

Stainless Steel 1.4404 (316L)

Status 02/2016

Property

This steel 1.4404 (316L), also known as V4A, belongs to the group of the stainless steels. It is a fully austenitic, corrosion resistant chromium-nickel-molybdenum steel.

The molybdenum gives the material a better corrosion resistance than molybdenumfree chromium-nickel steels. The very low carbon content also improves resistance to intergranular corrosion and weldability. Heat treatment after welding is normally not necessary.

Especially the material 1.4404 (316L) is less susceptible against pitting and crevice corrosion in chloride-containing solutions. Subsequent processing of components like polishing, coating etc. is possible, too.

Typical applications

- Automotive industry and shipbuilding industry, e. g. welding components
- Aerospace, e. g. fastening components
- Equipment for food industry e. g. corrosion resistant pipes and containers
- Chemical/pharmaceutical industry
- Oil and gas industry

Chemical composition

	C	Cr	Cu	Fe	Mn	Mo	N	Ni	O	P	S	Si
min.	-	17,50	-	-	-	2,25	-	12,50	-	-	-	-
max.	0,030	18,00	0,50	Bal	2,00	2,50	0,10	13,00	0,10	0,025	0,010	0,75

Mechanical and physical properties

Material Characteristics	Unit	As Built
Tensile strength R _m	MPa	630 ± 20
Yield strength R _{p0,2}	MPa	505 ± 20
Elongation at break A	%	40 ± 2
E-Modulus E	GPa	170 ± 20
Hardness	HRC	ca. 16
Density	g/cm ³	ca. 7,9

This data sheet contains approximate values. These values are influenced by part's geometry, additives, and environmental influences. They were developed based on current experiences and knowledge. Therefore, the above mentioned properties cannot be claimed legally binding nor can a definite purpose be derived.