[Document Name] Claims

[Claim 1]

A carburization resistant metal material characterized by consisting of, by mass%, C: 0.03 to 0.075%, Si: 0.6 to 2.0%, Mn: 0.05 to 2.5%, P: 0.04% or less, S: 0.015% or less, Cr: higher than 16.0% and less than 20.0%, Ni: 20.0% or higher and less than 30.0%, Cu: 0.5 to 10.0%, Al: 0.15% or less, Ti: 0.15% or less, N: 0.005 to 0.20%, and O (oxygen): 0.02% or less , the balance being Fe and impurities.

[Claim 2]

A carburization resistant metal material characterized by consisting of, by mass%, C: 0.04 to 0.07%, Si: 0.8 to 1.5%, Mn: 0.05 to 2.5%, P: 0.04% or less, S: 0.015% or less, Cr: 18.0% or higher and 20.0% or less, Ni: 22.0 to 28.0%, Cu: 1.5 to 6.0%, Al: 0.12% or less, Ti: 0.05% or less, N: 0.005 to 0.20%, and O (oxygen): 0.02% or less , the balance being Fe and impurities.

[Claim 3]

The carburization resistant metal material according to claim 1 or 2, characterized by further containing, by mass%, at least one kind of a component selected from at least one group of the first group to the fifth group described below:

first group: Co: 10% or less,

second group: Mo: 5% or less, W: 5% or less, and Ta: 5% or less,

third group: B: 0.1% or less, V: 0.5% or less, Zr: 0.5% or less, Nb: 0.5% or less, and Hf: 0.5% or less,

fourth group: Mg: 0.1% or less and Ca: 0.1% or less,

fifth group: Y: 0.15% or less, La: 0.15% or less, Ce: 0.15% or less, and Nd: 0.15% or less.

[Claim 4]

The carburization resistant metal material according to any one of claims 1 to 3, characterized by having a fine grain such that the austenite grain size No. is 6 or higher.

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[Claim 1]

A carburization resistant metal material characterized by consisting of, by mass%, C: 0.03 to 0.075%, Si: 0.6 to 2.0%, Mn: 0.05 to 2.5%, P: 0.04% or less, S: 0.015% or less, Cr: higher than 16.0% and less than 20.0%, Ni: 20.0% or higher and less than 30.0%, Cu: 0.5 to 10.0%, Al: 0.15% or less, Ti: 0.15% or less, N: 0.005 to 0.20%, and O (oxygen): 0.02% or less, the balance being Fe and impurities.

[Claim 2]

A carburization resistant metal material characterized by consisting of, by mass%, C: 0.04 to 0.07%, Si: 0.8 to 1.5%, Mn: 0.05 to 2.5%, P: 0.04% or less, S: 0.015% or less, Cr: 18.0% or higher and less than 20.0%, Ni: 22.0 to 28.0%, Cu: 1.5 to 6.0%, Al: 0.12% or less, Ti: 0.05% or less, N: 0.005 to 0.20%, and O (oxygen): 0.02% or less , the balance being Fe and impurities.

[Claim 3]

A carburization resistant metal material characterized by consisting of, by mass%, C: 0.03 to 0.075%, Si: 0.6 to 2.0%, Mn: 0.05 to 2.5%, P: 0.04% or less, S: 0.015% or less, Cr: higher than 16.0% and less than 20.0%, Ni: 20.0% to 28.0%, Cu: 0.5 to 10.0%, Al: 0.15% or less, Ti: 0.15% or less, N: 0.005 to 0.20%, and O (oxygen): 0.02% or less , and at least one kind of a component selected from at least one group of the first group to the fifth group described below, and the balance being Fe and impurities:

first group: Co: 10% or less,

second group: Mo: 5% or less, W: 5% or less, and Ta: 5% or less,

third group: B: 0.1% or less, V: 0.5% or less, Zr: 0.5% or less, Nb: 2% or less, and Hf: 0.5% or less,

fourth group: Mg: 0.1% or less and Ca: 0.1% or less,

fifth group: Y: 0.15% or less, La: 0.15% or less, Ce: 0.15% or less, and Nd: 0.15% or less.

[Claim 4]

A carburization resistant metal material characterized by consisting of, by mass%, C: 0.04 to 0.07%, Si: 0.8 to 1.5%, Mn: 0.05 to 2.5%, P: 0.04% or less, S: 0.015% or less, Cr: 18.0% or higher and less than 20.0%, Ni: 22.0% to 28.0%, Cu: 1.5 to 6.0%, Al: 0.12% or less, Ti: 0.05% or less, N: 0.005 to 0.20%, and O (oxygen): 0.02% or less , and at least one kind of a component selected from at least one group of the first group to the fifth group described below, and the balance being Fe and impurities:

first group: Co: 10% or less,

second group: Mo: 5% or less, W: 5% or less, and Ta: 5% or less,

third group: B: 0.1% or less, V: 0.5% or less, Zr: 0.5% or less, Nb: 2% or less, and Hf: 0.5% or less,

fourth group: Mg: 0.1% or less and Ca: 0.1% or less,

fifth group: Y: 0.15% or less, La: 0.15% or less, Ce: 0.15% or less, and Nd: 0.15% or less.

[Claim 5]

The carburization resistant metal material according to any one of claims 1 to 4, characterized by having a fine grain structure such that the austenite grain size No. is 6 or higher.