

Combined Metals Material Datasheet

Alloy 410S Stainless Steel						UNS: S41008 EN DIN: 1.4000			
<p>Description: 410S Stainless Steel is a non-hardening modification of Type 410. Small alloying additions minimize austenite formation at high temperatures, thereby restricting the alloy's ability to harden. The result is a ductile condition when the material is rapidly cooled from above the critical temperature. This non-hardening characteristic also hinders formation of cracks when the steel is welded. The alloy is completely ferritic in the annealed condition.</p> <p>Applications include: Distillation trays, Heat exchangers, Annealing boxes</p> <p>Industries supplied include: Oil & Gas, Chemical Processing, General Manufacturing</p>									
Nominal Composition									
	C	Mn	P	S	Si	Cr	Ni	Ti	Fe
min	-	-	-	-	-	11.50	-	-	BAL
max	.080	1.0	0.040	0.030	1.00	13.50	0.60	0.20	-
Physical Properties									
	At 70°F					At 20°C			
Density	0.280 lb/in ³					7.73 g/cm ³			
Modulus of Elasticity (E)	29.0 x 10 ³ ksi					200 GPa			
Coefficient of Expansion	6.0 µin/in-°F (32-212°F)					10.8 µm/m-°C (0-100°C)			
Electrical Resistivity	23.7 µohm-in					60 µohm-cm			
Thermal Conductivity	187 Btu-in/ft ² -hr- °F (212°F)					26.9 W/m-K (100°C)			
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	65 ksi (448 MPa)	40 ksi (276 MPa)			30%		75 HRBW		
Typical mechanical properties are based on ASTM A240									
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