

ATLAS BALL & BEARING CO LIMITED

NITRONIC® 50 BALL DATA SHEET

Attributes

Exhibits superior corrosion resistance than 316 stainless steel. It has good mechanical properties at ambient and sub-zero temperatures and does not become magnetic when cold worked or cooled to sub-zero temperatures.

Specification with equivalents

Nitronic 50
UNS S20910
W 1.3964
XM19

Chemical Analysis %

C	0.06 max	P	0.04 max
Cr	20.50-23.50	S	0.03 max
Mn	4.00-6.00	Si	1.00 max
Ni	11.50-13.50	V	0.10-0.30
N	0.20-0.40	Nb/Cb	0.10-0.30
Mo	1.50-3.00	Fe	Bal

Typical uses/applications

Components used in Marine, Petrochemical Fertilizer and Paper industries

Mechanical/physical properties

Hardness	392-484 Hv, 40-48 HRC
Tensile strength	1300 - 2200 Mpa, 189-319 ksi
Service Temperature	-200 to +330.°C, -330 to +570° F
Specific gravity (density)	7.88 g/cm ³ (0.285 lb/in ³)
Coefficient of Expansion	16.20µm/m.°C (20-100°C) 9.00 x 10 ⁻⁶ in/in F (73-200° F)
Modulus of Rigidity	78.9 kN/mm ² , 11444 ksi
Modulus of elasticity	196.5 kN/mm ² , 28500 ksi
Magnetic permeability	1.004 Oersteds
Poisson's ratio	0.298

www.atlasball.co.uk