

INCONEL ALLOY 686

NICKEL ALLOY

HIGH TEMPERATURE RESISTING ALLOY

INCONEL 686 covers nickel alloy forgings. These alloys are classified into different grades according to their chemical composition. Inconel 686 Alloy covers low-carbon Ni-Cr-Mo-W alloy UNS N06686. INCONEL alloy 686 (UNS N06686/W.Nr. 2.4606) is a single-phase, austenitic Ni-Cr-Mo-W alloy offering outstanding corrosion-resistance in a range of severe environments. Its high nickel (Ni) and molybdenum (Mo) provide good resistance in reducing conditions, and high chromium (Cr) offers resistance to oxidizing media. The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

Chemical Properties

C	Mn	P	S	Si	Cr	Mo	Ti	W	Fe
0.010 Max	0.75 Max	0.04 Max	0.02 Max	0.08 Max	19.0-23.0	15.0-17.0	0.02-0.25	3.0-4.4	5.0 Max

Mechanical Properties

Yield strength	Tensile strength	Elongation
Min 0.2% Mpa	Min Mpa	Min %
310	690	45

Physical Properties

Density	Elastic Modulus	Mean Coefficient of Thermal			Thermal Conductivity		Specific Heat	Electrical Resistivity
(Kg/m ³)	(Gpa)	Expansion (µm/m/°C)			(W/m.K)		0-100°C	(nΩ.m)
8.37	207	11.9	12.56	13.18	50	144	364	123.7

Heat Treatment

Solution Annealed @ 1177°C & Rapidly Liquid Quenched

Equivalent Designation

UNS N06686
En Name NiCr21Mo16W
W.Nr. 2.4606

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