

(12) International Application Status Report

Received at International Bureau: 10 December 2019 (10.12.2019)

Information valid as of: 08 May 2020 (08.05.2020)

Report generated on: 25 September 2020 (25.09.2020)

(10) Publication number:

WO2020/111837

(43) Publication date:

04 June 2020 (04.06.2020)

(26) Publication language:

Korean (KO)

(21) Application Number:

PCT/KR2019/016629

(22) Filing Date:

28 November 2019 (28.11.2019)

(25) Filing language:

Korean (KO)

(31) Priority number(s):

10-2018-0151382 (KR)

(31) Priority date(s):

29 November 2018 (29.11.2018)

(31) Priority status:

Priority document received (in compliance with PCT Rule 17.1)

(51) International Patent Classification:

H01M 8/0282 (2016.01); *H01M 8/0286* (2016.01); *C03C 3/064* (2006.01); *C03C 3/091* (2006.01); *C03C 3/087* (2006.01); *H01M 8/124* (2016.01)

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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.

International search report:

Received at International Bureau: 01 April 2020 (01.04.2020) [KR]

International Report on Patentability (IPRP) Chapter II of the PCT:

Not available

(81) Designated States:

AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

European Patent Office (EPO) : AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR

African Intellectual Property Organization (OAPI) : BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG

African Regional Intellectual Property Organization (ARIPO) : BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW

Eurasian Patent Organization (EAPO) : AM, AZ, BY, KG, KZ, RU, TJ, TM