

Title (en)
ELECTRICALLY CONDUCTIVE EXOTHERMIC COATINGS

Title (de)
ELEKTRISCH LEITENDE EXOTHERMISCHE BESCHICHTUNG

Title (fr)
REVETEMENTS EXOTHERMIQUES ELECTROCONDUCTEURS

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Application
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Abstract (en)
[origin: WO0122434A1] The present invention is based on the discovery that different carbon components are required in an electrically conductive exothermic coating in order to avoid break-down and especially if a constant temperature is to be maintained by the coating (self-regulating embodiment). It has been discovered that graphite permits heat to be generated by the coating when energized with a.c. power; however, the heat tends to run away which results in a break down of the coating. Carbon, on the other hand, permits more electrical conductivity by the coating. Both the graphite and carbon should be flake-like in structure. Such a combination of flake-like graphite and carbon pigments in particles sizes of about 5 mu to 500 mu should be used. The amount of such pigments should range from about 10 and 20 weight-% based on the non-volatile solids content of the coating formulation (e.g., without solvent and other components that evolve from the coating during drying and curing operations). In order to make a self-regulating coating (i.e., a coating that will maintain a constant temperature without breakdown), non-conductive flake-like graphite pigment should be added to the formulation. In order to increase the heat emitted by the novel coatings, additional conventional spherical carbon (up to a 1/3 replacement of the flake-like particle content) can be added to the formulation.

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