

# AISI 310H

# STAINLESS STEEL

BOLTING MATERIAL FOR HIGH TEMPERATURE SERVICE

AISI 310H austenitic stainless steel is typically used for elevated temperature applications. Its high chromium and nickel content provides comparable corrosion, resistance, superior resistance to oxidation, and retention of a larger fraction of room temperature strength than the common austenitic Alloy 304. stainless steel grade 310H has carbon content and is a preferred choice for high temperature applications. This steel has good resistance to oxidation at temperatures of up to 1040°C (1904°F) in intermittent service and 1150°C (2102°F) in continuous service. It is widely used in environments where sulfur dioxide gas is present at high temperatures; however it is recommended that this steel should not be continuously used at 425-860°C (797-1580°F) range due to carbide precipitation.

### Chemical Properties

C	Mn	P	S	Si	Cr	Ni
0.04-0.10	2.00 Max	0.045 Max	0.030 Max	1.00 Max	24.0-26.0	19.0-22.0

### Mechanical Properties

Yield strength	Tensile strength	Elongation	Reduction
Min 0.2% Mpa	Min Mpa	Min %	min %
205	515	30	50

### Physical Properties

Density	Elastic Modulus	Mean Coefficient of Thermal			Thermal Conductivity		Specific Heat	Melting Point
(Kg/m <sup>3</sup> )	(Gpa)	Expansion(µm/m/°C)			(W/m.K)		0-100°C	°F
7750	200	15.9	16.2	17	14.2	18.7	500	720

### Heat Treatment

Solution Annealed @ 1040°C & Liquid Quenched @ 260°C

### Equivalent Designation

UNS S31009  
 DIN 12 CrNi 25 21  
 Werkstoff.No. 1.4845  
 Jis SUH 310  
 AFNOR Z 12 CN 25.20

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