

Title (en)

Electrical resistor and application of this resistor in a current limiter

Title (de)

Elektrisches Widerstandselement und Verwendung dieses Widerstandselementes in einem Strombegrenzer

Title (fr)

Résistance électrique et application de cette résistance dans un limiteur de courant

Publication

EP 0640995 B1 19970625 (DE)

Application

EP 93113545 A 19930825

Priority

EP 93113545 A 19930825

Abstract (en)

[origin: EP0640995A1] The electrical resistor element (10) contains, arranged between two plane-parallel electrodes (1, 2) exposed to pressure, a resistor body (3) having a positive temperature characteristic and comprising a polymer matrix and two filler components of electrically conductive particles embedded in the polymer matrix (4). When a short-circuit occurs, the resistivity of the resistor body (3) changes suddenly above a temperature limit value in a surface layer located on the electrodes and containing at least a first of the two filler components. A second of the two filler components is selected such that a binder material containing at least a polymer matrix and a second filler component has a positive temperature characteristic with a step response which is at least an order of magnitude higher than the surface layer. At the same time, this binder material has a resistivity which is at least an order of magnitude less than a binder material formed by polymer matrix and a first filler component. The resistor element has a high rated current-carrying capacity and can limit large short-circuit currents with long-lasting effect. <IMAGE>

IPC 1-7

H01C 7/02; **H01C 7/13**

IPC 8 full level

H01C 7/02 (2006.01); **H01C 7/13** (2006.01); **H02H 9/02** (2006.01)

CPC (source: EP US)

H01C 7/027 (2013.01 - EP US); **H01C 7/13** (2013.01 - EP US)

Cited by

EP0836201A3; US5929744A; EP0852385A1; US5978191A; US6133820A; US5977861A; CN103199491A; US5614881A; EP0762439A3; US6124780A; US5867356A; US6535103B1; WO0010177A1; US6366193B2; US6290879B1; US6711807B2; US6323751B1; US6540944B2; US6373372B1; US6191681B1; US6362722B1

Designated contracting state (EPC)

DE FR IT

DOCDB simple family (publication)

EP 0640995 A1 19950301; **EP 0640995 B1 19970625**; CA 2130622 A1 19950226; DE 59306823 D1 19970731; JP H07153604 A 19950616; US 5602520 A 19970211

DOCDB simple family (application)

EP 93113545 A 19930825; CA 2130622 A 19940822; DE 59306823 T 19930825; JP 19985794 A 19940824; US 29190394 A 19940818