



800-722-5029
www.nks.com

18Cr-Cb Stainless Steel

DESCRIPTION

Type 18 Cr-Cb Stainless Steel provides a more effective solution than Type 409 to many automotive exhaust and heat applications, due to its higher oxidation resistance, improved creep resistance and moderate formability. Type 18 Cr-Cb is a ferritic stainless steel that is stabilized with both titanium and columbium. When given a high temperature final solution anneal, the alloy exhibits dramatic creep resistance. The dual stabilization prevents carbide sensitization during welding and high temperature exposure, and makes the alloy nonhardenable by heat treatment.

PRODUCT FORMS

Sheet, Strip

TYPICAL APPLICATIONS

Exhaust system catalytic converters, mufflers and pipes; heat exchangers and heat exchanger tubing; and nonstructural furnace parts.



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CHEMICAL COMPOSITION

Element	Type 18 Cr-Cb
Carbon	0.03 max.
Manganese	1.00 max.
Sulfur	0.03 max.
Phosphorus	0.04 max.
Silicon	1.00 max.
Chromium	17.5 to 19.5
Nickel	1.00 max.
Nitrogen	0.03 max.
Titanium	0.10 - 0.50
Nb	0.3+(9xC) min - 0.9 max.

MECHANICAL PROPERTIES

Type	Yield Strength 0.2% offset (KSI)	Tensile Strength (KSI)	% Elongation (2" Gauge Length)
18 Cr-Cb Ann	38 min.	60 min.	25 min.



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PHYSICAL PROPERTIES: (ANNEALED)

Density (lb./in ²) @ RT		0.277
Modulus of Elasticity in Tension (psi x 10 ⁶)		29.0
Electrical Resistivity (micro ohms - cm)	at 70oF	59