Combined Metals Company, LLC
Data Sheet

Alloy 441 Stainless Steel

UNS: S44100
EN DIN: 1.4509

Description: Type 441 is a nominal 18% chromium-bearing ferritic stainless steel stabilized with columbium. The alloy provides good high-temperature strength that exceeds that of type 409 and 439 stainless steels. Type 441 offers good corrosion resistance in many exhaust gas environments, equivalent to that of 439 and 18 Cr-Cb stainless steels.
Applications include: Exhaust systems, Automotive manifolds, Tubes
Industries supplied include: Automotive/Transportation, General Manufacturing

Nominal Composition

	C	Mn	P	S	Si	Cr	Ni	N	Cb	Ti	Fe
min	-	-	-	-	-	17.5	-	-	0.30+9*C	0.10	BAL
max	.03	1.0	0.04	0.030	1.00	19.5	1.00	0.03	0.90	0.50	-

Physical Properties

	At 70°F	At 20°C
Density	0.278 lb/in^3	7.7 g/cm^3
Modulus of Elasticity (E)	29 x 10^3 ksi	200 GPa
Coefficient of Expansion	5.7 µin/in-°F (32-212°F)	10.2 µm/m-°C (0-100°C)
Electrical Resistivity	23.1 µohm-in	58.7 µohm-cm
Thermal Conductivity	173 Btu-in/ft^2-hr- °F	25 W/m-K

Applicable Specifications

Strip & Sheet	ASTM A240

Typical Mechanical Properties Typical Room Temperature Mechanical Properties

Condition	Tensile Strength (UTS)	0.2% Offset Yield	Elongation in 2” (50.8 mm)	Hardness Rockwell
Annealed	70 ksi (MPa)	45 ksi (MPa)	30%	80 HRBW

Typical mechanical properties are based on ASTM A240

For further information:
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