Process design for methanol synthesis process using steam CO_2 reforming of Stranded Gas

임성수[1,2], 홍기훈[1], 양은혁[1], 안병성[1], 이관영[2], 문동주[1,2,*]
[1]한국과학기술연구원; [2]고려대학교 그린스쿨
(djmoon@kist.re.kr*)

A two step process design and simulation for the methanol synthesis from stranded gas were studied using commercial process simulator, PRO/Ⅱ v9.1 and Aspen HYSYS v8.6. simulation studies were performed by using Gibbs equation and the stranded Gas with 10% CO_2. The operating condition for Steam-CO2-Reforming(SCR) and Methanol synthesis respectively are 900℃ with 21 bar pressure, and methanol synthesis at 250℃ with 50 bar.

Recycle ratio for the process productivity, Product separation by distillation column were also studied.