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(54) Title (EN): CELL UNIT

(54) Title (FR): UNITÉ DE CELLULE

(54) Title (JA): セルユニット

(57) Abstract:

(EN): This cell unit CU comprises: a battery structure body 1 having an anode electrode layer 4, an electrolyte layer 5, and a cathode electrode layer 6, which have been layered sequentially; a metallic supporting plate 2 disposed on one of the surfaces of the battery structure body 1; and a frame 3 holding the outer peripheral section of the supporting plate 2. On at least one of the surfaces thereof, the frame 3 comprises a displacement guiding section 7 which has a different thermal expansion coefficient to the thermal expansion coefficient of the frame 3 and which, as it thermally expands, bends the frame 3 such that the battery structure body 1 assumes a concave surface. In case of thermal expansion during operation, the risk that tensile stress becomes focused on the electrolyte layer 5 is alleviated without compromising the strength of the frame 3, preventing the electrolyte layer 5 from cracking, or the like.

(FR): L'invention concerne une unité de cellule (CU) comprenant : un corps de structure de batterie (1) ayant une couche d'électrode d'anode (4), une couche d'électrolyte (5) et une couche d'électrode de cathode (6) qui ont été successivement empilées ; une plaque de support (2) métallique disposée sur l'une des surfaces du corps de structure de batterie (1) ; et un cadre (3) maintenant la section périphérique externe de la plaque de support (2). Sur au moins une de ses surfaces, le cadre (3) comprend une section de guidage de déplacement (7) qui a un coefficient de dilatation thermique différent du coefficient de dilatation thermique du cadre (3) et qui, lorsqu'elle se dilate thermiquement, plie le cadre (3) de telle sorte que le corps de structure de batterie (1) adopte une surface concave. En cas de dilatation thermique pendant le fonctionnement, le risque que la contrainte de traction se concentre sur la couche d'électrolyte (5) est réduit sans compromettre la résistance du cadre (3), empêchant ainsi la fissuration de la couche d'électrolyte (5), ou similaire.

(JA): アノード電極層 4、電解質層 5 及びカソード電極層 6 を順に積層して成る電池構造体 1 と、電池構造体 1 の片側面に配置した金属製の支持板 2 と、支持板 2 の外周部を保持するフレーム 3 とを備え、フレーム 3 が、少なくとも片側面に、当該フレーム 3 の熱膨張率と異なる熱膨張率を有し且つ熱膨張に伴って電池構造体 1 が凹面となるように当該フレーム 3 を湾曲させる変位誘導部 7 を備えているセルユニット CU とし、運転時に熱膨張した際に、フレーム 3 の強度を損なうことなく、電解質層 5 に引張応力が集中する虞を解消して、電解質層 5 の割れ等を未然に阻止する。

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