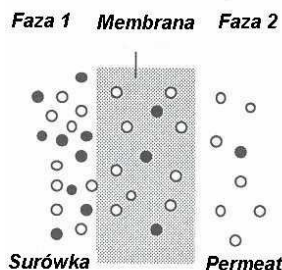
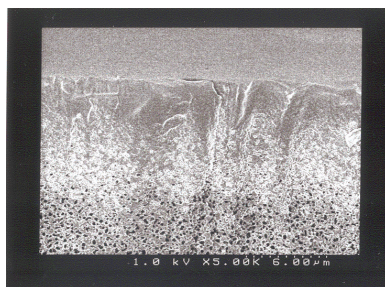


Institute of Nuclear Chemistry and Technology ul Dorodna 16, 03-195 Warsaw

JP3RO unit for purification/concentration of liquid radioactive wastes by reverse osmosis



Membrane separation



Composite membrane



3-stage reverse osmosis installation



Control panel

3-stage JP3RO installation, capacity of 1 m³/h of pure permeate consists of three stages of reverse osmosis operating at pressure not higher than 2,2 MPa. The first two are purification stages consisting of two RO 8"x40" SU 720R (Toray) modules connected in series; the third one is a concentration stage consisting of four RO 4"x40" SU 810 (Toray) modules placed in two parallel vessels, two modules in each vessel. The installation produces a permeate of specific activity of 10 kBq/m³ and solute concentration not higher than 0,1 g/dm³. The concentrate obtained in the RO unit has specific activity not higher than 10⁷ kBq/m³ and salinity not higher than 250 g/dm³.

The installation was designed and constructed in Department of Nuclear Methods in Process Engineering, INCT for the treatment of radioactive wastes produced in Polish nuclear institutes and hospitals. At present it is operated at Department of Radioactive Waste Processing, Institute of Atomic Energy, Swierk.

A scheme of installation:

