WHAT IS CLAIMED IS:

1. A process for providing a coating on an aluminum substrate, comprising passing electric current between the substrate acting as an anode and a cathode in electrical contact with an electrodeposition bath,

wherein the electrodeposition bath comprises an aqueous resinous dispersion comprising:

(a) a base-neutralized ungelled phosphated epoxy resin; and

(b) a lanthanide series element having a +3 and/or +4 oxidation state.

2. The process of claim 1, wherein said lanthanide series element comprises cerium, praseodymium, or terbium.

3. The process of claim 1, wherein said lanthanide series element comprises at least two of cerium, praseodymium and terbium.

4. The process of claim 1 in which the epoxy resin is selected from a polyglycidyl ether of a polyphenol and an epoxy-functional acrylic resin.

5. The process of claim 1 in which the dispersion additionally comprises a monomeric monoepoxide.

6. The process of claim 1 in which the phosphated epoxy resin has an acid number of 15 to 50 based on resin solids.

7. The process of claim 1 in which the phosphated epoxy resin contains from 0.1 to 0.8 moles of phosphoric acid to one equivalent of epoxy and from 0.01 to 0.4 moles of phosphonic and/or ~~an~~ organophosphinic acid per equivalent of epoxy.

8. The process of claim 1 in which the aqueous dispersion further comprises a curing agent.

9. The process of claim 8 in which the curing agent comprises an aminoplast.

10. The process of claim 8 in which (a) the phosphated epoxy resin is present in an amount of 50 to 90 percent by weight and (b) the curing agent is present in an amount of 10 to 50 percent by weight, the percentages being based on total solids weight of (a) and (b).

11. The process of claim 7 in which the organophosphonic acid is phenyl phosphonic acid.

12. The process of claim 1 in which the aqueous resinous dispersion further comprises an azole.

13. The process of claim 12 in which the azole comprises benzotriazole, 3-mercapto-1,2,4-triazole, 2-mercaptobenzothiazole, 2,5-dimercapto-1,3,4thiadiazole, 1-methylbenzotriazole, or a combination thereof.

14. The process of claim 12 in which the azole is present in the composition in amounts of 0.001 to 1.0 percent by weight, based on total weight of solids in the aqueous resinous dispersion.

15. The process of claim 1, wherein said lanthanide series element is present in the composition in an amount of 0.015 to 3.2 percent by weight, based on total weight of solids in the aqueous resinous dispersion.

16. A method for coating a substrate comprising:

(a) depositing a conversion coating composition comprising a Group IIIB or Group IVB metal compound onto at least a portion of the substrate; and

(b) electrodepositing a coating composition onto at least a portion of the conversion coating, wherein the coating composition comprises an aqueous resinous dispersion comprising:

(i) a base-neutralized ungelled phosphated epoxy resin; and

(ii) a lanthanide series element having a +3 and/or +4 oxidation state.