

Balls



CHROME AISI 52100 Chrome Alloy Steel

Materials Analysis

Carbon.....	0.98 to 1.10%
Chromium.....	1.30 to 1.60%
Manganese.....	0.25 to 0.45%
Silicon.....	0.20 to 0.35%
Phosphorus.....	0.025% Max.
Sulphur.....	0.025% Max.

Mechanical Properties

Tensile Strength.....	325,000 psi (2240 Mpa)
Yield Strength.....	295,000 psi (2030 Mpa)
Compression Yield Strength.....	375,000 psi (2584 Mpa)
Elongation in 2".....	5%
Reduction in area.....	8%
Modulus of elasticity.....	29,500,000 psi (203300 Mpa)
Density.....	0.283 lbs/cu.in. (7.74 g/cc)

Hardness

52100 Chrome alloy steel balls and rollers have a uniform hardness of HRC 60-66 regardless of size or grade.

Applicability

52100 Chrome alloy steel balls and rollers offer high hardness and excellent resistance to wear and deformation. They are made from the finest bearing quality steel. 52100 material is specified by precision bearing manufacturers where precise Spherical and tolerance accuracy are required.

Material Specifications

Material conforms to AMS 6440, ASTM A295, AISI 52100, 100 Cr6, DIN 1.3505, JIS SUJ 2, Federal QQ-5-6243 and Federal Standard 66b.

General Bearing currently offers balls in three different materials: 52100 Chrome Alloy, AISI 1010-1020 low carbon and 440C stainless. We manufacture precision balls in a variety of tolerances, grades and sizes. Using state-of-the-art manufacturing, process controls and inspection technology, we are able to provide precision balls globally that meet the requirements of most automotive and industrial bearing applications.

Our current global distribution of products includes Argentina, Brazil, China, Canada, Mexico, India, Korea, Japan, Taiwan, Philippines, Malaysia, France, Germany, Italy and the US.

CARBON AISI 1010-1020 Low Carbon Steel

Materials Analysis

Carbon.....	0.12 to 0.20%
Manganese.....	0.30 to 0.70%
Silicon.....	< 0.30%
Sulphur.....	< 0.045%
Phosphorus.....	< 0.050%

Mechanical Properties

Tensile Strength.....	53,000 psi
Yield Strength.....	44,000 psi
Elongation in 2".....	26%
Reduction in area.....	50%
Modulus of elasticity.....	28,000,000 psi
Density.....	0.284 lbs/cu.in.

Size		Case Depth	
MM	Inch	MM	Inch
3.175	1/8	0.6	0.025
3.969	5/32	0.6	0.025
4.763	3/16	0.8	0.030
5.556	7/32	0.9	0.035
6.350	1/4	1.1	0.045
7.144	9/32	1.1	0.045
7.938	5/16	1.1	0.045
8.731	11/32	1.1	0.045
9.525	3/8	1.4	0.055
10.319	13/32	1.4	0.055
11.113	7/16	1.7	0.065
11.906	15/32	1.7	0.065
12.700	1/2	1.8	0.070
13.494	17/32	1.8	0.070
14.288	9/16	1.9	0.075
15.875	5/8	1.9	0.075
17.463	11/16	1.9	0.075
19.050	3/4	2.0	0.080
20.636	13/16	2.0	0.080
22.225	7/8	2.0	0.080
25.400	1	2.0	0.080