The measurement environment was 25°C and 40 ± 5% RH. Incidentally, a context that a portion or all of the water permeated from the surface opposite to the side on which the water was dropped means, as referred herein, that the dropped water is present as a water droplet on the surface opposite to the side on which the water was dropped.

[0031]

The above water absorbency test is a method in compliance with JIS L1907 (Dropping Method) Testing methods for water absorbency of textiles. A fiber sheet (B) having a value obtained by the water absorbency test of 16,000 seconds or less can preferably absorb moisture from the hydrous polymer gel and persistently transpire moisture from the surface opposite to the side of the fiber sheet in contact with the hydrous polymer gel, and thus can sufficiently exert a cooling effect over a long period. Alternatively, a fiber sheet having a water absorbency test value of 1 second or more can avoid excess water absorption from the hydrous polymer gel (A), and thus can reduce the amount of moisture which resides in the fiber sheet (B) without transpiring. The fiber sheet (B) can not only effectively reduce a stickiness feeling of the fiber sheet (B) upon use but also further facilitate persistent moisture transpiration from the surface of the fiber sheet (B).

Claims

[Claim 1]

An adhesive sheet for cooling comprising a hydrous polymer gel (A) and a fiber sheet (B) laminated thereon:

the hydrous polymer gel (A) having a moisture content of 65% by mass or more and 95% by mass or less, and

the fiber sheet (B) having a thickness of 0.001 mm or more and 1 mm or less, a basis weight of 3 g/m^2 or more and 70 g/m^2 or less, and a water absorbency test value of from 1 to 16,000 seconds;

wherein the adhesive sheet has an amount of moisture of 585 g/m^2 or more and 1700 g/m^2 or less;

wherein a mass ratio of the moisture to the fiber in the adhesive sheet for cooling (moisture mass/fiber mass in the adhesive sheet for cooling) is 9 or more and 320 or less;

wherein the water absorbency teat value is determined by a method in compliance with JIS L1907 (Dropping Method) Testing methods for water absorbency of textiles.

[Claim 2]

The adhesive sheet for cooling according to claim 1, wherein a value obtained by multiplying the water absorbency test value to the one-third power by a fiber

density of the fiber sheet (B) is from 0.25×10^6 to 2.2×10^6 seconds$^{1/3}$·g/m^3.

[Claim 3]

The adhesive sheet for cooling according to any one of claims 1 to 2, wherein an amount of the hydrous polymer gel (A) laminated is 615 g/m^2 or more and 2,600 g/m^2 or less.

[Claim 4]

The adhesive sheet for cooling according to any one of claims 1 to 3, wherein the fiber sheet (B) is a non-woven fabric sheet.

[Claim 5]

The adhesive sheet for cooling according to any one of claims 1 to 4, wherein the fiber sheet (B) comprises a water absorbent fiber.

[Claim 6]

The adhesive sheet for cooling according to claim 5, wherein the water absorbent fiber is one or more members selected from the group consisting of rayon, cellulose, pulp, and polyvinyl alcohol.

[Claim 7]

The adhesive sheet for cooling according to claim 5 or 6, wherein a content of the water absorbent fiber in the fiber sheet (B) is 1% by mass or more and 100% by mass or less.

[Claim 8]

The adhesive sheet for cooling according to any one of claims 1 to 7, wherein the hydrous polymer gel (A) comprises a cooling agent.

[Claim 9]

The adhesive sheet for cooling according to claim 8, wherein a content of the cooling agent in the hydrous polymer gel (A) is 0.0001% by mass or more and 10% by mass or less.

[Claim 10]

The adhesive sheet for cooling according to claim 8 or 9, wherein the cooling agent is one or more members selected from the group consisting of l-menthol, menthyl lactate, l-menthyl glyceryl ether, menthane carbonyl glycine ethyl ester, menthyl ethylamino oxalate, isopulegol, and camphor.

[Claim 11]

The adhesive sheet for cooling according to any one of claims 1 to 10 for use in cooling of the skin by attaching a side of the hydrous polymer gel (A) opposite to a side in contact with the fiber sheet (B) to the skin.

[Claim 12]

A method for cooling, wherein the adhesive sheet for cooling according to any one of claims 1 to 11 is used to persistently reduce a temperature of a sheet-attached area for at least 15 minutes after the sheet is attached.