CLAIMS

1. A seamless capsule comprising:

a capsule content; and

a shell layer that coats the capsule content,

wherein

the shell layer comprises at least deacylated gellan gum and an oxidized starch,

the capsule content comprises an oily component, and

the shell layer comprises the deacylated gellan gum in an amount of 70% by weight or more and 98.5% by weight or less based on a shell weight and the oxidized starch in an amount of 0.01% by weight or more and 30% by weight or less based on the shell weight.

2. The seamless capsule according to claim 1, wherein the shell layer further comprises crystalline cellulose.

3. The seamless capsule according to claim 1 or 2, wherein the seamless capsule has a particle size of 0.5 to 8.0 mm and a shell ratio of 5% or more and 40% or less.

4. The seamless capsule according to any one of claims 1 to 3, wherein the oily component in the capsule content comprises a flavor.

5. The seamless capsule according to claim 4, wherein the flavor is at least one selected from the group consisting of spearmint, menthol, peppermint, orange, yuzu, rose, lemon, grapefruit, kumquat, peach, apple, banana, pineapple, grape, mango, tropical fruit, blueberry, cranberry, lingonberry, huckleberry, raspberry, blackberry, loganberry, salmonberry, boysenberry, strawberry, bilberry, elderberry, and gooseberry.

6. The seamless capsule according to any one of claims 1 to 5, wherein the seamless capsule has a two-layer structure including the capsule content and the shell

layer, or a three-layer structure including an intermediate layer between the capsule content and the shell layer.

7. The seamless capsule according to any one of claims 1 to 6, wherein a value of XY/xy is within a range of 0.76 or more and 1.15 or less, where X (N) is a load required to break the seamless capsule by pressing in a minimum particle size direction after the seamless capsule is stored for 60 minutes under a condition of a relative humidity of 90% RH at 60°C, and Y (mm) is a displacement at break, and similarly, x (N) is a load required to break the seamless capsule by pressing in a minimum particle size direction after the seamless capsule is stored for 120 minutes under a condition of a relative humidity of 60% RH at 25°C, and y (mm) is a displacement at break.

8. The seamless capsule according to any one of claims 1 to 7, wherein a value of XY/xy is within a range of 0.76 or more and 1.32 or less, where X (N) is a load required to break the seamless capsule by pressing in a minimum particle size direction after the seamless capsule is stored for 60 minutes under a condition of a relative humidity of 90% RH at 60°C, and Y (mm) is a displacement at break, and similarly, x (N) is a load required to break the seamless capsule by pressing in a minimum particle size direction after the seamless capsule is stored for 120 minutes under a condition of a relative humidity of 60% RH at 25°C, and y (mm) is a displacement at break.

9. A method of producing a seamless capsule having
a two-layer structure, using a dropping method for simultaneously discharging liquids from a double nozzle in which an inner nozzle and an outer nozzle are concentrically present, and dropping into a coolant, the method comprising:

discharging a capsule content liquid from the inner nozzle;

discharging a shell layer liquid from the outer nozzle;

controlling a temperature of the capsule content liquid to a set value ±2°C in a range of 5°C to 30°C, the capsule content liquid comprising an oily component;

controlling a temperature of the shell layer liquid to a set value ±2°C in a range of 60°C to 90°C, the shell layer liquid comprising at least deacylated gellan gum and the oxidized starch;

controlling a temperature of the coolant to a set value ±2°C in a range of 10°C to 30°C, the coolant comprising oil; and

controlling a difference between the temperature of the shell layer liquid and the temperature of the coolant in a range of 30°C or higher and 80°C or lower,

the seamless capsule comprising a capsule content; and a shell layer that coats the capsule content, wherein

the capsule content is made from the capsule content liquid,

the shell layer is made from the shell layer liquid,

the shell layer comprises at least deacylated gellan gum and an oxidized starch, and

the capsule content comprises an oily component, and

the shell layer comprises the deacylated gellan gum in an amount of 70% by weight or more and 98.5% by weight or less based on a shell weight and the oxidized starch in an amount of 0.01% by weight or more and 30% by weight or less based on the shell weight.

10. A method of producing the seamless capsule having a three-layer structure, using a dropping method for simultaneously discharging liquid from a triple nozzle in which an inner nozzle, an intermediate nozzle, and an outer nozzle are concentrically present, and dropping into a coolant, the method comprising:

discharging a capsule content liquid from the inner nozzle;

discharging an intermediate layer liquid from the intermediate nozzle;

discharging a shell layer liquid from the outer nozzle;

controlling a temperature of the capsule content liquid to a set value ±2°C in a range of 5°C to 30°C, the capsule content liquid comprising an oily component;

controlling a temperature of the intermediate layer liquid to a set value ±2°C in a range of 40 to 85°C;

controlling a temperature of the shell layer liquid to a set value ±2°C in a range of 60°C to 90°C, the shell layer liquid comprising at least deacylated gellan gum and the oxidized starch;

controlling a temperature of the coolant to a set value ±2°C in a range of 10°C to 30°C, the coolant comprising oil; and

controlling a difference between the temperature of the shell layer liquid and the temperature of the coolant in a range of 30°C or higher and 80°C or lower,

the seamless capsule comprising a capsule content, a shell layer that coats the capsule content, and an intermediate layer between the capsule content and the shell layer,

wherein

the capsule content is made from the capsule content liquid,

the intermediate layer is made from the intermediate layer liquid,

the shell layer is made from the shell layer liquid,

the shell layer comprises at least deacylated gellan gum and an oxidized starch, and

the capsule content comprises an oily component, and

the shell layer comprises the deacylated gellan gum in an amount of 70% by weight or more and 98.5% by weight or less based on a shell weight and the oxidized starch in an amount of 0.01% by weight or more and 30% by weight or less based on the shell weight.

11. The method of producing the seamless capsule according to claim 9 or 10, wherein the shell layer further comprises crystalline cellulose.

12. The method of producing the seamless capsule according to any one of claims 9 to 11, wherein the oily component in the capsule content liquid comprises a flavor.

13. The method of producing the seamless capsule according to claim 12, wherein the flavor is at least one selected from the group consisting of spearmint, menthol, peppermint, orange, yuzu, rose, lemon, grapefruit, kumquat, peach, apple, banana, pineapple, grape, mango, tropical fruit, blueberry, cranberry, lingonberry, huckleberry, raspberry, blackberry, loganberry, salmonberry, boysenberry, strawberry, bilberry, elderberry, and gooseberry.