

ABSTRACT

REACTOR SEALING METHODS

Novel means for sealing reactors used in reaction processes are disclosed. A catalyst impregnated carrier material is provided in the gap between the monolith catalyst and the refractory lining of the reactor. The catalytic carriers are the same catalyst materials or have substantially similar catalytic activity as the catalytic monolith. Additionally, the catalytic material is applied as a thin catalytic film deposited on the refractory lining. These methods provide not only pressure drop to minimize reactant flow along the inner wall of refractory lining, but also additional active reaction zone. This sealing method is suitable for any types of reactions on catalytic monoliths, particularly syngas production by partial oxidation of methane to reduce methane and oxygen leakages.

Sole Figure



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