CHROME STEEL 100CrMn6

Low alloy martensitic chrome steel, AISI 52100 thanks to its high hardness, wear resistance, surface finishing and dimensional precision, it is widely used to manufacture mechanical components. 100CrMn6 steel allows to get higher core hardness than standard AISI 52100. Generally used for large diameter balls only.

APPLICATIONS

Precision bearings, automotive components (brakes, steering, line shaft), bicycle, agitators, appliances, sliders, quick couplings, machine tool, lock mechanisms, conveyor belts, skates, pens, pumps, castors, measurement instruments, valves.

CHEMICAL COMPOSITION

	C	Si	Mn	P	S*	Al	Cr	Cu	Mo	O	-	
min	0,93	0,45	1,00			-	1,40	-		-	-	-
max	1,05	0,75	1,20	0,025	0,015	0,050	1,65	0,30	0,10	0,0015	-	-

*acc DIN 683-17

PHYSICAL / MECHANICL / THERMAL / ELECTRICAL PROPERTIES

Property	Symbol	Unit	Type	Notes	Values
Densitiy	δ	[g/cm^3]	Physical	Room temp.	7,85
Youngs modulus	E	[GPa]	Mechanical	-	210
Spezific Heat	c	[J/kg-K]	Thermal	Room temp.	475
Coefficient lin. thermal expansion	α	[10^{-6}/ºC]	Thermal	(ΔT=0-100°C)	12,6
Thermal conductivity	λ	[W/(m·K)]	Thermal	Room temp.	35,0
Electric resistivity	ρ	[Ω*m*10^{-9}]	Electrical	-	220
Rel. magnetic permeability	μ	-	Magnetical	Ferromagnetic	> 300

TECHNICAL DATAS

Property	Type	U.o.M.	Values	U.o.M.	Values
Hardness	Mechanical	[HRC]	< 66 (67)	HV10	740 - 900
Service Temperatur	Thermal	[ºC]	-60 - 150	[ºF]	-76/ 302

QUALITY UND DIAMETER (on request)

DRM mm	U.o.M.	DRM "	U.o.M.	Quality DIN5401 / ISO 3290
45,000- 300,000	[mm]	1 3/4 - 12	["]	G40 - 1000

100CrMn6 „Chromesteel“