AISI 1022 LOW CARBON STEEL BALLS

Case hardened low carbon steel balls, specifically suitable for applications in peening processes according to the AMS 2431/5B specification.

Applications

They are used in peening processes with the aim to increase stress resistance and corrosion cracking of metal surfaces.

Chemical composition

%C	%Si	%Mn	%P	%S	%Cr	-	-	-	-	-	-
0,19-0,25	0,070 max	0,70-1,00	0,040 max	0,050 max	0,25 max	-	-	-	-	-	-

International standards

ITA	USA	GER	FRA	UK	RUS	CHN	JAP
G 22 Mn 3	1022	1.1133	20 M 5	120 M 19	22	20Mn	SMnC 420

Physical / mechanical / thermal / electric / magnetic properties

Property	Symbol	U.o.M.	Type	Notes	Values
Density	δ	g/cm3	Physical	Room temp.	7,86
Young's modulus	E	GPa	Mechanical	-	203
Specific heat	c	J/kg-K	Thermal	Room temp.	472
Coefficient of linear thermal expansion	α	10^-6/°C	Thermal	(ΔT=0-100°C)	11,5
Thermal conductivity	λ	W/(m·K)	Thermal	Room temp.	50,9
Electric resistivity	ρ	Ω*m*10^-9	Electric	-	159
Relative magnetic permeability	μ	-	Magnetic	Ferromagnetic	> 500

Technical data

Property	Type	U.o.M.	Values	U.o.M.	Values
Hardness	Mechanical	HRC	57 - 62	HV	636 - 739
Ultimate tensile strength	Mechanical	MPa	450 - 550	psix10^3	66 - 79
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)
2,000 - 12,000	mm	3/32 - 7/16	"	G1000