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METHOD OF TREATING ANODIC COATINGS ON MAGNESIUM AND ITS ALLOYS

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3 Claims. (Cl. 148—6)

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This invention relates to the heat treatment of anodically formed coatings on magnesium and its alloys and has among its objects to increase the durability and the protective characteristics of the film.

The article to be treated according to our invention is first coated in a suitable anodizing bath, washed free of solution, and allowed to dry.

The coated article may then be subjected to one of the various contemplated modes of carrying out the present invention. It may, for example, be heated in an oven or furnace at some temperature above 100° C., the upper limit of temperature being safely below the fusion point of the metal and the duration of the heating dependent upon the temperature used. In general, the lower the temperature the longer should be the period of heating.

Another way of realizing the benefits of our invention is to dip the anodically coated article in melted paraffin or in some other combustible organic substance that will adhere to the article and then heating as above described, or the organic substance may be ignited and allowed to burn off. Still another method is to heat the coated article in an open flame or in the presence of a gaseous hydrocarbon.

All of these methods produce similar results. The treatment makes the film less soluble and usually lightens the color thereof, the greater color changes being effected when heat is applied in the presence of a hydrocarbon.

This invention may be manufactured or used by or for the Government of the United States of America for governmental purposes without the payment of any royalty thereon or therefor.

We claim:

1. A method of treating an anodically formed film on magnesium and its alloys, which comprises heating the coated metal at a temperature above 100° C. and lower than the fusion point of the metal in a hydrocarbon.

2. A process of treating an anodically formed film of magnesium and its alloys, which comprises applying paraffin to said film and removing a substantial portion of the paraffin by heating the coated metal to a temperature above 100° C. and lower than the fusion temperature of the metal.

3. A method of treating an anodically formed film on magnesium and its alloys, which comprises applying a combustible hydrocarbon to the film on said metal and igniting the hydrocarbon.

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