CLAIMS

1. A metal-Si based powder comprising a metal-Si based particle including a plurality of crystal phase grains,

wherein the crystal phase grains include a crystal phase containing a compound of a metal and Si,

wherein the metal-Si based particle has an average particle size of 5 to 100 μm,

wherein a relative density of an untamped density to a true density is 50% or more.

2. The metal-Si based powder according to claim 1, wherein the crystal phase grains have an average grain size of 20 μm or less.

3. The metal-Si based powder according to claim 1 or 2, wherein the metal-Si based particle has an average particle size of 10 to 70 μm.

4. The metal-Si based powder according to any one of claims 1 to 3,

wherein the metal-Si based particle further includes a substance that fills a gap between the plurality of crystal phase grains, and

the substance is constituted by a crystal phase.

5. The metal-Si based powder according to claim 4, wherein the metal-Si based particle includes two types of crystal phases.

6. The metal-Si based powder according to claim 5, wherein the two

types of crystal phases are constituted by a first crystal phase composed of a silicide and a second crystal phase composed of Si.

7. The metal-Si based powder according to claim 6, wherein a content of the first crystal phase is higher than a content of the second crystal phase.

8. The metal-Si based powder according to any one of claims 1 to 7, wherein the metal is Cr.

9. The metal-Si based powder according to any one of claims 1 to 8, containing oxygen in an amount of 0.5% by weight or less.

10. The metal-Si based powder according to any one of claims 1 to 9, wherein the total amount of metal impurities in the metal-Si based particle is 300 mass ppm or less.

11. A method for producing the metal-Si based powder according to any one of claims 1 to 10, the method comprising:

a step of melting a mixture of a metal and Si by heating to form a melt; and

a step of ejecting a gas to the melt, wherein the gas pressure is 1 MPa or more.

12. A metal-Si based sintered body obtained by firing the metal-Si based powder according to any one of claims 1 to 10.

13. The metal-Si based sintered body according to claim 12, comprising a sintered grain having an average grain size of 40 μm or less.

14. The metal-Si based sintered body according to claim 13, containing oxygen in an amount of 0.5% by weight or less and having a flexural strength of 100 MPa or more.

15. A sputtering target comprising the metal-Si based sintered body according to any one of claims 12 to 14.

16. A thin film manufacturing method comprising a step of performing sputtering using the sputtering target according to claim 15 to form a thin film on a surface of a base.