CLAIMS

1. A toner for developing a toner image, the toner comprising:

(i) a binder resin;

(ii) an inorganic component, preferably a magnetic component; and

(iii) a wax, finely dispersed in the binder resin, said wax being an oxidized polyalkylene wax having an acid value from 5 mg KOH/g to 50 mg KOH/g, and said wax having a wax melting transition, wherein the lower temperature limit of said wax melting transition is between 110 °C and 140 °C at a time of temperature rise in a DSC thermogram measured using a differential scanning calorimeter.

2. The toner according to claim 1, wherein said wax melting transition has an upper temperature limit of at most 140 °C at the time of temperature rise in the DSC thermogram measured using a differential scanning calorimeter.

3. The toner according to any of the previous claims, wherein the viscosity of the wax is in the range 1 Pa.s to 10 Pa.s at 140 °C.

4. The toner according to any of the previous claims, wherein the wax is an oxidized polyethylene wax having a melting peak in a temperature range of 120 °C to 135 °C at the time of temperature rise in the DSC thermogram measured using a differential scanning calorimeter, said wax having a polydispersity D of less than about 3.5.

~~5. The toner according to any of the previous claims, wherein the wax has an acid value from 5 mg KOH/g to 50 mg KOH/g.~~

65. The toner according to any of the previous claims, wherein the binder resin has an acid value from 5 mg KOH/g to 30 mg KOH/g.

~~7~~6. The toner according to any of the previous claims, wherein a dispersion of the wax in the binder resin has a number average diameter in the range of 0,2 µm to 3 µm.

87. The toner according to any of the previous claims, wherein the wax has in said melting transition range an endothermic enthalpy of at least 200 J/g at the time of temperature rise in the DSC thermogram measured using a differential scanning calorimeter.

98. The toner according to any of the previous claims, the inorganic component comprising a magnetic component, the amount of wax is from 1 wt% to 10 wt% based on the total weight of the toner and the amount of the magnetic component is from 30 wt% to 70 wt% based on the total weight of the toner, preferably the amount of magnetic component is from 40 wt% to 60 wt% based

on the total weight of the toner.

~~10~~9. A printing system for applying a toner on an image receiving medium, the toner comprising:

(i) a binder resin,

(ii) an inorganic component, preferably a magnetic component; and

(iii) a wax, finely dispersed in the binder resin, said wax being an oxidized polyalkylene wax having an acid value from 5 mg KOH/g to 50 mg KOH/g, and the wax having a wax melting transition in a temperature range of 110 °C to 140 °C at the time of temperature rise in the DSC thermogram measured using a differential scanning calorimeter, wherein the lower temperature limit of said wax melting transition is at least 110°C or higher,

the printing system comprising:

(A) a developing means configured for in operation developing a toner image,

(B) an intermediate image bearing means configured for in operation transferring the toner from the developing means to the intermediate image bearing means in a first transfer zone and for transferring the toner from the intermediate image bearing means to an image receiving medium in a second transfer zone.

~~11~~10. The printing system according to claim ~~10~~9, wherein the transfer in the second transfer zone is carried out in a temperature range from 80 °C to 110 °C.

~~12~~11. The printing system according to claim ~~10~~9 or ~~11~~10, the printing system further comprising:

(C) a fixing means configured for in operation fixing the toner onto an image receiving medium by applying a fixing pressure and a fixing temperature, preferably said fixing temperature being in the range of 120 °C to 180 °C.

~~13~~12. A method for producing a toner comprising the steps:

(i) selecting a binder resin,

(ii) selecting an inorganic component, preferably a magnetic component, and;

(iii) selecting a wax, said wax being an oxidized polyalkylene wax having an acid value from 5 mg KOH/g to 50 mg KOH/g, and the wax having a wax melting transition in a temperature range of 110 °C to 140 °C at the time of temperature rise in the DSC thermogram measured using a differential scanning calorimeter, wherein the lower temperature limit of said wax melting transition is at least 1 10 °C or higher

(iv) mixing the magnetic component and the binder resin in a melt kneading process at a temperature above 80 °C, such that the magnetic component is

dispersed in the binder resin, said magnetic component dispersion having a number average diameter of less than 5 μm, more preferably less than 2 μm

(v) mixing the wax and the binder resin in a melt kneading process in a melt temperature range between 110 °C to 140 °C, such that the wax is finely dispersed in the binder resin .

~~14~~13. The method for producing the toner according to claim ~~13~~12, wherein step (v) mixing the wax in the binder resin is carried out after the magnetic component has been mixed with the binder resin in step (iv).

~~15~~14. The method for producing the toner according to claim ~~13~~12 or ~~14~~13, wherein step (iv) the mixing of the magnetic component and the binder resin is carried out at a lower temperature than step (v) the mixing of the wax with the binder resin.