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(54) Title (EN): SEALANT GLASS COMPOSITION AND SOLID OXIDE FUEL CELL USING SAME

(54) Title (FR): COMPOSITION DE VERRE D'ÉTANCHÉITÉ ET PILE À COMBUSTIBLE À OXYDE SOLIDE L'UTILISANT

(54) Title (KO): 실링 유리 조성물 및 이를 이용한 고체산화물 연료 전지

(57) Abstract:

(EN): The present invention relates to a glass composition capable of being used as a sealant, and a solid oxide fuel cell using same. The sealant glass composition according to the present invention comprises 10-45 wt% of SiO₂, 0.1-20 wt% of B₂O₃, 40-65 wt% of BaO, 0.1-20 wt% of CaO, and 0.1-15 wt% of at least one of Al₂O₃ and ZrO₂, and unlike existing sealant glass compositions, can be suitably used in solid oxide fuel cells operating at intermediate temperatures, and exhibits an advantageous effect in keeping a decrease in sealing adhesion strength to a minimum, even after prolonged use.

(FR): La présente invention concerne une composition de verre pouvant être utilisée comme matériau d'étanchéité, et une pile à combustible à oxyde solide l'utilisant. La composition de verre d'étanchéité selon la présente invention comprend de 10 à 45 % en poids de SiO₂, de 0,1 à 20 % en poids de B₂O₃, de 40 à 65 % en poids de BaO, de 0,1 à 20 % en poids de CaO et de 0,1 à 15 % en poids d'Al₂O₃ et/ou de ZrO₂, et à la différence des compositions de verre d'étanchéité existantes, cette composition peut être utilisée de manière appropriée dans des piles à combustible à oxyde solide fonctionnant à des températures intermédiaires, et présente un effet avantageux en maintenant une baisse de la force d'adhérence d'étanchéité à un minimum, même après une utilisation prolongée.

(KO): 본 발명은 실링재로 사용할 수 있는 유리 조성물 및 이를 이용한 고체산화물 연료전지에 관한 것이다. 본 발명에 따른 실링 유리 조성물은 SiO₂ 10~45 중량%, B₂O₃ 0.1~20 중량%, BaO 40~65 중량%, CaO 0.1~20 중량%, SrO, Al₂O₃ 및 ZrO₂ 가운데 1종 이상 0.1~15 중량%를 포함하여, 종래의 실링재 유리 조성물과 달리 중저온에서 작동하는 고

체산화물 연료전지에 적합하게 사용 가능하고 특히 장기간 사용 후에도 실링 접착강도의 저하가 최소화되는 우수한 효과가 있다.

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