DESCRIPTION

AUSTENITIC STAINLESS STEEL SHEET, COVER MEMBER AND PRODUCTION METHOD FOR AUSTENITIC STAINLESS STEEL SHEET

TECHNICAL FIELD

[0001]

The present invention relates to an austenitic stainless steel sheet which is temper-rolled using a dull roll after finishing cold rolling and bright annealing, a cover member and a production method for an austenitic stainless steel sheet.

BACKGROUND ART

[0002]

Austenitic stainless steel sheets typified by SUS304 and SUS316, and ferritic stainless steel sheets typified by SUS430 have been mostly used for building exterior materials, building interior materials, and kitchen utensils, etc.

[0003]

Then, in such uses, not only cleanability has been required to easily remove various stains which are attached during producing products and construction, and various strains, fingerprints, etc. which are attached during daily use, but also antiglare properties are emphasized to make stains, fingerprints, handling scratches, etc. inconspicuous.

[0004]

In addition, in members of precision instruments, electronic equipment and the like, for e.g. hard disk drives (HDDs), densification and processing acceleration have been generally required.

[0005]

In addition, materials used for HDD parts such as a rotary member, an arm member, a case member and a cover member are strictly controlled about not only excellent corrosion resistance but also stains such as particles (extraneous particles) and outgas.

[0006]

Then, in the cleaning process when producing HDD parts, careful cleaning is

[0070]

N is an element forming austenite and furthermore a solid solution strengthening element same as C. However, when N is contained in a large amount, above 0.2 mass%, 0.2% proof stress increases, and there is a possibility that manufacturability will be significantly deteriorated because steel materials become hard. Therefore, the N content is 0.2 mass% or less.

[0071]

Nb coheres to C and N in steel as Nb(C, N) to generate precipitates, and suppresses the generation of Cr carbides, which is one of the causes of the micropits occurrence, and thus is an important alloy component to elevate cleanability. Then, such effect becomes remarkable by adding Nb in an amount of 0.01 mass% or more. On the other hand, when Nb is contained excessively, above 0.8 mass%, there is a possibility that manufacturability and workability will be deteriorated. Therefore, when Nb is contained, the Nb content is 0.01 mass% or more and 0.8 mass% or less.

[0072]

Similarly to Nb, Ti coheres to C and N in steel as Ti(C, N) to generate precipitates, and suppresses the generation of Cr carbides, which is one of the causes of the micropits occurrence, and thus is an important alloy component to elevate cleanability. Then, such effect becomes remarkable by adding Ti in an amount of 0.01 mass% or more. On the other hand, when Ti is contained excessively, above 0.5 mass%, there is a possibility that manufacturability and workability will be deteriorated. Therefore, when Ti is contained, the Ti content is 0.01 mass% or more and 0.5 mass% or less.

[0073]

In addition to the above alloy components, other alloy components can be also added as needed. For example, at least one of 5.0 mass% or less of molybdenum (Mo), 3.0 mass% or less of copper (Cu), 5.0 mass% or less of Al, 0.02 mass% or less of boron (B), 0.5 mass% or less of titanium (Ti), 0.5 mass% or less of zirconium (Zr), 0.05 mass% or less of yttrium (Y), 1.0 mass% or less of tungsten (W), 0.5 mass% or less of silver (Ag), 0.5 mass% or less of tin (Sn) and 1.0 mass% or less of cobalt (Co) and the like can be added to elevate corrosion resistance and workability and the like.