

AISI 1085 HIGH CARBON STEEL BALLS

High carbon steel balls, are through hardened. They feature by very good hardness and wear resistance.

Applications

Low precision bearings, furniture bearings, bicycle and automotive components, agitators, sliding rails, drawer rails, skates, roller conveyors, castors, locks, bearing units, polishing and milling machines.

Chemical composition

Standard	%C	%Si	%Mn	%P	%S	%Cr	%Ni	%Mo	%(Cu+Sn)	%Al	-
1085	0,80-0,93	0,10-0,35	0,70-1,00	0,040 max	0,050 max	-	-	-	-	-	-
1.0616	0,83-0,88	0,10-0,30	0,50-0,80	0,030 max	0,030 max	0,15 max	0,20 max	0,050 max	0,25 max	0,010 max	-

International standards

ITA	USA	GER	FRA	UK	RUS	CHN	JAP
C90	1085	1.0616	XC90	C85S	85 (A)	82B	SWRH87B

Physical / mechanical / thermal / electric / magnetic properties

Property	Symbol	U.o.M.	Type	Notes	Values
Density	δ	g/cm ³	Physical	Room temp.	7,85
Young's modulus	E	GPa	Mechanical	-	200
Specific heat	c	J/kg-K	Thermal	Room temp.	470
Coefficient of linear thermal expansion	α	10 ⁻⁶ /°C	Thermal	($\Delta T=0-100^{\circ}C$)	12,8
Thermal conductivity	λ	W/(m-K)	Thermal	Room temp.	33,9
Electric resistivity	ρ	$\Omega \cdot m \cdot 10^{-9}$	Electric	-	175
Relative magnetic permeability	μ	-	Magnetic	Ferromagnetic	> 200

Technical data

Property	Type	U.o.M.	Values	U.o.M.	Values
Hardness	Mechanical	HRC	59 - 66	-	-
Ultimate tensile strength	Mechanical	MPa	700 - 800	psix10 ³	100 - 115
Service temperature	Thermal	°C	-40 / 500	°F	-40 / 932

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	"	G10-16-20-28-40-100-200-500-1000-2000