DESCRIPTION

RESIN-COATED METAL PIGMENT, AND PROCESS FOR PRODUCING SAME

Technical Field

[0001]

The present invention relates to a new resin-coated metal pigment and a process for producing the same, more particularly to a metal pigment which gives a metallic coating film excellent in adhesiveness and chemical resistance while maintaining an unprecedented excellent metallic luster and designability, when the pigment is used as a pigment for coating materials, and to a process for producing such a pigment.

Background Art

[0002]

A metal pigment has conventionally been used for metallic paints, printing ink, plastic kneading and the like for the purpose of obtaining a beautiful decoration effect in which much importance is attached to a metallic feeling. Although an aluminum pigment having a surface not subjected to any treatment has a high metallic feel and designability, it has poor adhesiveness with a resin in a coating film depending on a resin system of coating materials and printing ink. As a result, it had disadvantages of easy peeling when an adhesion test by cellophane tape peeling was performed, and of having no protective function to a chemical.

[0003]

This is probably because compatibility and wettability between the surface of aluminum pigment and a resin of coating materials and printing ink are insufficient. Therefore, a method of subjecting the aluminum pigment to surface treatment has been proposed as a measure of improvement thereof.

[0004]

Patent Document 1 proposes a method in which a flaky aluminum powder or a paste of the flaky aluminum powder, which is an aluminum pigment, is dispersed in an organic solvent, first allowing a radically polymerizable unsaturated carboxylic acid or the like to be absorbed by the powder, and then coating the surface of the powder with a polymer produced from a monomer having 3 or more radically polymerizable double bonds. Although this method improves adhesiveness, it has a problem that it is necessary to add a considerable amount of a coating monomer in order to achieve chemical resistance of a metallic coating film that is

DESCRIPTION

A METHOD FOR PRODUCING A RESIN-COATED METAL PIGMENT

Technical Field

[0001]

The present invention relates to a new resin-coated metal pigment and a process for producing the same, more particularly to a metal pigment which gives a metallic coating film excellent in adhesiveness and chemical resistance while maintaining an unprecedented excellent metallic luster and designability, when the pigment is used as a pigment for coating materials, and to a process for producing such a pigment.

Background Art

[0002]

A metal pigment has conventionally been used for metallic paints, printing ink, plastic kneading and the like for the purpose of obtaining a beautiful decoration effect in which much importance is attached to a metallic feeling. Although an aluminum pigment having a surface not subjected to any treatment has a high metallic feel and designability, it has poor adhesiveness with a resin in a coating film depending on a resin system of coating materials and printing ink. As a result, it had disadvantages of easy peeling when an adhesion test by cellophane tape peeling was performed, and of having no protective function to a chemical.

[0003]

This is probably because compatibility and wettability between the surface of aluminum pigment and a resin of coating materials and printing ink are insufficient. Therefore, a method of subjecting the aluminum pigment to surface treatment has been proposed as a measure of improvement thereof.

[0004]

Patent Document 1 proposes a method in which a flaky aluminum powder or a paste of the flaky aluminum powder, which is an aluminum pigment, is dispersed in an organic solvent, first allowing a radically polymerizable unsaturated carboxylic acid or the like to be absorbed by the powder, and then coating the surface of the powder with a polymer produced from a monomer having 3 or more radically polymerizable double bonds. Although this method improves adhesiveness, it has a problem that it is necessary to add a considerable amount of a coating monomer in order to achieve chemical resistance of a metallic coating film that is

Claims

~~1. A resin-coated metal pigment comprising 100 parts by weight of a metal pigment and 0.1 to 50 parts by weight of a resin adhering to a surface of the metal pigment, obtained by circulating a part of a slurry solution containing the metal pigment through an external circulation type container during resin coating treatment in a reaction vessel and applying an ultrasonic vibration to the external circulation type container.~~

~~2. The resin-coated metal pigment according to claim 1 wherein the vibration is applied by directly attaching an ultrasonic transducer to an outside of the external circulation type container and applying an ultrasonic wave to the slurry solution inside the container through an outer wall of the container.~~

~~3.~~ 1. A method for producing a resin-coated metal pigment comprising 100 parts by weight of a metal pigment and 0.1 to 50 parts by weight of a resin adhering to a surface of the metal pigment, the method comprising applying an ultrasonic vibration during resin coating treatment, wherein the vibration is applied by circulating a part of a slurry solution containing the metal pigment through an external circulation type container during resin coating treatment in a reaction vessel and applying an ultrasonic vibration to the external circulation type container.

~~4.~~ 2. The method according to claim ~~3~~ 1 wherein the vibration is applied by directly attaching an ultrasonic transducer to an outside of the external circulation type container and applying an ultrasonic wave to the slurry solution inside the container through an outer wall of the container.

~~5. The resin-coated metal pigment according to claims 1 or 2, wherein the metal pigment is an aluminum pigment.~~

~~6.~~ 3. The method according to claims ~~3~~ 1 or ~~4~~ 2, wherein the metal pigment is an aluminum pigment.