

Title (en)  
COMPOSITE HEATING ELEMENT WITH VERY LOW VOLTAGE ELECTRIFICATION

Title (de)  
VERBUNDHEIZELEMENT MIT SEHR NIEDRIGER ELEKTRIFIZIERUNGSSPANNUNG

Title (fr)  
ÉLÉMENT CHAUFFANT COMPOSITE À TRÈS BASSE TENSION ÉLECTRIQUE

Publication  
**EP 4387391 A1 20240619 (EN)**

Application  
**EP 23216586 A 20231214**

Priority  
IT 202200025662 A 20221215

Abstract (en)  
A thermally conductive and heating composite element (1; 50) comprising a laminar support layer (2; 51) provided with a first face (2a) adapted to remain facing towards the outside in application conditions, and with a second face (2b), opposite to the first face (2a), adapted to be coupled to a reference surface in application conditions, and a thermo-conductive and heating circuit (3; 52) of the electrical type, applied to the first face (2a) of the laminar support layer (2; 51), electrically connected to a very low voltage electrical power supply source comprised in the range of values from 3 Volts to 50 Volts, adapted to electrify the thermo-conductive circuit (3; 52) to produce heat. Particularly, in the thermally conductive and heating composite element (1; 50) of the invention, the thermo-conductive and heating circuit (3, 52) comprises at least one continuous resistive track (4) distributed on the first face (2a) of the laminar support layer (2; 51) and provided with a first end (4a), adapted to be coupled to a first electrical pole (P) of the electrical power supply source, and with a second end (4b) adapted to be coupled to a second electrical pole (N), having a polarity opposite to the polarity of the first electrical pole (P), of the electrical power supply source itself.

IPC 8 full level  
**H05B 3/34** (2006.01)

CPC (source: EP)  
**H05B 3/347** (2013.01); **H05B 2203/003** (2013.01); **H05B 2203/013** (2013.01); **H05B 2203/017** (2013.01)

Citation (applicant)  
• US 2005082280 A1 20050421 - FERGUSON PATRICK [GB]  
• US 2008083743 A1 20080410 - WHEELER BRIAN [US], et al  
• KR 20160131389 A 20161116 - KIM SANG HYON [KR]

Citation (search report)  
• [X] US 2005082280 A1 20050421 - FERGUSON PATRICK [GB]  
• [XY] US 2008083743 A1 20080410 - WHEELER BRIAN [US], et al  
• [Y] KR 20070000149 U 20070201  
• [Y] US 2010206863 A1 20100819 - RITTER WOLFGANG [DE]  
• [XYI] KR 20160131389 A 20161116 - KIM SANG HYON [KR]  
• [Y] EP 0838127 B1 20070307 - HPS DIVISION MKS INSTR INC [US], et al

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA

Designated validation state (EPC)  
KH MA MD TN

DOCDB simple family (publication)  
**EP 4387391 A1 20240619**

DOCDB simple family (application)  
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