

AISI 441 Stainless Steel Sheet Plate

General Characteristics:

More than 17.5 percent of the chromium in ASTM A240 type 441 gives it good corrosion resistance. Due to its dual titanium and niobium stabilisation, it has exceptional resistance to intergranular corrosion. Niobium increases thermal fatigue resistance, creep resistance, and high temperature oxidation resistance. It also results in a beautiful, equiaxed grain structure with outstanding deep drawability. This steel is distinguished by good weldability and preserves good mechanical properties in the heat affected zone of the weld due to its extremely low interstitial content and stability. For the production of vehicle exhaust systems, 441 is an excellent option because it has the necessary mechanical strength at high temperatures, corrosion resistance at both high and low temperatures, and strong cold ductility.

SS 441 Sheet Plate Chemical Properties:

Designation		%C	%Mn	%S	%P	%Si	%Cr	%Ti	%Nb
UNS S43940	Min	--	--	--	--	--	17.5	0.10	0.3+3*C
	Max	0.030	1.00	0.015	0.040	1.00	18.5	0.60	--

SS 441 Sheet Plate Mechanical Properties:

Mechanical properties	UTS (MPa)	YS (MPa)	%EL	Hardness
ASTM A240 - UNS S43940	430 min	205 min	18 min	88 HRB max

441 Stainless Steel Sheet Plate Physical Properties:

Modulus of Elasticity (GPa)	Density (Kg/m ³)	Specific Heat (J/Kg°K)	Electrical resistivity (μΩm)	Thermal conductivity (W/m°C)	Co-efficient of Thermal Expansion (μm/m/°C)
220	7700	470	600	26.0	10.0

Products available:

Hot rolled and Cold Rolled coils and sheets.

Corrosion Resistance:

Due to its ferritic composition, 441 possesses excellent resistance to intergranular corrosion as well as extremely high resistance to stress corrosion cracking.

Oxidation Resistance:

This alloy can be used up to 980 0C because of its excellent oxidation resistance at high temperatures, especially cyclic oxidation.

Applications:

- Automotive Exhaust system: Manifold, Catalytic converter
- Solar hot water tank, Solar Collector, Solar panel.
- Exchanger tubes

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