

Austenitic stainless steel grades AISI 304

General

We offer six types of austenitic stainless steel grade 304

AISI	EU code	EN 10088
304	X5CrNi18-10 / 1.4301	
304H	X6CrNi18-10 / 1.4948	
304D	X5CrNi18-10 / 1.4301 (deep drawing grade)	
304ED	X5CrNi18-10 / 1.4301 (severe deep drawing grade)	
304L	X2CrNi18-9 / 1.4307	
304M	X2CrNi19-11 / 1.4306	

AISI	US code	ASTM A 240
304	UNS 30400 / type 304	IMDS 336812649
304H	UNS 30409 / type 304	IMDS 369292367
304D	UNS 30400 / type 304	IMDS 336812649
304ED	UNS 30400 / type 304	IMDS 336812649
304L	UNS 30403 / type 304L	IMDS 336812649
304M	UNS 30403 / type 304L	IMDS 336813205

Chemical

Elements %	C	Si	Mn	Cr	Ni
304 (18-9E)	0.050	0.40	1.10	18.20	8.05
304H (18-9H)	0.050	0.40	1.10	18.20	8.05
304D (18-9ED)	0.040	0.40	1.20	18.20	8.10
304ED (18-9DDQ)	0.045	0.40	1.10	18.20	9.10
304L (18-9L)	0.025	0.40	1.40	18.20	8.05
304M (18-10L)	0.025	0.40	1.30	18.20	10.10

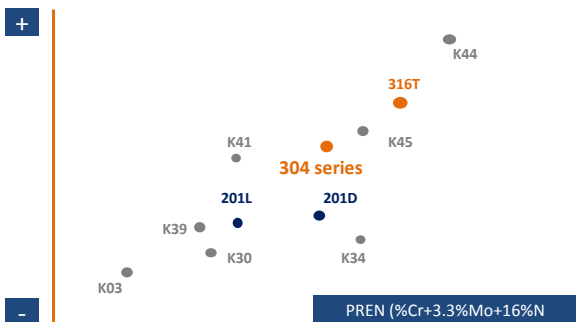
Mechanical

In annealed or tempered condition acc. ISO 6892-1, part 1

AISI	Grade	R _m	Re/R _p	A%
304	1.4301 (18-9E)	650	300 (MPa)	54
304H	1.4948 (18-9H)	670	320 (MPa)	52
304D	1.4301 (18-9ED)	630	285 (MPa)	57
304ED	1.4301 (18-9DDQ)	610	270 (MPa)	57
304L	1.4307 (18-9L)	630	300 (MPa)	55
304M	1.4306 (18-10L)	590	260 (MPa)	54

Corrosion

Our grades 304-series generally exhibit a good resistance to corrosion and recommended when there is a risk of intergranular corrosion. They meet the requirements of the standard tests defined by EN ISO 3651-2. Further-more they show excellent behavior in urban and rural atmospheres.



Characteristics

The principal characteristics stainless steel grades 304

- Comply to general metalworking processes
- Good resistance to pitting and crevice corrosion
- Better resistance to intergranular corrosion 304L/-M
- Good ductility, weldability and polish ability
- Very good drawability for 304D/304ED/304L

Stainless steel grades 304 comply to:

- Stainless EU Material Safety Data Sheet 1/2001/58/EC
- European Directive 2000/53/EC on end-of-life vehicles
- NFA 36 711 standard Stainless steel c. wi. Foodstuffs
- NSF/ANSI 51-2009 "Food Equipm. Mat." (F.D.A. appr.)
- French Decree No.92-631 + Reg. No. 1935/2004 of EC
- French Regulator jan-1976 / Italian Decree mar-1973
- Pressure Equipment Directory EN 10028-7/AD2000W2

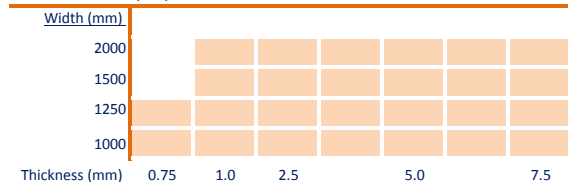
Applications

- Industrial and chemical engineering structures
- Cryogenic tanks, food storage- and dairy equipment
- Welded structures incl. sub-zero temps parts
- Profiles, general metalwork and construction
- Domestic appliances, cooking/catering equipment
- Decorative tubes, piping and exhaust systems
- Metallic frames and units for the building industry

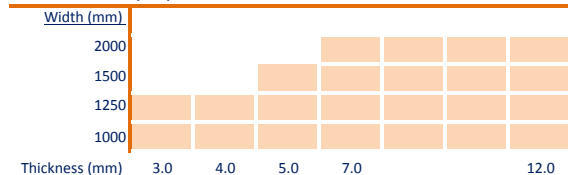
Dimensions

Delivery range / forms of sheets, coils, blanks and strips

Cold rolled (CR)



Hot rolled (HR)



Surface

- CR finish 2B or 2D
- HR finish 1D or 2E

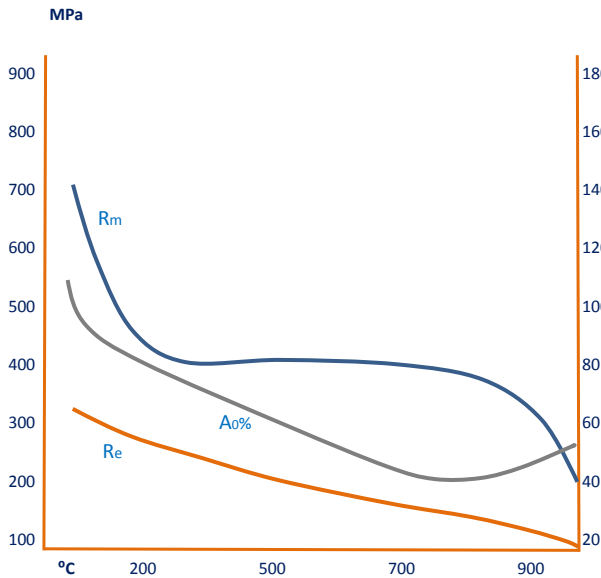
Forming

- Good bending up to 180°; bending radii for $t < 0.8$
For $t > 0.8$ a bending radius of $\frac{1}{2} \times t$ is recommended
- Acceptable Limiting Drawing Ratios grade 304-series
304D/-ED/-L recommended for DDQ and flow turning

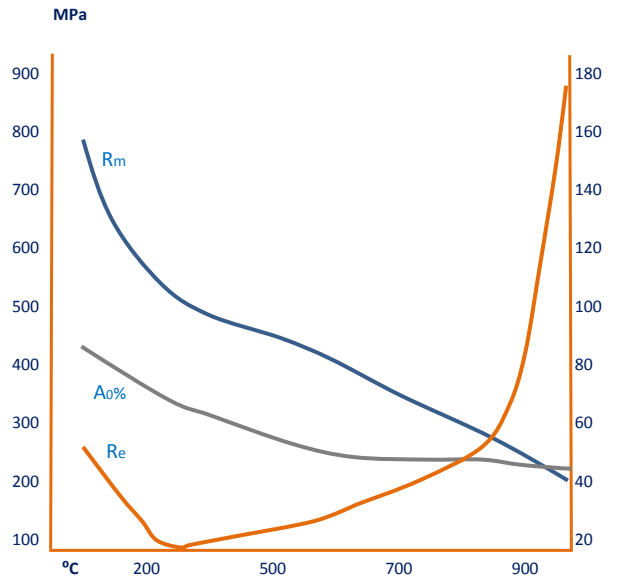
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Mechanical properties In the annealed condition in accordance with ISO 6892-1, part 1

At schedule 304L/304M



At schedule 304D/304ED



Graphics

