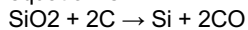


Silicon Metal

Silicon is a non-metallic element, gray, hard and brittle, with a content of about 26% of the earth's crust. Metal silicon (lump & powder), is also known as crystalline silicon or industrial silicon. It is generally used as an iron-based alloy additive. Metal silicon can be divided into metallurgical grade and chemical grade.

Method for producing metal silicon: Silica is used as a raw material. The carbonaceous material acts as a reducing agent. Metal silicon is smelted by a submerged arc furnace. The content of Fe in the smelted metal silicon is less than 0.5%. Its chemical reaction equation is:



The silicon thus obtained has a purity of 97% to 98%. Generally used in the metallurgical industry. If you want to get higher grade silicon, you need to refine it to remove impurities. Thus, metal silicon having a purity of 99.7% to 99.8% is obtained.

Typical sizing: 10 - 100 mm (90% minimum)

Metallurgy Grade	Si	Fe	Al	Ca	P
WMS553	98.50	0.50	0.50	0.30	-
WMS441	99.00	0.40	0.40	0.10	-
WMS3303	99.00	0.30	0.30	0.03	25/40/60
WMS2202	99.00	0.20	0.20	0.02	25/40/60
WMS1101	99.20	0.10	0.10	0.01	25
Off grade	96.00	2.00	1.00	1.00	
	%min.	%max.	%max.	%max.	ppm

Silicon Metal Powder specification

Size	Fe	Al	Ca	P
20~60 mesh	0.02	0.02	0.02	20
60~200 mesh	0.01	0.01	0.01	20
0.20~1mm mesh	0.20	0.20	0.20	30
42~325 mesh	0.30	0.30	0.30	-
-325 mesh	0.40	0.40	0.50	-
mm/mesh	%max.	%max.	%max.	ppm max

Applications Silicon Metal Uses

1. Aluminum alloy: It can improve useful properties of aluminum such as castability, hardness and strength. Adding silicon metal to aluminium alloys makes them strong and light. So, they are increasingly used in the automotive industry. Used to replace heavier cast iron parts. Automotive parts such as engine blocks and tire rims are the most common cast aluminum silicon parts.

2. Solar industry and electronics industry: Silicon metal can also be used as essential material in the solar and electronics industries. For examples, it can be used in the manufacture of solar panels, semi-conductors and silicon chips.