Datenblatt | Data sheet

Carbon steel

High carbon steel balls, are through hardened. They feature by very good hardness and wear resistance; hard to drill and weld.

Field of application

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, etc.

Material

Technical name	Alternative Name	Valid standards
1.0616	AISI1085	ISO 3290-1 / DIN 5401

Chemical composition in %

C	Si	Mn	P	S					
0,80 - 0,93	≤ 0,60	0,70 - 1,00	≤ 0,040	≤ 0,050					

Physical / mechanical / thermal / electrical / magnetic characteristics

Characteristic	Symbol	Unit	Type	Note	Value
Density	δ	g/cm³	Physical	Environmental temp.	7,85
Modulus of elasticity	E	GPa	Mechanical	-	200
Specific heat	C	J/kg*K	Thermal	Environmental temp.	470
Coefficient of linear thermal expansion	α	10^{-6}/°C	Thermal	(DT = 0 - 100 °C)	12,8
Thermal conductivity	λ	W/(m*K)	Thermal	Environmental temp.	33,9
Volume resistivity	ρ	Ω*m^{-9}	Electrical	-	175
Relative magnetic permeability	μ	-	Magnetical	ferromagnetic	> 200

Technical characteristics

Characteristic	Type	Unit	Value	Unit	Value
Hardness	Mechanical	HRC	60 - 65		
Ultimate compressive strength	Mechanical	MPa	700 - 800	psi*10^3	100 - 115
Operating temperature	Thermal	°C	-40 - 500	°F	-40 - 932

Avaliable with

Diameter min/max (mm)	Diameter min/max (in)	Precision grade
1,5 - 300	1/16 - 12	G28 - G1000

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