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(54) Title: LOW ENERGY REINFORCED MEMBRANE FOR PRESSURE DRIVEN APPLICATION

(57) Abstract: A reinforced flat sheet membrane operable to withstand vacuum pressure and a high pressure of up to 1500 psi is disclosed herein. The reinforced flat sheet membrane comprises a polymeric membrane, a permeate carrier which reinforces the polymeric membrane and has channels to direct permeate flow, wherein the polymeric membrane has the permeate carrier incorporated therein and the channels of the permeate carrier are partially exposed at a surface of the polymeric membrane. The present disclosure includes a method of fabricating the reinforced flat sheet membrane. The method comprises contacting the permeate carrier with a pre-wetting agent, casting a polymer solution on the permeate carrier, and forming the polymeric membrane from the polymer solution with the permeate carrier incorporated in the polymeric membrane.



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