

Metal Characteristics and Application

Tensile strength, Hardness and Elongation will be a little varied due to metal powder, however, generally they can be obtained better strength and magnetic characteristics near to lost wax process in comparison with powdered metal product made by single press molding due to fine and high density porosity shape.

Material (Share %)	Typical Material	Feature	Application	Tensile strength	Hardness Hv	Elongation %
Stainless (40%)	SUS316L	Anti-corrosive high strength	watch parts	450 Min.	120 Hv	40 Min.
	SUS430		Food Machine Parts		130 Hv	
	SUS440C		high strength parts			
	SUS630		HDD parts	800 Min.	250 Hv	4 Min.
Low Alloy Steel (18%)	Fe-2Ni-C	high strength	automobile parts HDD parts Key	280 Min.	120 Hv	25 Min.
	Fe-8Ni-C			400 Min.	120 Hv	20 Min.
	SCM415			410 Min.	120 Hv	15 Min.
Heavy Metal (16%)	Tungsten	high gravity	Mobile Phone Parts			
High Speed Steel (2%)	SKD 11 SKH51	high strength	Jig/Tool high strength parts			

Guide Line For M.I.M. Design

1. Size and Weight

Length	Thickness	Weight	Hole Dia
50 mm Max.	Over 0.5mm	Under 50g	Over 0.3mm

2. Accuracy

	Accuracy				
Length mm	< 5	5 ~ 10	10 ~ 20	20 ~ 30	< 50
	±0.025	±0.05	±0.1	±0.15	±0.25
Angle	±0.5°				
Flatness mm	< 5	5 ~ 10	10 ~ 20	20 ~ 30	< 30
	0.03	0.05	0.1	0.2	0.3
Draft Angle	0 ~ 1.5°				
Surface Roughness	Rmax 8 ~ 1.5µm				
Ejector Pin	0.05 ~ 0.1mm				
Parting Line	0.05 ~ 0.1mm				