

Experimental Study - Inorganic Membranes for Air Separation

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Abstract : Gas permeation of Oxygen [O₂] and Nitrogen [N₂] were investigated at room temperature using 15 and 6000nm pore diameter tubular commercial alumina ceramic membranes with pressure values ranging 1.00 to 2.50 bar. The flow rates of up to 2.59 and 2.77 l/min were achieved for O₂ and N₂ respectively. The ratio of O₂/N₂ flow rates were used to compute the O₂/N₂ selectivity. The experimental O₂/N₂ selectivity obtained for 15 nm was 1.05 while the 6000 nm indicated 0.95.

Keywords : gas separation, nitrogen, oxygen, selectivity

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