

## AMS 5536 - NICKEL ALLOY X SHEET AND PLATE

Alloy X (alternatively known by Haynes trade name Hastelloy X) is an austenitic nickel base alloy containing approximately 22 percent chromium for outstanding resistance to oxidation at high temperatures. In addition, the alloy, which is solid solution strengthened, possesses exceptional strength at elevated temperatures. The alloy has good high temperature and stress rupture properties above 1450°F and can be used for applications up to 2200°F. In addition Alloy X contains high levels of nickel and molybdenum providing good levels of corrosion resistance similar to high nickel alloys more customarily used in corrosion applications.

Specific Gravity															
8.22 g/cm <sup>3</sup>															
Typical Applications								Related Specifications							
Gas Turbine engine components Furnace Components Heat treating equipment								<b>ASTM B435</b>  <b>AMS 5536</b>  <b>UNS N06002</b>							
Chemical Composition (Wt %)															
	Cr	Mo	Co	W	Al	Ti	B	C	Fe	Mn	Si	P	S	Cu	Ni
Min	20.5	8	0.5	0.2	–	–	–	0.05	17	–	–	–	–	–	–
Max	23	10	2.5	1.0	0.5	0.15	0.01	0.15	20	1.0	1.0	0.04	0.03	0.5	Bal
Mechanical Properties															
										0.2% Proof Stress	Tensile Strength	Elongation			
										MPA	MPA	%			
Temp deg f															
70										324	720	46			
1000										286	648	45			
1200										272	472	37			

<b>1400</b>	261	435	37
<b>1600</b>	177	252	51

\* This data has been supplied in good faith and is indicative only. It has been provided for general information purposes only and is not to be relied upon in place of the full specification. Mechanical properties can vary considerably with different supply conditions such as heat treatment or temper and product dimensions.

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