[CLAIMS]

Claim 1. A photocatalyst-coated body comprising a base material, a photocatalyst layer containing a photocatalyst, and an intermediate layer which is between the base material and the photocatalyst layer and is in contact with the underside of the photocatalyst layer, wherein

the intermediate layer comprises a resin component containing a silicone component and a flexible non-silicone component and has a loss tangent of more than 0.2 to less than 1.5 as measured with a solid-matter viscoelasticity measuring device at 25°C according to JIS K 7244-4, and

the intermediate layer, as measured with a solid-matter viscoelasticity measuring device according to JIS K 7244-4, exhibits spectral peaks in a curve for a change in a loss elastic modulus as a function of a temperature change, at least one of which appears at a temperature of more than -80°C to 30°C.

Claim 2. The photocatalyst-coated body according to claim 1, wherein the loss tangent is more than 0.2 to less than 1.0.

Claim 3. The photocatalyst-coated body according to claim 1, wherein the flexible non-silicone component is a flexible non-silicone resin or a flexible non-silicone segment.

Claim 4. The photocatalyst-coated body according to any one of claims 1 to 3, wherein the spectral peak in a curve for a change in a loss elastic modulus as a function of a temperature change as measured with the solid-matter viscoelasticity measuring device according to JIS K 7244-4 appears at a temperature of -40°C to 30°C.

Claim 5. The photocatalyst-coated body according to any one of claims 1 to 4, wherein the photocatalyst layer contains photocatalyst particles and inorganic oxide particles as particulate components and the content of the particulate components in the photocatalyst layer is not less than 70% by mass.

Claim 6. The photocatalyst-coated body according to any one of claims 1 to 5, wherein the surface of the photocatalyst layer becomes hydrophilic upon photoexcitation of the photocatalyst.

Claim 7. The photocatalyst-coated body according to claim 6, wherein

the surface of the photocatalyst layer becomes hydrophilic on a level of less than 20 degrees in terms of contact angle with water upon photoexcitation of the photocatalyst.

Claim 8. The photocatalyst-coated body according to any one of claims 1 to 7, wherein the content of the photocatalyst in the photocatalyst layer is not less than 1% and less than 20% by mass.

Claim 9. The photocatalyst-coated body according to any one of claims 2 to 8, wherein the photocatalyst particles have an average particle diameter of 10 to less than 1000 nm.

Claim 10. The photocatalyst-coated body according to any one of claims 2 to 9, wherein the photocatalyst particles have an average particle diameter of 10 nm to less than 100 nm.

Claim 11. The photocatalyst-coated body according to any one of claims 1 to 10, wherein the photocatalyst is formed of crystalline titanium oxide.

Claim 12. The photoctalyst-coated body according to any one of claims 2 to 11, wherein the inorganic oxide particles have an average particle diameter of 5 nm to less than 100 nm.

Claim 13. The photocatalyst-coated body according to any one of claims 2 to 12, wherein the inorganic oxide particles are silica particles.

Claim 14. The photocatalyst-coated body according to any one of claims 1 to 12, wherein the photocatalyst layer has a thickness of not more than 3 μm.

Claim 15. The photocatalyst-coated body according to any one of claims 2 to 14, wherein interstices are present among the particles in the photocatalyst layers and 20 to 35% by volume of the photocatalyst layer is occupied by the interstices.

Claim 16. The photocatalyst-coated body according to any one of claims 1 to 15, wherein the content of the silicone component in the resin component is 0.5 to 30% by mass in terms of SiO_2.

Claim 17. The photocatalyst-coated body according to any one of claims 1 to 16, wherein the content of the flexible non-silicone component is 20 % by mass to 100000% by mass based on the amount of Si in the silicone component.

Claim 18. The photocatalyst-coated body according to any one of claims 1 to 17, wherein the flexible non-silicone component is at least

one component selected from the group consisting of urethane polyethers, urethane polyesters, urethane polycarbonates, polyethers, polyesters, polyacrylates, polymethacrylates, polyacrylic acids, polymethacrylic acids, and polyvinyls.

Claim 19. The photocatalyst-coated body according to any one of claims 1 to 18, wherein the flexible non-silicone component is at least one component selected from the group consisting of urethane polyether, urethane polyesters, polyethers, and polyacrylates.

Claim 20. Use of a photocatalyst-coated body according to any one of claims 1 to 19 in an environment where the coated body is vibrated and the surface of the photocatalyst layer is exposed to sunlight.

Claim 21. Use of a photocatalyst-coated body according to any one of claims 1 to 19 in which the base material is porous and the photocatalyst-coated body is provided in an atmosphere in which the temperature reaches 0°C or below, and the surface of the photocatalyst layer is exposed to sunlight.

Claim 22. Use of a photocatalyst-coated body according to any one of claims 1 to 19 in which the base material is flexible and the photocatalyst-coated body is subjected to bending after the formation of the photocatalyst layer and is placed in an environment where the surface of the photocatalyst layer is exposed to sunlight.

Claim 23. Use of a photocatalyst-coated body according to any one of claims 1 to 19 in which the photocatalyst-coated body is provided in a place where a daily temperature change is 20°C or above, and is placed in an atmosphere where the surface of the photocatalyst layer is exposed to sunlight.

Claim 24. Use of a photocatalyst-coated body according to any one of claims 1 to 19 in which the base material has a coefficient of linear expansion of not less than $10^{-5}K^{-1}$ and the photocatalyst-coated body is placed in an environment where the surface of the photocatalyst layer is exposed to sunlight.

Claim 25. Use of a photocatalyst-coated body according to any one of claims 1 to 19 in which the photocatalyst-coated body is provided in a place where an annual range of temperature is 30°C or more, and is placed in an atmosphere where the surface of the photocatalyst layer is exposed to sunlight.

Claim 26. Use of a photocatalyst-coated body according to claim 20, wherein the base material is a bridge.

Claim 27. The use of a photocatalyst-coated body according to claim 21, wherein the base material is an unglazed ceramic ware, concrete, cement board, wood, or stone material.

Claim 28. Use of a photocatalyst-coated body according to claim 22, wherein the base material is at least one of metallic materials, rubbers, and flexible film resins.

Claim 29. Use of a photocatalyst-coated body according to claim 23, wherein the base material is at least one of metals, resins, rubbers, silicone sealants, and gaskets.

CLAIMS

1. A photocatalyst-coated body comprising a base material, a photocatalyst layer containing a photocatalyst, and an intermediate layer which is between the base material and the photocatalyst layer and is in contact with the underside of the photocatalyst layer, wherein

the intermediate layer comprises a resin component containing a silicone component and a flexible non-silicone component and has a loss tangent of more than 0.2 to less than 1.5 as measured with a solid-matter viscoelasticity measuring device at 25°C according to JIS K 7244-4, and

the intermediate layer, as measured with a solid-matter viscoelasticity measuring device according to JIS K 7244-4, exhibits spectral peaks in a curve for a change in a loss elastic modulus as a function of a temperature change, at least one of which appears at a temperature of more than -80°C to 30°C.

2. The photocatalyst-coated body according to claim 1, wherein the loss tangent is more than 0.2 to less than 1.0.

3. The photocatalyst-coated body according to claim 1, wherein the flexible non-silicone component is a flexible non-silicone resin or a flexible non-silicone segment.

4. The photocatalyst-coated body according to any one of claims 1 to 3, wherein the spectral peak in a curve for a change in a loss elastic modulus as a function of a temperature change as measured with the solid-matter viscoelasticity measuring device according to JIS K 7244-4 appears at a temperature of -40°C to 30°C.

5. The photocatalyst-coated body according to any one of claims 1 to 4, wherein the photocatalyst layer contains photocatalyst particles and inorganic oxide particles as particulate components and the content of the particulate components in the photocatalyst layer is not less than 70% by mass.

6. The photocatalyst-coated body according to any one of claims 1 to 5, wherein the surface of the photocatalyst layer becomes hydrophilic upon photoexcitation of the photocatalyst.

7. The photocatalyst-coated body according to claim 6, wherein the surface of the photocatalyst layer becomes hydrophilic on a level of less than 20 degrees in terms of contact angle with water upon photoexcitation of the photocatalyst.

8. The photocatalyst-coated body according to any one of claims 1 to 7, wherein the content of the photocatalyst in the photocatalyst layer is not less than 1% and less than 20% by mass.

9. The photocatalyst-coated body according to any one of claims 5 to 8, wherein the photocatalyst particles have an average particle diameter of 10 to less than 1000 nm.

10. The photocatalyst-coated body according to any one of claims 5 to 9, wherein the photocatalyst particles have an average particle diameter of 10 nm to less than 100 nm.

11. The photocatalyst-coated body according to any one of claims 1 to 10, wherein the photocatalyst is formed of crystalline titanium oxide.

12. The photoctalyst-coated body according to any one of claims 5 to 11, wherein the inorganic oxide particles have an average particle diameter of 5 nm to less than 100 nm.

13. The photocatalyst-coated body according to any one of claims 2 to 12, wherein the inorganic oxide particles are silica particles.

14. The photocatalyst-coated body according to any one of claims 1 to 12, wherein the photocatalyst layer has a thickness of not more than 3 μm.

15. The photocatalyst-coated body according to any one of claims 2 to 14, wherein interstices are present among the particles in the

photocatalyst layers and 20 to 35% by volume of the photocatalyst layer is occupied by the interstices.

16. The photocatalyst-coated body according to any one of claims 1 to 15, wherein the content of the silicone component in the resin component is 0.5 to 30% by mass in terms of SiO_2.

17. The photocatalyst-coated body according to any one of claims 1 to 16, wherein the content of the flexible non-silicone component is 20 % by mass to 100000% by mass based on the amount of Si in the silicone component.

18. The photocatalyst-coated body according to any one of claims 1 to 17, wherein the flexible non-silicone component is at least one component selected from the group consisting of urethane polyethers, urethane polyesters, urethane polycarbonates, polyethers, polyesters, polyacrylates, polymethacrylates, polyacrylic acids, polymethacrylic acids, and polyvinyls.

19. The photocatalyst-coated body according to any one of claims 1 to 18, wherein the flexible non-silicone component is at least one component selected from the group consisting of urethane polyether, urethane polyesters, polyethers, and polyacrylates.

20. Use of a photocatalyst-coated body according to any one of claims 1 to 19 in an environment where the coated body is vibrated and the surface of the photocatalyst layer is exposed to sunlight.

21. Use of a photocatalyst-coated body according to any one of claims 1 to 19 in which the base material is porous and the photocatalyst-coated body is provided in an atmosphere in which the temperature reaches 0°C or below, and the surface of the photocatalyst layer is exposed to sunlight.

22. Use of a photocatalyst-coated body according to any one of claims 1 to 19 in which the base material is flexible and the

photocatalyst-coated body is subjected to bending after the formation of the photocatalyst layer and is placed in an environment where the surface of the photocatalyst layer is exposed to sunlight.

23. Use of a photocatalyst-coated body according to any one of claims 1 to 19 in which the photocatalyst-coated body is provided in a place where a daily temperature change is 20°C or above, and is placed in an atmosphere where the surface of the photocatalyst layer is exposed to sunlight.

24. Use of a photocatalyst-coated body according to any one of claims 1 to 19 in which the base material has a coefficient of linear expansion of not less than $10^{-5}K^{-1}$ and the photocatalyst-coated body is placed in an environment where the surface of the photocatalyst layer is exposed to sunlight.

25. Use of a photocatalyst-coated body according to any one of claims 1 to 19 in which the photocatalyst-coated body is provided in a place where an annual range of temperature is 30°C or more, and is placed in an atmosphere where the surface of the photocatalyst layer is exposed to sunlight.

26. Use of a photocatalyst-coated body according to claim 20, wherein the base material is a bridge.

27. The use of a photocatalyst-coated body according to claim 21, wherein the base material is an unglazed ceramic ware, concrete, cement board, wood, or stone material.

28. Use of a photocatalyst-coated body according to claim 22, wherein the base material is at least one of metallic materials, rubbers, and flexible film resins.

29. Use of a photocatalyst-coated body according to claim 23, wherein the base material is at least one of metals, resins, rubbers, silicone sealants, and gaskets.