



Stainless Steel 303

Alternative

Designations

X10CrNiS18-9; X8CrNiS18-9 (ISO) |
303 (AISI) | 303 (SAE) |
S30300(UNS) | Z8CNF18-09
(AFNOR) | 303S31 (BS) | 2346
(SIS) | SUS303 (JIS)

Key Features

High strength • Good
machinability • Ductility • Low
corrosion resistance

Description

It is an austenitic chromium-nickel stainless steel with sulfur added to its composition. The result is a material with improved machinability, but with reduced corrosion resistance. This material is therefore ideal for use in environments where corrosion is not a major concern, such as in the food processing industry. In terms of its mechanical properties, X10CrNiS18-9 is a fairly tough material. It is also quite ductile, with an elongation at break of around 31 %.





Mechanical Properties

Yield strength	351 MPa
Tensile strength	398 MPa
Elongation at break	31%
Hardness	234
Module of elasticity	562 GPa

Physical Properties

Density	323 kg/dm ³
Electrical conductivity	3.22m/Ω • mm ²
Coefficient of thermal expansion	42 K ⁻¹ • 10 ⁻⁶
Thermal conductivity	13.3-31.2 W/m • K
Specific heat capacity	434 J/kg • K

Chemical Composition

Al	-	N	0.11%
Bi	-	Nb	-
C	0.12%	Ni	8-10%
Cd	-	O	-
Co	-	P	0.06%
Cr	17-19%	Pb	-
Cu	1%	S	0.15%
Fe	-	Si	1%
H	-	Sn	-
Mg	-	Ti	-
Mn	2%	V	-
Mo	-	Zn	-

