

Review of Cross flow membrane flux with a lime softening solution

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Lime softening is a useful pretreatment method for removing hardness, silica and other constituents before processing thru a reverse osmosis membrane system. Cross flow microfiltration has been successfully used in conjunction with lime softening pretreatment chemistry to maximize efficiency of the RO systems.

This paper presents details of lab studies performed using a membrane module with 37 one half inch diameter PE tubes. The tubes have a 0.1 micron PVDF membrane applied to the interior surface of the tubes. A lime softening solution is used with varying pressures, flow rates and solids concentrations to flow across the membrane surface. Flux rates are measured and analysis of the flux rates vs. cross flow rate, pressure and solids concentration are performed.