

Abstract

Hollow fiber membrane is the latest and advanced gas separation technology currently employed in the gas industries. Malaysia which is rich in natural resources has huge natural gas reserves amounting to more than 5 Trillion Standard Cubic Feet (5 TSCF). Membrane Research Unit has produced a hollow-fiber module by using locally made spinneret which is capable of producing hollow fiber membranes using a wet-spinning method. This module contains hollow fiber membranes with surface area of 72.22m². The module is utilised in the existing membrane gas separation pilot plant (MGSP) for performance test. The performance of third module was based on its permeation rate and selectivity for each pure gases tested namely N₂, CO₂ and O₂. Based on the result obtained the module has the capability to separate CO₂ from natural gas, helium recovery in Enhanced Oil Recovery (EOR), nitrogen and oxygen recovery in the production of urea.