

Title (en)

Electric cables comprising a semiconducting screening layer.

Title (de)

Elektrische Kabel mit einer halbleitenden Abschirmschicht.

Title (fr)

Câbles électriques comportant une couche de blindage semi-conductrice.

Publication

EP 0049104 A1 19820407 (EN)

Application

EP 81304385 A 19810923

Priority

GB 8030958 A 19800925

Abstract (en)

In an electric cable for service at about 15kV and above, at least one extruded semiconductive screening layer comprises metal particles dispersed in a polymeric matrix. The matrix adheres both to the particles and to the insulation and at least the polymeric material in the matrix (normally in the insulation as well) is cross-linked by the technique involving grafting silane sidechains to the polymer and then cross-linking them by hydrolytic condensation (the "Sioplas-E" process). The proportion of dispersed conductive particles is sufficient to give a resistivity in a longitudinal direction of no more than 5000 ohm-cm. The resistivity of the metal of the particles does not exceed 15 times that of copper and its hardness is not greater than 100 Brinell. The particles have an average length of at least 1 mm (normally exceeding the thickness of the screening layer) and an aspect ratio of at least 10.1, and are predominantly aligned longitudinally of the cable. By selecting the particles in this way, conductivity is achieved with a material that is still extrudable, and the use of metal particles rather than conductive carbon black avoids the severe detrimental effects on the cross-linking process of moisture carried by the reactive surface of the carbon black.

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IPC 8 full level

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CPC (source: EP)

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Citation (search report)

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