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High water flux ultrafiltration SiC membranes for water filtration applications.

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SiC ceramic based membranes offer a number of benefits over polymeric counterparts, namely, higher flux, lower environmental footprint. Moreover, the membranes made from silicon carbide (SiC) are extremely robust that is able to endure aggressive environments, like high temperature/high pressures. However, the high sintering temperature, in order to growth membrane layer, is the main drawback of SiC that may be disadvantage due to the high cost. To overcome this drawback and reduce the sintering temperature, addition of sintering additives could be considered. Nowadays exist different routes to get SiC membranes with lower cost and better qualities, for example: using sintering additives, precursor, etc. In this present work we will summarize some of our current and new SiC membranes and their characteristics.

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[2] M.H. Suha, W-T. Kwona, E.B. Kima, S.-R. Kima, S.Y. Baeb, D.J. Choic, Y. Kima (2009). H₂ permeable nanoporous SiC membrane for an IGCC application. *Journal of Ceramic Processing Research*, 10, 359-363.