

Title (en)

Process for the manufacture of a contact material for contacts elements for vacuum switches, contact material and contact elements

Title (de)

Verfahren zum Herstellen eines Kontaktwerkstoffes für Kontaktstücke für Vakuumschaltgeräte sowie Kontaktwerkstoff und Kontaktstücke hierfür

Title (fr)

Procédé pour la fabrication d'un matériau de contact pour pièces de contact pour interrupteurs sous vide, matériau de contact et pièces de contact

Publication

**EP 1130608 B1 20070117 (DE)**

Application

**EP 01104952 A 20010301**

Priority

DE 10010723 A 20000304

Abstract (en)

[origin: EP1130608A2] Chromium powder, alone or as a mixture, and with the required final weight of chromium, is mixed with copper powder, its weight being 5-15 wt% deficient in comparison with the copper content of the final contact material. Pressing takes place at 200-1000 MPa, forming a porous blank having 75%-90% of the theoretical density. This is coated with sufficient copper to make up the deficit. In high vacuum, heating takes place to or above the melting point of copper, sintering to a chromium- or copper-chromium matrix, impregnated with copper from the coating. At this stage the copper content is increased beyond that of the pressing and the density is 96%-98% of theoretical. Deformation by at least 30%, during extrusion with directed extension follows, drawing the chrome to filaments in the direction of extension, to form a directed structure. The unfinished contact blank material then has at least 99%, especially 99.5%-99.9 %, of the theoretical density. An Independent claim is included for the corresponding contact component. Its tensile strength and electrical conductivity parallel to extension are each at least 10% greater than in the transverse direction.

IPC 8 full level

**H01H 1/02** (2006.01); **C22C 1/04** (2006.01)

CPC (source: EP US)

**C22C 1/0475** (2013.01 - EP US); **H01H 1/0206** (2013.01 - EP US); **B22F 2998/10** (2013.01 - EP US)

Cited by

AT13963U1; CN109355524A; CN110036454A; US10096434B2; WO2013179135A1; WO2018111680A1; EP1875481A1

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**EP 1130608 A2 20010905**; **EP 1130608 A3 20030903**; **EP 1130608 B1 20070117**; AT E352090 T1 20070215; DE 10010723 A1 20010913; DE 10010723 B4 20050407; ES 2280278 T3 20070916; US 2001036418 A1 20011101; US 6524525 B2 20030225

DOCDB simple family (application)

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