

综述与专论

面向过程工业的陶瓷膜制备与应用进展

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摘要

陶瓷膜具有优异的化学稳定性、机械稳定性及分离性能, 在过程工业中获得了成功应用, 成为我国膜领域中最有国际竞争力的膜品种之一。本文基于面向应用过程的膜材料设计的理论框架, 系统概述了陶瓷膜的定量制备技术、面向应用体系的陶瓷膜选择与设计方法以及膜应用过程中污染控制的研究进展, 并对未来我国陶瓷膜领域的发展态势进行了分析和研讨。

关键词

[陶瓷膜](#) [材料设计](#) [面向应用](#)

分类号

Recent advances in process-engineering oriented preparation and application of ceramic membranes

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Abstract

Recently, ceramic membranes have been widely used in process engineering and enjoyed rapid development on account of its inherently superior physical integrity, chemical resistance, and separation performance. Based on the theory and method of application-oriented ceramic membranes design, the recent developments in the preparation of ceramic membranes with quantitative control, the selection and design of ceramic membranes used for different application processes, and the fouling control of ceramic membranes during industrial processes were reviewed. The solutions for the problems and the preferential projects for future study were proposed.

Key words

[ceramic membrane](#) [material design](#) [application-oriented](#)

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