



Ferritic Stainless Steels

405SS, 409SS, 430SS

These are so named because their basic crystal or molecular structure is the same as iron at room temperature. The ferritic group has a better resistance to high temperature corrosion than martensitic steels but less than austenitic types.

Characteristics

No appreciable nickel content
 Not hardenable by heat treatment
 Magnetic
 High carbon content (0.8-15%)

Typical end use

409 catalytic converters, capacitors, transformers
 430 heat exchangers, burner strips and rings and engine gaskets

Nominal Chemical Composition						
Stainless Steel	Cr	C	Mn	Ni	Al	Other
405	12.5	0.08	1 max.	0.60 max.	0.2	
409	11	0.08	1 max.	0.5 max.		0.75 Ti
430	16	0.12	1 max.	0.75 max.		

Applicable Specifications			
Stainless Steel	ASTM	AMS Spec No.	DIN
405	A176		1.4002
409	A176		
430	A176	5503	1.4016

Mechanical Properties				
Stainless Steel	Temper	Tensile Strength	Yield Strength	Elongation (% in 50.8mm)
405	Annealed	414N/mm ² min.	172N/mm ²	20% min.
409	Annealed	379N/mm ²	207N/mm ² min.	20% min.
430	Annealed	448N/mm ²	207N/mm ² min.	20% min.

Physical Properties			Thermal Properties	
Stainless Steel	Density	Modulus of Elasticity	Thermal Conductivity	Coefficient of Expansion 0-100°C x 10 ⁶ K ⁻¹
405	7.75 gcm ³	200 Gpa		10.8
409	7.75 gcm ³	200 Gpa		10.8
430	7.75 gcm ³	200 Gpa	22.7 Wm ⁻¹ K ⁻¹	10.4

Electrical Properties	
Stainless Steel	Electrical Resistivity uOhm cm
405	60
409	60
430	60

If you have any questions or to discuss your requirements, please contact us, the details are on our website:

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