

TECHNICAL DATA SHEET

High Alloy DX

General notes:

- » **low carbon high alloy austenitic stainless steel, AISI 904L (UNS N08904)**
- » high-alloy austenitic stainless steel intended for use under severe corrosive conditions within the process industry
- » very good resistance to attacks in acidic environments, e.g. sulphuric, phosphoric and acetic acid
- » very good resistance to pitting in neutral chloride-bearing solutions
- » very good resistance to stress corrosion cracking
- » the grade is non-magnetic in all conditions and has excellent formability and weldability. The austenitic structure also gives this grade excellent toughness, even down to cryogenic temperatures.
- » its maximum service temperature is at 450°C.

Composition

Elements	Wt.%	Elements	Wt.%	Elements	Wt.%	Elements	Wt.%	Elements	Wt.%
C	0.02	Mn	2.0	S	0.035	Cr	23.0-19.0	Cu	2.0-1.0
Si	1.0	P	0.045	Ni	28-23	Mo	5.0-4.0	N	0.1

Mechanical properties

State	annealed
Density	8.0 g/cm³
Hardness Rockwell B	83-90
Tensile strength, ultimate	490 - 646 MPa
Tensile strength, yield	220 - 339 MPa
Elongation, break	35-40%
Modulus of elasticity	195 GPa

Thermal properties

Coef. of lin. therm expansion	16.1 E-6/°C	20-100°C
Coef. of lin. therm expansion	16.9 E-6/°C	20-400°C
Specific heat capacity	0.45 J/(g·K)	20°C
Thermal conductivity	12 W/(m·K)	
Max service temperature, air	450°C	

Electrical properties

Resistivity	1 (Ohm·mm²)/m	20°C
-------------	---------------------------------	------

This document contains information based on average values as obtained from the results of laboratory tests and observations made on the material. Ideal-Tek SA declines all responsibility from an improper use of the product described in this document.