WE CLAIM:

1. A coated metal sheet comprising:

a metal substrate; and

a cured coating covering at least a portion of the metal substrate, wherein:

(a) the cured coating:

(i) is deposited from a composition comprising a latex resin,

(ii) is substantially clear,

(iii) is substantially free of reflective pigments, and

(iv) has a dry film thickness of at least 1 micron; and

(b) the coated metal sheet has a solar reflective index of at least 65 and a corrosion resistance of at least 500h with no corrosion spots when subjected to an ASTMB117 salt spray test.

2. The metal sheet of Claim 1, wherein the latex resin is self-crosslinking.

3. The metal sheet of Claim 1, wherein the latex resin is prepared from at least one vinyl aromatic monomer.

4. The metal sheet of Claim 1, wherein the latex resin has an average particle size of from 50 to 300 nm.

5. The metal sheet of Claim 1, wherein the cured coating has a dry film thickness of at least 2 microns.

6. The metal sheet of Claim 1, wherein the cured coating has a dry film thickness of from 3 to 20 microns.

7. The metal sheet of Claim 1, wherein the cured coating further comprises a coalescing agent, wax, viscosity enhancing agent and/or a thickening agent.

8. The metal sheet of Claim 1, wherein the cured coating further comprises from 0.5 to 3 weight percent wax.

9. The metal sheet of Claim 1, wherein the cured coating is substantially free of chrome.

10. The metal sheet of Claim 1, wherein the cured coating is substantially free of metal phosphate.

11. The metal sheet of Claim 1, wherein the cured coating comprises at least one chromate.

12. The metal sheet of Claim 1, wherein the cured coating further comprises a colored pigment or a tint.

13. The metal sheet of Claim 1, wherein the cured coating further comprises up to 6 weight percent of a reflective pigment.

14. The metal sheet of Claim 1, wherein the cured coating further comprises graphenic carbon particles.

15. The rubber formulation of Claim 14, wherein the cured coating comprises up to 5 weight percent of the graphenic carbon particles.

16. The metal sheet of Claim 1, wherein the metal is in the form of a coil.

17. The metal sheet of Claim 1, wherein the metal substrate comprises a metal roofing sheet.

18. The metal sheet of Claim 1, wherein the metal substrate comprises galvanized steel.

19. The metal sheet of Claim 1, wherein the coated metal sheet has a solar reflectance of at least 65.

20. The metal sheet of Claim 1, wherein the metal sheet has a thermal emittance of at least 40 percent.

21. A coated roof sheeting material comprising:

a sheet metal substrate; and

a coating covering at least a portion of the sheet metal substrate, wherein the coating consists essentially of a cured latex resin, and wherein the coated roof sheeting material has a solar reflectance of at least 65 percent, a thermal emittance of at least 40 percent, and a corrosion resistance of at least 500h with no corrosion spots when subjected to an ASTMB117 salt spray test.

22. The coated roof sheeting material of Claim 21, wherein the sheet metal substrate comprises galvanized steel.

23. The coated roof sheeting material of Claim 22, wherein the galvanized steel is in the form of a coil.

24. The coated roof sheeting material of Claim 21, wherein the coating is deposited from a composition comprising a latex resin and has a dry film thickness of at least 1 micron.

25. A method of coating a sheet metal substrate comprising:

applying a coating composition comprising a latex resin that is substantially free of reflective pigments to the sheet metal substrate at a wet film thickness of at least 1 micron; and

curing the coating composition to produce a coated metal sheet having a solar reflective index of at least 65 and a corrosion resistance of at least 500h with no corrosion spots when subjected to an ASTMB117 salt spray test.

26. The method of Claim 25, wherein the coating composition is waterborne.

27. The method of Claim 25, wherein the coating composition further comprises a coalescing agent, wax, viscosity enhancing agent and/or thickening agent.

28. The method of Claim 25, wherein the coating composition has a viscosity of at least 10 seconds measured by a No. 4 Zahn cup at room temperature.

29. The method of Claim 25, wherein the latex resin has a glass transition temperature of less than 50°C.

30. The method of Claim 25, wherein the coating composition comprises less than 5 weight percent volatile organic solvent.

31. The method of Claim 25, wherein the coating composition has a VOC of less than 1.5.

32. The method of Claim 25, wherein the coating composition is hydrophobic.

33. The method of Claim 25, wherein the coating composition is substantially free of chrome and metal phosphate.

34. The method of Claim 25, wherein the coating composition is applied by roll coating.

35. The method of Claim 34, wherein the coating composition is applied at a rate of at least 200 ft/min.

36. The method of Claim 25, wherein the coating is cured at a temperature of less than 250° for a time of less than 10 seconds.

37. The method of Claim 25, further comprising forming the coated metal sheet into a coil.

WE CLAIM:

1. A coated metal sheet comprising a metal substrate and a cured waterborne primer coating composition covering at least a portion of the metal sheet, wherein the waterborne primer coating comprises:

water;

a self-crosslinking latex resin;

a color pigment or tint; and

a chromate-containing material.

2. The coated metal sheet of Claim 1, wherein the chromate-containing material comprises strontium chromate.

3. The coated metal sheet of Claim 2, wherein the strontium chromate comprises up to 12 weight percent of the total weight of the coating composition.

4. The coated metal sheet of Claim 2, wherein the strontium chromate comprises from 0.2 to 1 weight percent of the total weight of the coating composition.

5. The coated metal sheet of Claim 1, wherein the color pigment or tint comprises titanium dioxide.

6. A rapidly curable waterborne primer coating composition comprising:

water;

a self-crosslinking latex resin;

a color pigment or tint; and

a chromate-containing material.

7. The rapidly curable waterborne primer coating composition of Claim 6, wherein the chromate-containing material comprises strontium chromate.

8. The rapidly curable waterborne primer coating composition of Claim 7, wherein the strontium chromate comprises up to 12 weight percent of the total weight of the coating composition.

9. The rapidly curable waterborne primer coating composition of Claim 7, wherein the strontium chromate comprises from 0.2 to 1 weight percent of the total weight of the coating composition.

10. The rapidly curable waterborne primer coating composition of Claim 6, wherein the color pigment or tint comprises titanium dioxide.