

R429.15

EN: 1.4571
Type: 316Ti



R429.15 is an titanium stabilised austenitic grade with very good corrosion resistance and is resistant to intercrystalline corrosion during continuous operation up to 400°C (750°F). This is due to the addition of titanium which acts as an carbide forming element thus helping to prevent sensitization. Typical applications are spring wire products for building-, chemical- and pharmaceutical industries and for textile finishing.

CHEMICAL COMPOSITION (Nominal) %

C	Si	Mn	Cr	Ni	Mo	N	Ti*	
<0.020	0.40	1.75	16.6	10.6	2.1	<0.030	0.15	

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

Comments: *min.5x(C+N)

PHYSICAL PROPERTIES

Condition: Annealed

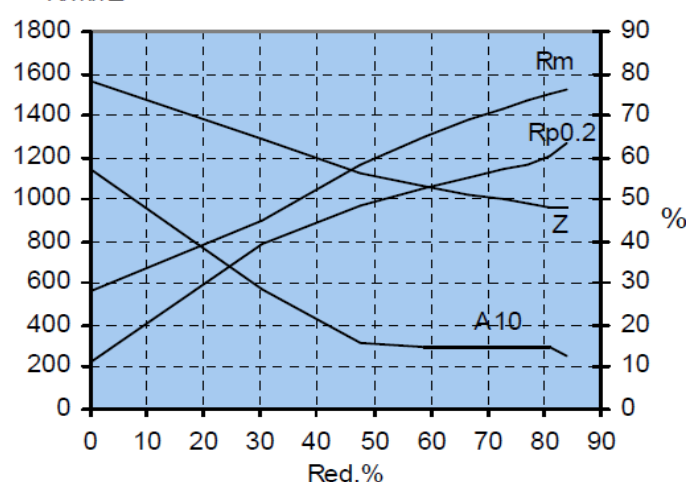
Density	8.0 g / cm ³
Modulus of elasticity, E	200 000 GPa
Specific heat 0-100°C	480 J / kg°C

TYPICAL MECHANICAL PROPERTIES

Condition: Annealed

Proof strength	Rp0.2	min.180 N / mm ²
Tensile strength	Rm	500-600 N / mm ²
Elongation	A10	min.45 %

DEFORMATION GRAPH



THERMAL TREATMENT

Annealing temperature	1050-1120 °C
	1920-2050 °F

MAX. OPERATING TEMPERATURE

Operating temp. in air	400 °C
	750 °F
Scaling temp. in air	850 °C
	1560 °F

THERMAL CONDUCTIVITY

20 °C	13.5 W / mK
100 °C	14.5 W / mK
200 °C	15.5 W / mK
400 °C	18.5 W / mK
600 °C	21.5 W / mK
800 °C	24.5 W / mK

THERMAL EXPANSION

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

100 °C	16.5
200 °C	17.5
300 °C	18.0
400 °C	18.5
800 °C	19.0
1000 °C	19.5

RESISTIVITY

20 °C	750 μΩmm
100 °C	800 μΩmm
200 °C	850 μΩmm
400 °C	1000 μΩmm
600 °C	1100 μΩmm
800 °C	1200 μΩmm