

Title (en)  
THREE-LAYER LAMINATED MATRIX ELECTRODE

Publication  
**EP 0051435 B1 19870114 (EN)**

Application  
**EP 81305089 A 19811028**

Priority  
• US 20257880 A 19801031  
• US 20258580 A 19801031

Abstract (en)  
[origin: EP0051435A1] The present disclosure is directed to an improved fibrillated, matrix-type active layer; laminated electrodes containing it which possess improved strength and durability and are capable of operation at high current density with enhanced resistance to mechanical failure, a process for producing such improved active layers and laminates. The process for producing these electrode active layers is characterized by alternately or simultaneously producing two components; combining the components; shear blending (fibrillating) the mixture; drying; chopping to a fine powder form, and rolling into a self-sustaining, coherent sheet form. Alternatively, the active layer can be formed by wet deposition of the powder on a filter paper or like medium. The term "matrix" as used herein means that the active carbon particles are present within an unsintered network of carbon black/PTFE (fibrillated) material. This three-layer laminated electrode includes a porous, coherent, hydrophobic polytetrafluoroethylene (PTFE)-containing backing (wetproofing) layer, with or without carbon black therein, in contact with the nonworking surface of a "matrix" active layer containing catalyzed or uncatalyzed active carbon particles present within an unsintered network of fibrillated carbon black-PTFE and an electroconductive current distributor laminated to the working surface of said active layer, and to a process for making said laminate.

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CPC (source: EP)  
**C25B 11/00** (2013.01)

Citation (examination)  
• US 3943006 A 19760309 - BAKER BERNARD, et al  
• Journal of Power Sources, 1 (1976/1977), pp. 35-46

Cited by  
US4670123A; US4560452A; DE3423605A1

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