

CO₂ reforming of CH₄ by combination of catalyst and plasma reactor located in electrical insulating oil

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CO₂ reforming of CH₄ is attracting considerable interest due to that process could be direct reduction of greenhouse gases to overcome the global warming phenomena and utilize resource carbon dioxide natural raw material. Traditionally CO₂ reforming of CH₄ was performed by metal catalyst with high-temperature operation. However, the main challenge of the process is high-temperature. It causes high-energy cost, high cost of equipment, moreover easy deactivation of catalyst by the carbon deposition on the surface of catalyst. In this study, CO₂ reforming of CH₄ can be carried by plasma reactor with metal catalyst at ambient atmospheric pressure. Several of factors in the process will be considered such as configuration of system, temperature operation, feed gases and input power for converting of the feed gases and selectivity of products.