

材料工程专栏

Preparation and Anti-coking Property of SiO₂/S Coating on HP40 Tube

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摘要 SiO₂/S coating was prepared on the inner surface of an HP40 tube using dimethyldisulfide and tetraethylorthosilicate by atmospheric pressure chemical vapor deposition (APCVD) to alleviate catalytic coking on the inner surface of radiant tube for ethylene production in petrochemical plants. The comparative coking experiments with the coated and uncoated HP40 tubes were carried out under the same cracking conditions. SiO₂/S coating was compact and had excellent anti-coking property. The coke on the coated HP40 tube was about 22% of that on the uncoated HP40 tube, and only small granular coke was deposited on the coated HP40 tube. However, the filamentous coke formed on the uncoated HP40 tube. The thermal stability of SiO₂/S coating was satisfactory at cracking temperature, and the anti-coking property of SiO₂/S coating was still over 60% after 3 coking and decoking cycles.

关键词 [atmospheric pressure chemical vapor depo,SiO₂/S coating,HP40 tube,coke](#)

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