CLAIMS

1. A toner, comprising:

a binder resin comprising a crystalline polyester resin;

a colorant; and

a silicone oil-treated external additive,

wherein the silicone oil-treated external additive contains free silicone oil, and a total amount of the free silicone oil is 0.2% by mass to 0.5% by mass relative to the toner, and

wherein the toner has the average circularity of 0.96 to 1; and the toner has a core-shell structure.

2. The toner according to claim 1, wherein the external additive has BET specific surface area of 10 m^2/g to 50 m^2/g.

3. The toner according to any of claim 1 or 2, wherein the external additive has the average primary particle diameter of 30 nm to 150 nm.

4. The toner according to any one of claims 1 to 3, wherein the external additive is at least one selected from the group consisting of silica, titania, and alumina.

5. The toner according to any one of claims 1 to 4, wherein the external additive is silica.

6. The toner according to any one of claims 1 to 5, wherein the silicone oil-treated external additive contains silicone oil in an amount of 2 mg/m^2 to 10 mg/m^2 with respect to the surface

area of the external additive.

7. The toner according to any one of claims 1 to 6, wherein the toner contains HMDS-treated external additive in addition to the silicone oil-treated external additive.

8. An image forming apparatus, comprising:

a primary transferring unit configured to transfer a visible image on a surface of a latent image bearing member to an intermediate transfer member;

a latent image bearing member toner removing unit configured to remove, with a latent image bearing member cleaning blade, a toner remained on the surface of the latent image bearing member after the transferring of the visible image by the primary transferring unit;

a secondary transferring unit configured to transfer the transferred visible image on the intermediate transfer image to a recording medium; and

an intermediate transfer member toner removing unit configured to remove, with an intermediate transfer member cleaning blade, a toner remained on a surface of the intermediate transfer member after the transferring of the transferred image by the secondary transferring unit,

wherein the toner is the toner as defined in any one of claims 1 to 7.

9. The image forming apparatus according to claim 8,

wherein the latent image bearing member cleaning blade has rebound resilience of 10% to 35%, and the latent image bearing member cleaning blade is brought into contact with the latent image bearing member with the pressure of 20 N/m to 50 N/m, with a contact angle θ of 70° to 82°, where the contact angle θ is an angle formed between a plane of an edge of the latent image bearing member cleaning blade facing the surface of the latent image bearing member, and a tangent line extended from a contact point at which the latent image bearing member cleaning blade and the surface of the latent image bearing member meets.

10. The image forming apparatus according to claim 8, wherein the intermediate transfer member cleaning blade has rebound resilience of 10% to 35%, and the intermediate transfer member cleaning blade is brought into contact with the intermediate transfer member with the pressure of 20 N/m to 50 N/m, with a contact angle θ of 70° to 82°, where the contact angle θ is an angle formed between a plane of an edge of the intermediate transfer member cleaning blade facing the surface of the intermediate transfer member, and a tangent line extended from a contact point at which the intermediate transfer member cleaning blade and the surface of the intermediate transfer member meets.

11. A process cartridge, comprising:

a latent image bearing member; and

at least a developing unit configured to develop a latent image formed on the latent image bearing member with a toner, where the developing unit is integrated with the latent image bearing member,

wherein the process cartridge is detachably mounted in the image forming apparatus as defined in any one of claims 8 to 10, and

wherein the toner is the toner as defined in any one of claims 1 to 7.

CLAIMS

1. A toner, comprising:

a binder resin comprising a crystalline polyester resin;

a colorant;

a silicone oil-treated external additive; and

a HMDS-treated silica;

wherein the silicone oil-treated external additive contains free silicone oil, and a total amount of the free silicone oil is 0.2% by mass to 0.5% by mass relative to the toner, and

the toner has the average circularity of 0.96 to 1; and the toner has a core-shell structure;

wherein the silicone oil-treated external additive comprises silica; and

wherein a shell layer of the core-shell structure comprises a vinyl resin comprising polymerized vinyl groups that is different in polarity or structure from a resin forming the core.

2. The toner according to claim 1, wherein the external additive has BET specific surface area of 10 m^2/g to 50 m^2/g.

3. The toner according to any of claim 1 or 2, wherein the external additive has the average primary particle diameter of 30 nm to 150 nm.

4. The toner according to any one of claims 1 to 3, wherein the silicone oil-treated external additive contains silicone oil in

an amount of 2 mg/m^2 to 10 mg/m^2 with respect to the surface area of the external additive.

5. The toner according to any one of claims 1 to 4, wherein the shell layer of the core-shell structure comprises vinyl resin particles which form protrusions on the surfaces of the core particles.

6. The toner according to claim 5, wherein the vinyl resin particles comprise a polymer derived from an aromatic compound containing a vinyl polymerizable functional group.

7. An image forming apparatus, comprising:

a primary transferring unit configured to transfer a visible image on a surface of a latent image bearing member to an intermediate transfer member;

a latent image bearing member toner removing unit configured to remove, with a latent image bearing member cleaning blade, a toner remained on the surface of the latent image bearing member after the transferring of the visible image by the primary transferring unit;

a secondary transferring unit configured to transfer the transferred visible image on the intermediate transfer image to a recording medium; and

an intermediate transfer member toner removing unit configured to remove, with an intermediate transfer member

cleaning blade, a toner remained on a surface of the intermediate transfer member after the transferring of the transferred image by the secondary transferring unit,

wherein the toner is the toner as defined in any one of claims 1 to 6.

8. The image forming apparatus according to claim 7, wherein the latent image bearing member cleaning blade has rebound resilience of 10% to 35%, and the latent image bearing member cleaning blade is brought into contact with the latent image bearing member with the pressure of 20 N/m to 50 N/m, with a contact angle θ of 70° to 82°, where the contact angle θ is an angle formed between a plane of an edge of the latent image bearing member cleaning blade facing the surface of the latent image bearing member, and a tangent line extended from a contact point at which the latent image bearing member cleaning blade and the surface of the latent image bearing member meets.

9. The image forming apparatus according to claim 7, wherein the intermediate transfer member cleaning blade has rebound resilience of 10% to 35%, and the intermediate transfer member cleaning blade is brought into contact with the intermediate transfer member with the pressure of 20 N/m to 50 N/m, with a contact angle θ of 70° to 82°, where the contact angle θ is an angle formed between a plane of an edge of the intermediate transfer member cleaning blade facing the surface

of the intermediate transfer member, and a tangent line extended from a contact point at which the intermediate transfer member cleaning blade and the surface of the intermediate transfer member meets.

10. A process cartridge, comprising:

a latent image bearing member; and

at least a developing unit configured to develop a latent image formed on the latent image bearing member with a toner, where the developing unit is integrated with the latent image bearing member,

wherein the process cartridge is detachably mounted in the image forming apparatus as defined in any one of claims 7 to 9, and

wherein the toner is the toner as defined in any one of claims 1 to 6.