Claims

[Claim 1]

An alloy composition comprising:

a Mo-Cr-based dendritic structure; and

a Ni-Al-based interdendritic structure that fills a periphery of the Mo-Cr-based dendritic structure, wherein

the alloy composition comprises: 20 to 35 at.% of Ni, 20 to 35 at.% of Al, 10 to 50 at.% of Cr, and balance of Mo and unavoidable impurities,

Ni+Al = 40 to 70 at.%, and Mo+Cr = 30 to 60 at.% hold;

a percentage of an area of the the Mo-Cr-based dendritic structure is 50 to 65% of a total area of the Mo-Cr based dendritic structure and the Ni-Al based interdendritic structure.

[Claim 2]

The alloy composition according to claim 1, wherein Ni+Al = 40 to 50 at.%, and Mo+Cr = 50 to 60 at.% hold.

[Claim 3]

The alloy composition according to claim 1 or claim 2, wherein

the maximum arm width of the Mo-Cr-based dendritic structure is 10 μm or smaller.

[Claim 4]

The alloy composition according to claim 1 or claim 2, wherein

a region where a Cr/Mo ratio varies in the Mo-Cr-based dendritic structure.

[Claim 5]

The alloy composition according to claim 1 or claim 2, wherein

a maximum arm width of the Mo-Cr-based dendritic structure is 50 μm or smaller.

[Claim 6]

The alloy composition according to claim 1 or claim 2, wherein

a Rockwell hardness is HRC 45 or higher.

[Claim 7]

A method for producing the alloy composition according to claim 1 or claim 2, comprising:

melting a raw material powder that contains one or both of an elemental metal powder of Mo, Cr, Ni or Al, and an alloy powder including two or more metals selected from Mo, Cr, Ni and Al and solidifying the melt to produce the alloy composition.

[Claim 8]

A method for producing the alloy composition according to claim 1 or claim 2, comprising:

additively manufacturing the alloy composition while melting a raw material powder that contains one or both of an elemental metal powder of Mo, Cr, Ni or Al, and an alloy powder including two or more metals selected from Mo, Cr, Ni and Al and solidifying the melt.

[Claim 9]

A die using the alloy composition according to any one of claims 1 to 6 for a repairing material.