



R108.10

EN:
Type 409Cb

R108.10 is nonhardenable ferritic stainless steel with columbium stabilization. The physical, mechanical and corrosion properties are almost identical with R109.10 (Type 409). This steel was primarily intended for different parts in automotive exhaust systems, where the metal temperatures in catalytic converters can exceed approx. 500°C (930°F). R108.10 is resistant to corrosion in fresh water, organic materials and mild acids and has been used extensively in automotive exhaust systems.

CHEMICAL COMPOSITION (Nominal) %

C	Si	Mn	Cr	Ni	Mo	Nb/Cb*		
<0.050	0.60	0.60	11.3	0.35	<0.10	0.35		

PRE: 12 (PRE = Cr + 3.1 x Mo + 25 x N)

Comments: *min.10xC

PHYSICAL PROPERTIES

Condition: Annealed

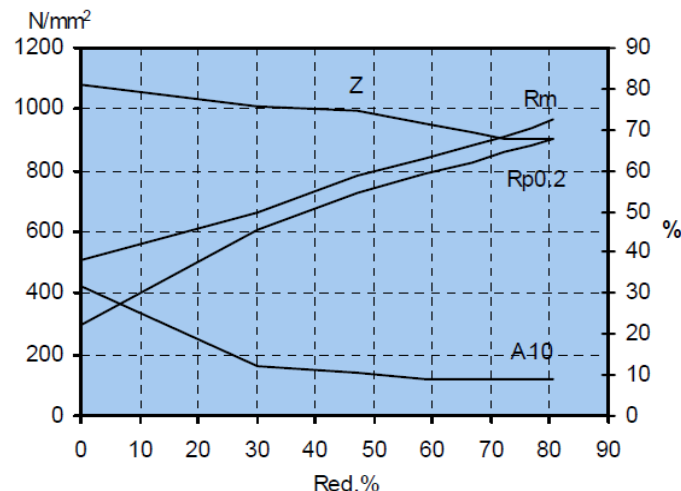
Density	7.6 g / cm ³
Modulus of elasticity, E	208 000 GPa
Specific heat 0-100°C	460 J / kg°C

TYPICAL MECHANICAL PROPERTIES

Condition: Annealed

Proof strength	Rp0.2	min.200 N / mm ²
Tensile strength	Rm	400-500 N / mm ²
Elongation	A10	min.25 %

DEFORMATION GRAPH



THERMAL TREATMENT

Annealing temperature	750-800 °C 1380-1470 °F
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MAX. OPERATING TEMPERATURE

Operating temp. in air	730 °C 1350 °F
Scaling temp. in air	°C °F

THERMAL CONDUCTIVITY

20 °C	25.7 W / mK
100 °C	25.8 W / mK
300 °C	26.4 W / mK
400 °C	26.9 W / mK
500 °C	27.5 W / mK
800 °C	30.7 W / mK

THERMAL EXPANSION

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

100 °C	11.0
200 °C	11.3
300 °C	11.5
400 °C	12.0
500 °C	12.0
650 °C	12.8

RESISTIVITY

20 °C	600 μΩmm
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