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- (30) 优先权: 202010570390.1 2020 年 6 月 19 日 (19.06.2020) CN (74) 代理人: 北京元周律知识产权代理有限公司 (PERIODIC LAW FIRM); 中国北京市东城区北三环东路 36 号环球贸易中心 B 座 17 层 1701 室, Beijing 100013 (CN)。
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(54) Title: INTEGRATED ELECTRODE FRAME STRUCTURE, AND PREPARATION METHOD THEREFOR AND APPLICATION THEREOF

(54) 发明名称: 一种一体化电极框结构及制备方法和应用

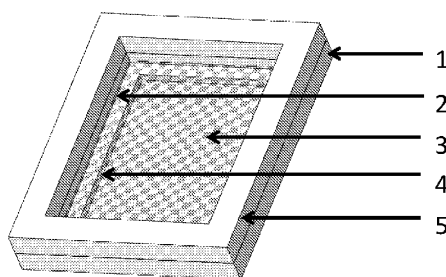


图 2

(57) Abstract: Disclosed are an integrated electrode frame structure, and a preparation method therefor and the application thereof. The integrated electrode frame structure comprises a positive electrode frame, a negative electrode frame and a diaphragm, wherein the positive electrode frame and the negative electrode frame are both flat boards provided with through holes in the middle; the diaphragm is located between the positive electrode frame and the negative electrode frame; the diaphragm is located at the through holes and is in sealed connection with peripheral edges of the through holes; and peripheral edges of the positive electrode frame and the negative electrode frame are in sealed connection, and the component materials of at least connecting parts of the positive electrode frame and the negative electrode frame include the same substance. In the present application, by means of optimizing the structures and materials of the electrode frames and the diaphragm, the diaphragm is in direct sealed connection with the electrode frames, thereby improving the sealing reliability of an all-vanadium redox flow battery, and improving the volumetric specific energy of the battery.

(57) 摘要: 本申请公开了一种一体化电极框结构及制备方法和应用, 所述一体化电极框结构包括正极电极框、负极电极框和隔膜; 正极电极框和所述负极电极框均为中部设有通孔的平板; 隔膜位于正极电极框和负极电极框之间; 隔膜位于通孔处, 且与通孔四周边缘密封连接; 正极电极框和所述负极电极框的四周边缘密封连接, 正极电极框和负极电极框的至少连接部位的组成材料中含有一种相同的物质。本申请通过对电极框和隔膜的结构和材料的优化, 实现了隔膜和电极框直接密封连接, 提高了全钒液流电池密封的可靠性, 同时提高了电池的体积比能量。

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