

R425.10

EN: 1.4404
Type: 316L
Werkst. Nr: 1.4404

R425.10 is an austenitic stainless steel grade. Its austenitic structure combined with added Molybdenum makes the grade very useful for general applications where there are high demands regarding corrosion resistance such as chlorinated environments and processing industries etc. Besides that it has good forming properties and good weldability and is therefore very useful for general applications. This grade is non magnetic in annealed condition but will be a bit magnetic in a cold worked condition since a part of the austenite will be transformed into deformation martensite. It is often used for cold heading, springs and bright forming applications.

CHEMICAL COMPOSITION (Nominal) %

C	Si	Mn	Cr	Ni	Mo	N		
0.020*	0.35	1.55	16.8	11.2	2.1	0.050*		

PRE: 24 (PRE = Cr + 3.1 x Mo + 25 x N)

* = max

PHYSICAL PROPERTIES

Condition: Annealed

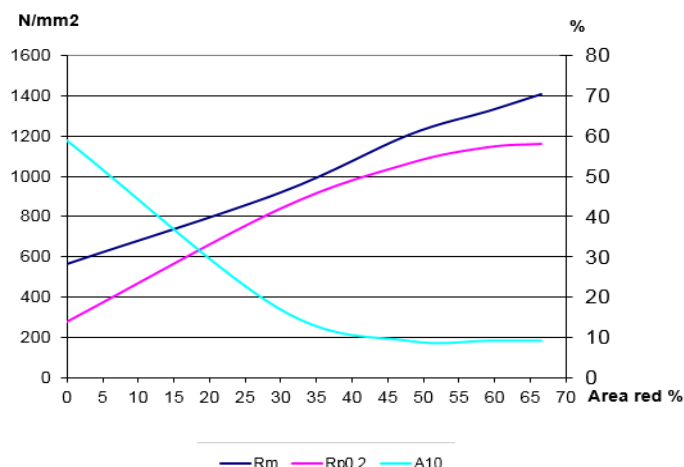
Density	7.9 g / cm ³
Modulus of elasticity, E	190 - 200 GPa
Specific heat 0-100°C	480 J / kg°C

TYPICAL MECHANICAL PROPERTIES

Condition: Annealed or DST-annealed (Direct Solution Treatm.)

Proof strength	Rp0.2	min 180 N / mm ²
Tensile strength	Rm	520 - 620 N / mm ²
Elongation	A10	min 45 %

DEFORMATION GRAPH



THERMAL TREATMENT

Annealing temperature	1030 - 1110 °C
	1886 - 2030 °F

MAX. OPERATING TEMPERATURE

Operating temp. in air	800 °C
	1472 °F
Scaling temp. in air	850 °C
	1562 °F

THERMAL CONDUCTIVITY

20 °C	15.0 W / mK
100 °C	16.0 W / mK
200 °C	18.0 W / mK
400 °C	19.0 W / mK

THERMAL EXPANSION

Thermal expansion per °C x 10-6 from 20°C to:

100 °C	16.5
200 °C	17.0
300 °C	17.5
400 °C	
500 °C	

RESISTIVITY

20 °C	800 μΩmm
100 °C	850 μΩmm
200 °C	900 μΩmm
300 °C	950 μΩmm