Reply to Editor and Reviewer

Dear editor and reviewer

Coatings

We are very pleased to hear from you. We carefully revised the manuscript based on the comments of editors and reviewers. The manuscript was revised in response to each point. All major changes are shown in blue in the revised paper.

Response to associate editor:

First of all, I am very grateful to associate editor for your valuable comments. The answers are as follows:

Response to Reviewer 2

Comments and Suggestions for Authors

Dear Authors,
thank you for your paper focused on corrosion characteristics of grounding materials in acid red soil. My comments are:
- introduction is very short, it must be extended and supplemented by other literature. There are many articles in the field of corrosion of steel, zinc, and alloys.

Reply: Thank you for your comments. We have added relevant content and literature to the introduction of the revised manuscript.

- chapter 2 - it would be appropriate to add a figure of the device (diagram),

Reply: The device has been added in the revised manuscript.

- chapter 2 - how many samples were taken and examined? were there any series of samples? More information about the samples needs to be added - dimensions, numbers, material, etc.

Reply: Thank you for your comments. Chapter 2 was has been revised in the revised manuscript.

- chapter 2 - what does "Galvanized steel" mean? Is it a zinc, nickel, copper coating? What material was used for the coating in this case? What was the coating thickness?

Reply: Galvanized steel is coated with a layer of zinc on the surface of carbon steel by electroplating. The thickness varies according to the size and thickness of the plated parts, and the thickness is generally below 100 microns. The thickness of the galvanized steel we use is about 30 microns.

- chapter 2 - what was the thickness of the Zn-Al coating?

Reply: The thickness of the Zn-Al coating is the average of 100 microns

- chapter 2 - you write that the samples were in the red soil for 10 months - what were the conditions? Humidity? Temperature? Was it in the lab or in situ? Additional information is required.

Reply: Red soil is a soil widely distributed in southern China, where the summer temperature exceeds 30 degrees Celsius and the humidity exceeds 50, which is a typical acid soil environment.

- FIG. 1 - missing denotation b), c) and d) Which is b)? Upper right or lower left? Y-axis designation - "log i" is used, not "logi". The designation of the x-axis - the designation "21E" is used 3 times, only the "E" is used once - what is the difference? Isn't it the same? What does 21E mean?

Reply: Thank you for your comments. It was revised in the revised manuscript.

- Tab. 1 - there is (g / dm2.a), what does "a" mean? Is it time in months, days, years?
- I recommend broadening the conclusions and putting them in the form of bullets.

Reply: Thank you for your comments. Here is the abbreviation of "a" every year. It was revised in the revised manuscript.

We carefully revised the manuscript based on the comments of editors and reviewers. The manuscript was revised in response to each point. It was significantly improved in the revised manuscript.