

Sanicro® 75X

Strip steel

Datasheet

Sanicro® 75X is a precipitation hardening nickel alloy with good spring properties and good resistance to gas corrosion at high temperatures. Due to the grade's low cobalt content, Sanicro® 75X is particularly suitable for nuclear power applications.

Standards

– UNS: N07750

Chemical composition (nominal)

Chemical composition (nominal) %

C	Si	Mn	P	S	Cr	Ni
≤0.030	0.3	0.6	≤0.015	≤0.010	16	72

Others: Fe=7.0 Al=0.7 Ti=2.5 Nb=0.8

Mechanical properties

Static strength

Nominal values at 20°C (68°F)

Condition ¹⁾	Tensile strength, R _m		Proof strength, R _{p0.2} ^{a)}		Elongation, A _{11,3}
	MPa	ksi	MPa	ksi	%
A	800	116	340	49	52
AT	1210	176	810	118	27

1) A = Annealed, AT = Annealed and tempered, 705°C (1300°F)/20 h

a) R_{p0.2} corresponds to 0.2% offset yield strength.

1 MPa = 1 N/mm2

Physical properties

Density: 8.3 g/cm³, 0.30 lb/in³

Specific heat capacity

420 - 460 J/kg °C	in the temperature range 20 - 100°C
540 J/kg °C	in the temperature range 50 - 900°C

Temperature, °C	W/m °C	Temperature, °F	Btu/ft h °F
100	16.3	210	
300	19.8	570	
500	25.6	930	
700	30.2	1 290	
900	37.2	1 650	

Resistivity

Temperature, °C	μΩm	Temperature, °F	μΩin.
20	1.20	70	
100	1.25	210	
200	1.25	390	
300	1.25	570	
500	1.30	930	
700	1.30	1 290	

Thermal expansion, mean values in temperatur ranges (x10⁻⁶)

Temperature, °C	per °C	Temperature, °F	per °F
30 - 100	12.2	85 - 210	
30 - 300	13.4	85 - 570	
30 - 500	13.8	85 - 930	
30 - 700	14.9	85 - 1 290	
30 - 900	16.5	85 - 1 650	

Permeability, m_{max}:1.004

Disclaimer: Recommendations are for guidance only, and the suitability of a material for a specific application can be confirmed only when we know the actual service conditions.

Continuous development may necessitate changes in technical data without notice. This datasheet is only valid for Alleima materials.