

## INCONEL SERIES



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# INCONEL SERIES INCONEL 600 601 617 625 690 718 733 X750

Inconel materials are nickel-chrome-based superalloys. It has high corrosion resistance, oxidation resistance, strength at high temperatures and creep resistance. It's able to withstand elevated temperatures and extremely corrosive environments.

Inconel is characterized by its ability to withstand very high temperatures. Inconel alloy maintains excellent strength even at elevated temperatures. A thick and stable protective oxide layer is formed when heated which provides excellent corrosion resistance even at high temperatures. For very high-temperature applications when steel material succumbs to creep, Inconel material is an ideal choice.

## APPLICATION

- Aerospace and Jet engines
- Automotive
- Oil and gas extraction
- Marine industry
- Pollution control and waste processing

CHEMICAL COMPOSITION %								
Item	C	Si	S	Mn	Cr	Ni	Fe	Cu
Inconel 600 UNS N06600 W.Nr. 2.4816	≤0.15	≤0.50	≤0.015	≤1.0	14.0-17.0	≥72.0	6.0-10.0	≤0.50

Item	Density (g/cm <sup>3</sup> )	Melting Range (°C)	Specific Heat (J/kg·°C)	Electrical Resistivity (μΩ·m)	Curie Temperature (°C)	Permeability at 200 oersted (15.9 kA/m)
Inconel 600 UNS N06600 W.Nr. 2.4816	8.47	1370-1425	444	1.03	-124	1.01

CHEMICAL COMPOSITION %										
Item	C	Si	S	Mn	Cr	Ni	Fe	Cu	Al	
Inconel 601 UNSN06601 W.Nr. 2.4851	≤0.10	≤0.5	≤0.015	≤1.0	21.0-25.0	58.0-63.0	Remainder	≤1.0	1.0-1.7	

Item	Density (g/cm <sup>3</sup> )	Melting Range (°C)	Specific Heat 21°C (J/kg·°C)	Curie Temperature (°C)	Tensile strength (Mpa)	Elongation A5 (%)
Inconel 601 UNSN06601 W.Nr. 2.4851	8.11	1360-1411	448	≤196	600-650	30

CHEMICAL COMPOSITION %													
Item	C	Si	S	Mn	Cr	Co	Mo	Ti	B	Ni	Fe	Cu	Al
Inconel 617 UNS N06617 W.Nr. 2.4683a	0.05-0.15	≤1.0	≤0.015	≤1.0	20.0-24.0	10.0-15.0	6.0-10.0	≤0.6	≤0.006	≥44.5	≤3.0	≤0.5	0.6-1.5

Item	Density (g/cm <sup>3</sup> )	Melting Range (°C)	Specific Heat 26°C (J/kg·°C)	Electrical Resistivity 26°C (μΩ·m)
Inconel 617 UNS N06617 W.Nr. 2.4683a	8.36	1332-1380	419	1.22

CHEMICAL COMPOSITION %													
Item	C	Si	S	Mn	Cr	P	Mo	Ti	Co	Ni	Fe	Nb+Ta	Al
Inconel 625 UNSN06625 W.Nr. 2.4856	≤0.1	≤0.5	≤0.015	≤0.5	20.0-23.0	≤0.015	6.0-10.0	≤0.4	≤1.0	≥58.0	≤5.0	3.15-4.15	≤0.4

Item	Density (g/cm <sup>3</sup> )	Melting Range (°C)	Specific Heat 21°C (J/kg·°C)	Electrical Resistivity 26°C (μΩ·m)	Curie Temperature (°C)
Inconel 625 UNSN06625 W.Nr. 2.4856	8.44	1290-1350	410	1.0006	≤196

CHEMICAL COMPOSITION %								
Item	C	Si	S	Mn	Cr	Ni	Fe	Cu
Inconel 690 UNS N06690 W.Nr. 2.4642	≤0.05	≤0.50	≤0.015	≤0.50	27.0-31.0	≥58.0	7.0-11.0	≤0.50

Item	Density (g/cm <sup>3</sup> )	Melting Range (°C)	Specific Heat (J/kg·°C)	Electrical Resistivity (μΩ·m)	Permeability at 200 oersted (15.9 kA/m)
Inconel 690 UNS N06690 W.Nr. 2.4642	8.19	1343-1377	450	1.148	1.001

CHEMICAL COMPOSITION %															
Item	C	Si	S	Mn	Cr	Ni	Mo	Ti	Co	P	Fe	Nb+Ta	Al	B	Cu
Inconel 718 UNS N07718 W.Nr. 2.4668	≤0.08	≤0.35	≤0.015	≤0.35	17.0-21.0	50.0-55.0	2.80-3.30	0.65-1.15	≤1.0	≤0.015	Remainder	4.75-5.50	0.20-0.80	≤0.006	≤0.30

Item	Density (g/cm <sup>3</sup> )	Melting Range (°C)	Specific Heat 21°C (J/kg·°C)	Curie Temperature (°C)	Permeability at 200 oersted (15.9 kA/m)
Inconel 718 UNS N07718 W.Nr. 2.4668	8.24	1260-1336	435	≤196	1.001

CHEMICAL COMPOSITION %												
Item	C	Si	S	Mn	Cr	Ni+Co	Ti	Co	Fe	Nb+Ta	Al	Cu
Inconel X750 UNS N07750 W.Nr. 2.4669	≤0.08	≤0.50	≤0.01	≤1.0	14.0-17.0	≥70.0	2.25-2.75	≤1.0	5.0-9.0	0.7-1.2	0.4-1.0	≤0.50

Item	Density (g/cm <sup>3</sup> )	Melting Range (°C)
Inconel X750 UNS N07750 W.Nr. 2.4669	8.28	1393-1427

Inconel	wire	Bar	Forging	Pipe	Sheet/Strip
Standard	ASTM B 166	ASTM B 564	ASTM B 564	ASTM B 167	ASTM B 168

Shape	Size (mm)
Wire	0.1-8.0
Rod/Bar	8.0-200
Strip	(0.1-2.5)*(5-180)
Plate	custom made

