Summary

Technical Problem

[0006]

In the compressed body of the powder, in a case where the same porosity is maintained, the higher the compression speed, the lower the hardness, and thus resistance to breakage is lowered. Therefore, in order to increase the hardness of the compressed body of the powder while maintaining a predetermined porosity to enhance resistance to breakage, it is considered to be useful to reduce the compression speed. However, there has been a problem in that the compression of a powder at a reduced compression speed leads to a decrease in the production rate of a compressed body of the powder, resulting in poor production efficiency. That is, in the related art, high solubility at a high porosity, high resistance to breakage, and high productivity are not achieved simultaneously.

[0007]

The present disclosure has been accomplished against the above background, and an object thereof is to provide a solid food, a compression molded body of a food powder, a solid milk, and a compression molded body of a powdered milk which can be produced with improved production efficiency while increasing hardness to secure

resistance to breakage during transportation.

Solution to Problem

[0008]

In an aspect, a solid food of the present disclosure is a solid food having a solid form obtained by compression molding a food powder, in which a specific surface area voxel ratio of the solid food is configured such that an average value A from a surface of the solid food to a depth of 2 mm is smaller than an average value C from a depth of 4 mm from the surface of the solid food to a depth of 6 mm, and a rate of decrease (C − A)/C × 100 of the specific surface area voxel ratio obtained by dividing a difference (C − A) between the average value C and the average value A by the average value C is 9.5% or less.

[0009]

In another aspect, a compression molded body of a food powder of the present disclosure is a compression molded body of a food powder having a solid form obtained by compression molding a food powder, in which a specific surface area voxel ratio of the compression molded body of the food powder is configured such that an average value A from a surface of the compression molded body of the food powder to a depth of 2 mm is smaller than an average

value C from a depth of 4 mm from the surface of the compression molded body of the food powder to a depth of 6 mm, and a rate of decrease (C − A)/C × 100 of the specific surface area voxel ratio obtained by dividing a difference (C − A) between the average value C and the average value A by the average value C is 1.8% or less.

[0010]

In another aspect, a solid milk of the present disclosure is a solid milk having a solid form obtained by compression molding a powdered milk, in which a specific surface area voxel ratio of the solid milk is configured such that an average value A from a surface of the solid milk to a depth of 2 mm is more than 0.353 and less than 0.391, and an average value C from a depth of 4 mm from the surface of the solid milk to a depth of 6 mm is more than 0.390 and less than 0.444 and is larger than the average value A.

[0011]

In another aspect, a compression molded body of a powdered milk of the present disclosure is a compression molded body of a powdered milk having a solid form obtained by compression molding a powdered milk, in which a specific surface area voxel ratio of the compression molded body of the powdered milk is configured such that an average value A from a surface of the compression molded body of the

powdered milk to a depth of 2 mm is more than 0.406 and less than 0.420, and an average value C from a depth of 4 mm from the surface of the compression molded body of the powdered milk to a depth of 6 mm is more than 0.414 and less than 0.434 and is larger than the average value A.

## Advantageous Effects

[0012]

According to the present disclosure, in the solid food, the average value A of the specific surface area voxel ratio from the surface of the solid food to a depth of 2 mm and the average value C of the specific surface area voxel ratio from a depth of 4 mm from the surface of the solid food to a depth of 6 mm are configured such that A is smaller than C and a value of the rate of decrease $(C - A)/C \times 100$ of the specific surface area voxel ratio is 9.5% or less. The solid food having such a specific surface area voxel ratio profile can be produced by a first compression at a first compression speed and a second compression, which is performed subsequently to the first compression, at a second compression speed that is lower than the first compression speed, and can be produced with improved production efficiency as compared to the case of only

the compression at the second compression speed. In such a solid food, by performing the second compression at the second compression speed after the first compression at the first compression speed, the hardness in the state before hardening is increased so that resistance to breakage can be secured.

[0013]

According to the present disclosure, in the compression molded body of the food powder, the average value A of the specific surface area voxel ratio from the surface of the compression molded body of the food powder to a depth of 2 mm and the average value C of the specific surface area voxel ratio from a depth of 4 mm from the surface of the compression molded body of the food powder to a depth of 6 mm are configured such that A is smaller than C and a value of the rate of decrease $(C - A)/C \times 100$ of the specific surface area voxel ratio is 1.8% or less. The compression molded body of the food powder having such a specific surface area voxel ratio profile can be produced by a first compression at a first compression speed and a second compression, which is performed subsequently to the first compression, at a second compression speed that is lower than the first compression speed, and can be produced with improved production efficiency as compared to the case of only

the compression at the second compression speed. In such a compression molded body of the food powder, by performing the second compression at the second compression speed after the first compression at the first compression speed, the hardness is increased so that resistance to breakage can be secured.

[0014]

According to the present disclosure, in the solid milk, the average value A of the specific surface area voxel ratio from the surface of the solid milk to a depth of 2 mm is more than 0.353 and less than 0.391, and the average value C of the specific surface area voxel ratio from a depth of 4 mm from the surface to a depth of 6 mm is more than 0.390 and less than 0.444 and is larger than the average value A. The solid milk having such a specific surface area voxel ratio profile can be produced by a first compression at a first compression speed and a second compression, which is performed subsequently to the first compression, at a second compression speed that is lower than the first compression speed, and can be produced with improved production efficiency as compared to the case of only the compression at the second compression speed. In such a solid milk, by performing the second compression at the second compression speed after the first compression at the first compression

speed, the hardness in the state before hardening is increased so that resistance to breakage can be secured.

[0015]

According to the present disclosure, in the compression molded body of the powdered milk, the average value A of the specific surface area voxel ratio from the surface of the compression molded body of the powdered milk to a depth of 2 mm is more than 0.406 and less than 0.420, and the average value C of the specific surface area voxel ratio from a depth of 4 mm from the surface to a depth of 6 mm is more than 0.414 and less than 0.434 and is larger than the average value A. The compression molded body of the powdered milk having such a specific surface area voxel ratio profile can be produced by a first compression at a first compression speed and a second compression, which is performed subsequently to the first compression, at a second compression speed that is lower than the first compression speed, and can be produced with improved production efficiency as compared to the case of only the compression at the second compression speed. In such a compression molded body of the powdered milk, by performing the second compression at the second compression speed after the first compression at the first compression speed, the hardness is increased so