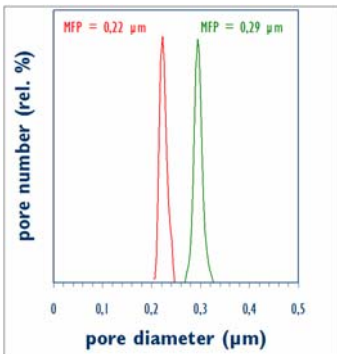
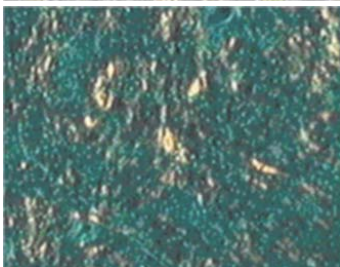
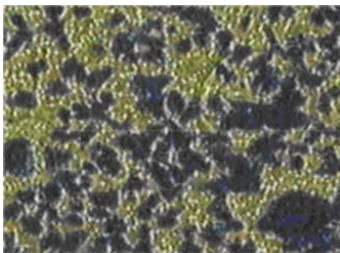


SEM picture of the surface of a polyimide membrane



Typical pore size distribution of two different polyimide membranes with a mean pore size of 0.22 µm and 0.29 µm respectively



Phase contrast micrography after 4 days cultivation
up : EaHy 926 (endothelial cells)
down : MRC5 Line

○ **thickness**

- used raw film has a initial thickness of 7.6, 13, 25 or 50 µm

○ **pore size**

- from 20 nm to 10 µm
- narrow pore size distribution

○ **pore density**

- from 1E4 to 4E9 cm⁻² (according to pore size)
- all pores perpendicular to the membrane surface or randomly oriented

○ **porosity**

- for good mechanical properties, maximum porosity is kept below 15 or 20 % for a 13 or a 25 µm thick membrane respectively

○ **surface property**

- typical values of water contact angle measured on raw film and membrane are :

	raw film	membrane ⁽²⁾	treated membrane ⁽¹⁾⁽²⁾
polyimide	81	56	47
polycarbonate	78	73	-
PET	74	65	43

(1) hydrophilic treatment (2) values also dependent on porosity

○ **cell culture test — biocompatibility**

- results about adhesion and confluency tests of different cells on the surface of a polyimide membrane are :

cells (Medium)	adhesion test (2 hours cultivation)	confluency test (4 days cultivation)
EaHy 926 (endothelial cells) (DMEM+ with 10% FBS)	OK	50% occupation of the area
MRC5 Line (DME/F12+ with 10% FBS)	OK	90% occupation of the area