CLAIMS

1. A coating composition comprising:

a polymer resin;

a polyamide resin for curing the polymer resin;

a suitable pigment consisting of chromium oxide, iron oxide, aluminium oxide and titanium oxide in a weight ratio of chromium oxide : iron oxide : aluminium oxide : titanium oxide within a range of 5 – 5.1 : 5.3 – 5.4 : 0.3 - 0.4 : 0.2 - 0.3;

a suitable solvent for dissolving the polymer resin and the polyamide resin; and

a surfactant configured to lower interfacial tension between the solvent and the pigment consisting of chromium oxide, iron oxide, aluminium oxide and titanium oxide, the surfactant being a block copolymer with one or more pigment affinic groups;

wherein the coating composition is configured to form a coating having a near infrared light reflectance of above 0.25.

2. The coating composition according to claim 1,

wherein the polymer resin may be any selected from a group consisting of an epoxy resin, an acrylic resin, a polyester resin and a polyisocyanate.

3. The coating composition according to claim 1, further comprising:

a hardener for curing the polymer resin.

4. The coating composition according to claim 3,

wherein a weight loading of the hardener is any value selected from a range of about 6 to about 9 weight percent of the coating composition.

5. The coating composition according to claim 1,

wherein a weight loading of the polymer resin is any value selected from a range of about 20 to about 30 weight percent of the coating composition.

6. The coating composition according to claim 1,

wherein a weight loading of the polyamide resin is any value selected from a range of about 10 to about 20 weight percent of the coating composition.

7. The coating composition according to claim 1, further comprising:

fumed silica for increasing a viscosity of said coating composition.

8. The coating composition according to claim 1,

wherein the suitable solvent comprises 1-methoxy-2-propanol.

9. The coating composition according to claim 1,

wherein a weight loading of the solvent is any value selected from a range of about 40 to about 60 weight percent of the coating composition.

10. A method of forming a coating composition, the method comprising:

providing a polymer resin;

adding a polyamide resin to the polymer resin for curing the polymer resin;

adding a suitable solvent for dissolving the polymer resin and the polyamide resin;

adding a suitable pigment consisting of chromium oxide, iron oxide, aluminium oxide and titanium oxide in a weight ratio of chromium oxide : iron oxide : aluminium oxide : titanium oxide within a range of 5 – 5.1 : 5.3 – 5.4 : 0.3 - 0.4 : 0.2 - 0.3; and

adding a surfactant configured to lower interfacial tension between the solvent and the pigment consisting of chromium oxide, iron oxide, aluminium oxide and titanium oxide, the surfactant being a block copolymer with one or more pigment affinic groups;

wherein the coating composition is configured to form a coating having a near infrared light reflectance of above 0.25.

11. The method according to claim 10,

wherein the suitable pigment is dispersed in the suitable solvent to form a dispersion before adding the polymer resin to form a mixture.

12. The method according to claim 11, further comprising:

dissolving the polyamide resin and a suitable hardener in a further suitable solvent to form a further mixture before mixing the mixture with the further mixture.

13. The method according to claim 11, further comprising:

mixing chromium oxide, iron oxide, aluminium oxide and titanium oxide; and

heating chromium oxide, iron oxide, aluminium oxide and titanium oxide to form the suitable pigment.

14. A method of forming a coating, the method comprising:

providing a substrate;

applying a coating composition onto the substrate; and

allowing the coating composition to cure to form the coating;

wherein the coating composition comprises:

a polymer resin;

a polyamide resin for curing the polymer resin;

a suitable pigment consisting of chromium oxide, iron oxide, aluminium oxide and titanium oxide in a weight ratio of chromium oxide : iron oxide : aluminium oxide : titanium oxide within a range of 5 – 5.1 : 5.3 – 5.4 : 0.3 - 0.4 : 0.2 - 0.3;

a suitable solvent for dissolving the polymer resin and the polyamide resin; and

a surfactant configured to lower interfacial tension between the solvent and the pigment consisting of chromium oxide, iron oxide, aluminium oxide and titanium oxide, the surfactant being a block copolymer with one or more pigment affinic groups;

wherein the coating composition is configured to form a coating having a near infrared light reflectance of above 0.25.