

Preparation and characterization of Metal-Foam Based Reforming Catalyst

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In offshore GTL(gas to liquid) – FPSO(floating, production, storage and offloading) process, the design of reformer should meet the following requirements. A compact design should give a reduced footprint and weight of both the reformer box and the waste heat recovery section. Thermal efficiency should be good compared with a conventional reformer, because of the large internal heat recycle. Metallic foams is a desirable structured porous substrate that can be used as catalyst support with superior heat transfer and mass transfer due to their enhanced flow mixing, large surface area and good thermal properties. Micro-channel reactor is one of the possible candidates for design of compact reactor.

In this work, metal foam catalyst was prepared with washcoating method using sol-gel of alumina and active components, and characterized for applications in the design of compact reformer in GTL-FPSO process