

AISI 420C STAINLESS STEEL BALLS

Martensitic hardened stainless steel balls, they feature good hardness, corrosion resistance, wear and abrasion resistance. Balls are provided in the passivated condition.

Applications
Special bearings, anti-friction bearings, special pumps, recirculating balls, lighters, pens, automotive seatbelts & components.

Chemical composition

%C	%Si	%Mn	%P	%S	%Cr	-	-	-	-	-	-
0.43-0.50	1.00 max	1.00 max	0.040 max	0.030 max	12.50-14.50	-	-	-	-	-	-

International standards

ITA	USA	GER	FRA	UK	RUS	CHN	JAP
X46Cr13	420C	1.4034	Z 34 C 14	-	40 Kh 13	4Cr13	-

Physical / mechanical / thermal / electric / magnetic properties

Property	Symbol	U.o.M.	Type	Notes	Values
Density	δ	[g/cm ³]	Physical	Room temp.	7.70
Young's modulus	E	[GPa]	Mechanical	-	205
Specific heat	c	[J/kg-K]	Thermal	Room temp.	450
Coefficient of linear thermal expansion	α	[10 ⁻⁶ /°C]	Thermal	($\Delta T=0-100^{\circ}C$)	10.4
Thermal conductivity	λ	[W/(m·K)]	Thermal	Room temp.	27.6
Electric resistivity	ρ	[$\Omega \cdot m \cdot 10^{-9}$]	Electric	-	720
Relative magnetic permeability	μ	-	Magnetic	Not hardened	> 600

Technical data

Property	Type	U.o.M.	Values	U.o.M.	Values
Hardness	Mechanical	[HRC]	52 - 60	-	-
Ultimate tensile strength	Mechanical	[MPa]	1700 - 1900	[psix10 ³]	250 - 275
Service temperature	Thermal	[°C]	0 - 400	[°F]	32 - 752

Range

Diameters (min/max)	U.o.M.	Diameters (min/max)	U.o.M.	Precision Grade (ISO 3290)
0.300 - 300.000	[mm]	1/64 - 12	["]	G10-16-20-25-28-40-50-60-100-200-500-1000-2000

Corrosion Resistance

Good corrosion resistance in industrial atmosphere, freshwater, steam, alcohol, ammonium, several oilfield products and organic compounds, dairy products, mild acid environments. Fairish in foodstuff and alkaline solutions. Fair in salt atmosphere. It does not resist in contact with sea water and strong acids (even if diluted).