

Title (en)
Flame retardant electrically conductive cloth

Title (de)
Flammhemmendes elektrisch leitendes Gewebe

Title (fr)
Tissu ignifuge électroconducteur

Publication
EP 0943710 B1 20060517 (DE)

Application
EP 99104698 A 19990310

Priority
• DE 19812406 A 19980320
• DE 19826120 A 19980612

Abstract (en)
[origin: EP0943710A2] The flame retarding and electrically conductive woven material has nonconductive filaments (3,4) which are treated, coated or filled with a flame retarding material. The conductive filaments (2.1,2.2) are of a thermoplastic material prepared with a conductive additive or finely dispersed within them or filling the filaments. At least the conductive filaments (2.1,2.2) shrink along their length with heat, with a greater shrinkage than the nonconductive filaments (3,4). The heat shrinkage of the conductive filaments (2.1,2.2) is 1.2-4.0 times the shrinkage of the nonconductive filaments (3,4), and preferably twice. The additive to increase conductivity is a metal or metal alloy, preferably as particles or carbon in the form of soot and/or graphite or an inorganic conductive additive. The conductive filaments can be coated with silver. The conductive filaments are as multi-filaments, with at least one filament treated with an additive to increase the conductivity, or they are mono-filaments. The conductive filaments (2.1,2.2) are woven into the warps (3) and/or wefts (4). The nonconductive filaments are filled and/or coated with a flame retarding additive containing halogen. Their cross section is 2-10 times the cross section of the conductive filaments (2.1,2.2). The conductive filaments (2.1,2.2) have an elasticity module which is less than that of the other warps (3) and wefts (4). The conductive filaments are at intervals of 1-5 cm in the warp line and pref. 2.5 cm and, on the weft line, they are spaced apart by 10-60 cm and preferably 40 cm. Every 10th to 80th warp (3) or weft (4) is a conductive filament. The surface resistance and/or resistance to earth of the woven fabric is $\leq 10^4$ ohm. The fracture strength of the material (100) is 50-250 N/mm² on a stretch to break of 10-50%.

IPC 8 full level
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CPC (source: EP US)
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Cited by
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