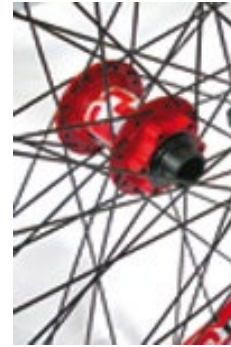


R300.20

EN: 1.4310
UNS: S30200
T 302



R300.20 (1.4310) is an austenitic grade developed mainly for production of high-end spokes for bicycles demanding extra high mechanical performance, such as excellent fatigue and high tensile strength properties. With the unique cold forming properties one can by flattening the center section of the spoke, reduce the weight and at the same time increase the tensile strength. The unique chemical composition can also be suitable for certain spring applications with requirements on flexible material properties.

CHEMICAL COMPOSITION (Nominal) %

C	Si	Mn	Cr	Ni	Mo*	N	Cu*	
0.052	0.45	1.20	17.40	8.25	0.50	0.050	0.50	

PRE: 19 (PRE = Cr + 3.1x Mo + 25 x N) * Max

PHYSICAL PROPERTIES

Condition: Annealed

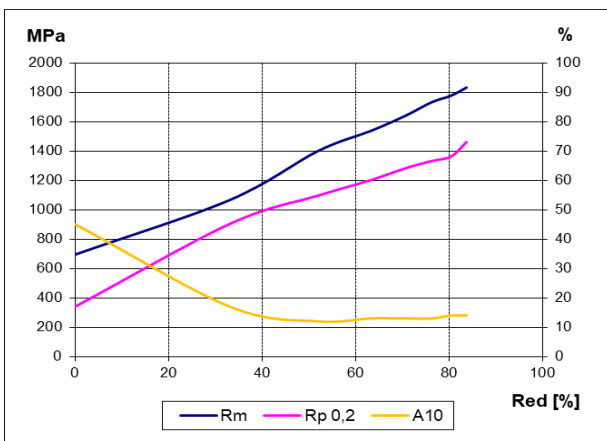
Density	7.9 g / cm ³
Modulus of elasticity, E	200 GPa
Specific heat 0-100°C	500 J / kg°C

TYPICAL MECHANICAL PROPERTIES

Condition: Annealed

Proof strength	Rp0.2	< 300 N / mm ²
Tensile strength	Rm	580-680 N / mm ²
Elongation	A10	> 45 %

DEFORMATION GRAPH



THERMAL TREATMENT

Annealing temperature	1000-1100 °C 1832-2012 °F
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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