

R520.12

EN: 1.4372

Type 201



R520.12 (T201) is an austenitic chromium-nickel-manganese stainless steel comparable to types 302 and 304 in many respects. With a few exceptions, fabrication and corrosion resistance are similar for these three grades. With lower Cr and Ni contents, R520.12 has an increased work hardening rate because of larger formations of deformation martensite than there is in type 304. This gives R520.12 an advantage over type 304 in applications that can benefit from its higher strength. Examples of applications are hose clamps, automobile trims, household appliances and window frames.

CHEMICAL COMPOSITION (Nominal) %

C	Si	Mn	Cr	Ni	Mo	N		
0.090	0.45	5.9	17.0	5.3	<0.60	0.070		

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

Comments:

PHYSICAL PROPERTIES

Condition: Annealed

Density	7.83 g / cm ³
Modulus of elasticity, E	197 000 GPa
Specific heat 0-100°C	500 J / kg°C

TYPICAL MECHANICAL PROPERTIES

Condition: Annealed

Proof strength	Rp0.2	min. 300 N / mm ²
Tensile strength	Rm	480-580 N / mm ²
Elongation	A10	min. 30 %

THERMAL TREATMENT

Annealing temperature	1010-1120 °C
	1850-2050 °F

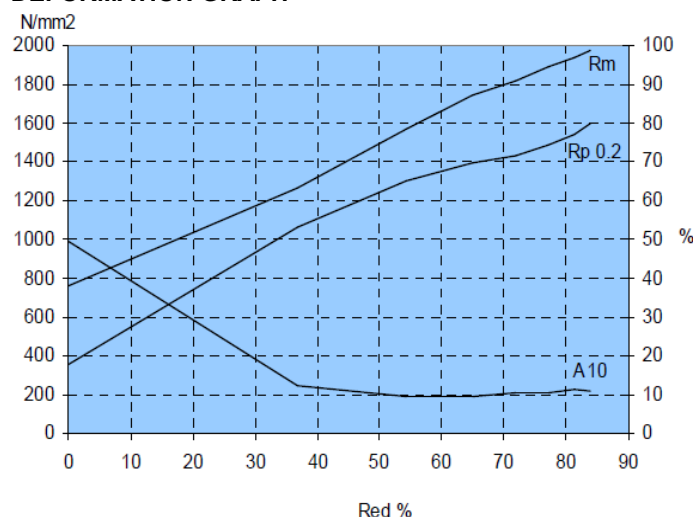
MAX. OPERATING TEMPERATURE

Operating temp. in air	°C
	°F
Scaling temp. intermitt./cont. in air	750 / 850 °C
	1380 / 1560 °F

THERMAL CONDUCTIVITY

20 °C	16.3 W / mK
100 °C	16.3 W / mK
500 °C	21.5 W / mK

DEFORMATION GRAPH



THERMAL EXPANSION

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

100 °C	15.7
315 °C	17.5
540 °C	18.4
650 °C	18.9
870 °C	20.3

RESISTIVITY

20 °C	685 μΩmm