A1	70 - 90		220	500 - 700	40
	904 L	1.4539	=Hoja1!A2	90		240	530 - 730	35
		1.4547	=Hoja1!A3	96	223	320	650 - 850	35
		1.4529	=Hoja1!A4			300	650 - 850	40
	330	1.4864	=Hoja1!A5		223	230	550 - 750	28
		1.4835	=Hoja1!A6	95	210	310	650 - 850	37
		1.4876	=Hoja1!A7	86		205	520	28
		1.4877	=Hoja1!A8	95		185	500	30
		1.4818	=Hoja1!A9	95	217	290	600	30

		1.4854	=Hoja1!A10	95	217	270	650	40
DUPLEX		1.4462	X2CrNiMoN22-5-3(6)	31	293	480	660 - 950	20
		1.4362	X2CrNiN23-4(9)	32	290	42	600 - 850	20
		1.441	X2CrNiMoN25-7-4(9)	32	310	550	750 - 1000	15
		1.4507	X2CrNiMoCuN25-6-3	32	302	510	690 - 940	17
		1.4501	X2CrNiMoCuWN25-7-4		270	530	730 - 930	25
FERRITICO	405	1.4002	X6CrAl13			250	400 - 600	17
		1.4003	X2CrNi12	89	183	320	450 - 650	20
	409	1.4512	X2CrTi12	75		220	380 - 560	25
	410 S	1.4	X6Cr13	89	183	250	400 - 600	19
	429			80	163	276	483	30
	430	1.4016	X6Cr17	85		280	450 - 600	20
		1.452	X2CrTi17			200	380 - 530	24
		1.4511	X3CrNb17			240	420 - 600	23
		1.4017	X6CrNi17-1(9)			500	650 - 750	12
	434	1.4113	X6CrMo17-1	83		280	450 - 630	18
		1.4513	X2CrMoTi17-1			220	400 - 550	23
	439	1.451	X3CrTi17	89	183	240	420 - 600	23
		1.4516	X6CrNiTi12			320	450 - 650	23
	444	1.4521	X2CrMoTi18-2	96	217	320	420 - 640	20
	436	1.4526	X6CrMoNb17-1			300	480 - 560	25
		1.4509	X2CrTiNb18			250	430 - 630	18
	446	1.4749	X18CrN28	83		345	522 - 586	13
		1.4713	X10CrAlSi7		192	220	420 - 620	
		1.4724	X10CrAlSi13		192	250	450 - 650	13
		1.4762	X10CrAlSi25				490	13
MARTENSITICO	410	1.4006	X12Cr13	90	200	205	600	20
	420	1.4021	X20Cr13	44 - 50	440 - 530			
	420	1.4028	X30Cr13	45 - 51	450 - 550			
	420	1.4031	X39Cr13	47 - 53	480 - 580			
	420	1.4034	X46Cr13	99	245	345	780	12
		1.4116	X50CrMoV15	100	280		850	12
		1.4122	X39CrMo17-1	47 - 53	480 - 580			

		1.4313	X3CrNiMo13-4			650	780 - 980	14
		1.4418	X4CrNiMo16-5-1			680	840 - 980	14
PH	630	14542	X5CrNiCuNb16-4	35	35	1000	min 1275	5
	631	14568	X7CrNiAl17-7	92		max 380	min 1030	19