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Q1
[Background Art]
[0002]
Thermoplastic resins, in particular, engineering plastics such as PBT resins, ABS resins, and nylon resins are widely used for, for example, electric and electronic components and automobile components. For electronic components, blending of metal fibers into various resins has been recently studied to provide electromagnetic shielding materials for the purpose of preventing interference from electromagnetic waves and the like. PBT resins and the like are also expected to be used in applications that require electromagnetic shielding properties in, for example, automobile electrical components exposed to high-temperature and low-temperature atmospheres by taking advantage of their thermal stability. However, as a result of evaluation performed by the present inventors for conductivity and the like by blending various metal fibers into thermoplastic resins, the present inventors have found that the conductivity is excellent at the initial stage, but the electromagnetic shielding properties deteriorate when thermal shock at high temperature and low temperature is repeated. In this state, it is difficult to use such a material in consideration of exposure to high-temperature and low-temperature atmospheres under various practical conditions. Therefore, it is desired to provide an electromagnetic shielding material that solves this problem and takes advantege of the excellent properties inherent in thermoplastic resins.

Q2
[0014]
For aluminum alloys, in particular, alloys called heat-treated alloys, heat treatment such as solution treatment and aging treatment represented by T6 treatment is performed

to improve the characteristics such as strength. Precipitates produced by the aging treatment and crystallized products produced during casting include those that are dissolved by a treatment liquid used for anodic oxidation treatment and intermetallic compounds and metal elements that are not dissolved by the treatment liquid, but has conductivity. Therefore, the following is considered. A material in which precipitates or crystallized products are sufficiently made present by performing heat treatment such as solution treatment and aging treatment or adjusting casting conditions before anodic oxidation treatment is provided and subjected to pretreatment such as etching to make the precipitates or the like present on a surface layer of the material. As a result, the precipitates or the crystallized products are dissolved during anodic oxidation treatment or an anodized layer is not formed on the precipitates or the crystallized products, whereby an anodized layer having through-holes that reach a base material can be formed.

Q3

Hereafter, the present invention will be described in detail with reference to Examples.

Table 1 shows chemical compositions of various steel materials together with those of comparative samples. Samples A, B, and C correspond to steel materials according to the present invention, and samples D to F are shown for comparison.

For the samples A to D, heat treatment was performed such that the samples were held at 820°C for 22 hours, then water-cooled, and tempered while being held at 600°C for 40 hours.

The reason why tempering was performed on the samples E and F twice is as follows. When the chromium content is 1% or more, austenite is not completely transformed into a martensitic microstructure at 840°C. Therefore, retained austenite is completely transformed in the first tempering, and

the second tempering is performed to achieve good mechanical properties.

In other words, it is found that the Cr content needs to be 0.4% or less to achieve an FATT increase of 5°C or less and embrittlement substantially does not occur particularly at a Cr content of 0.25% or less.

The above-described test revealed that embrittlement substantially did not occur particularly at a chromium content of 0.25% or less. Therefore, the degree of embrittlement after long-term treatment was actually confirmed by performing a constant-temperature embrittlement test.

Q4

1. An immunochromatographic test kit comprising:

first and second reagents that immunologically react with a substance to be analyzed; and

a membrane carrier,

wherein the first reagent is immobilized in advance at a predetermined position of the membrane carrier to form a capturing site for capturing the substance to be analyzed, and

the second reagent is labeled in advance with metal colloid particles on which a platinum colloid has been carried and is disposed on the membrane carrier so as to be away from the capturing site, thereby allowing chromatographic development.

2. The immunochromatographic test kit according to claim 1, further comprising a sensitizer solution containing copper ions,

wherein the sensitizer solution is brought into contact with the capturing site after chromatographic development, and the copper ions are reduced on the metal colloid particles of the second reagent, thereby precipitating copper.

3. The immunochromatographic test kit according to claim

2, further comprising a protective layer-forming liquid that is brought into contact with a portion in which the copper has been precipitated, thereby covering the portion.

4. The immunochromatographic test kit according to claim 2 or 3, wherein the sensitizer solution contains copper sulfate and a reducing agent.

5. The immunochromatographic test kit according to claim 3 or 4, wherein the protective layer-forming liquid contains glycerol or derivatives thereof.