METHODS FOR MANUFACTURING ION EXCHANGE MEMBRANES

ABSTRACT

To make membranes, a plurality of membrane substrates are each wetted with a curable liquid mixture, arranged in a stack such that every pair of substrates are separated by at least one film, and moved simultaneously through a common curing region. Each wetted substrate sheet may be sandwiched between two films. After curing, the stack comprises two or more membranes with each pair of membranes separated by a film. An apparatus for making membranes comprises at least two substrate feeding devices, at least one film feeding device, one or more chemical wetting devices, a curing region, optionally, a stack separating region, and, optionally, a membrane binding or fusing region. Membrane production rate may be increased while the curing energy required per unit area of membrane is decreased. The method can make, for example, ion exchange membranes.

[FIG. 2]