

R320.17

EN: 1.4310

UNS: S30200

T 302/304H



R320.17 (1.4310) is an austenitic grade developed especially for spring applications. It has very good features for high strength requirements and good fatigue properties. The grade with its more standardized chemical composition, can also be used for general forming & bending wire products and spoke manufacturing.

CHEMICAL COMPOSITION (Nominal) %

C	Si	Mn	Cr	Ni	Mo*	N	Cu*	
0.070	0.45	1.25	18.35	8.10	0.60	0.040	0.50	

PRE: 20 (PRE = Cr + 3.1x Mo + 25 x N) * Max

PHYSICAL PROPERTIES

Condition: Annealed

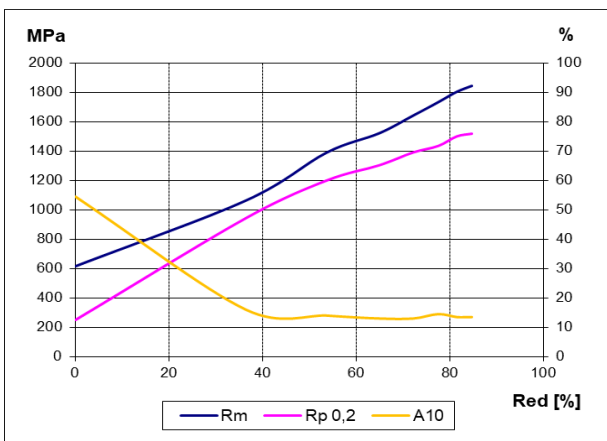
Density	7.9 g / cm ³
Modulus of elasticity, E	200 GPa
Specific heat 0-100°C	500 J / kg°C

TYPICAL MECHANICAL PROPERTIES

Condition: Annealed

Proof strength	Rp0.2	< 320 N / mm ²
Tensile strength	Rm	560-680 N / mm ²
Elongation	A10	> 45 %

DEFORMATION GRAPH



THERMAL TREATMENT

Annealing temperature	1000-1100 °C
	1832-2012 °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 / m°C
100 °C	15.5 W / m°C
200 °C	17.5 W / m°C
400 °C	20.0 W / m°C

THERMAL EXPANSION

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

100 °C	16.0
200 °C	17.0
300 °C	17.0
400 °C	18.0
500 °C	18.0

RESISTIVITY

20 °C	700 μΩmm
100 °C	750 μΩmm
200 °C	800 μΩmm
300 °C	950 μΩmm