CLAIMS

1. A flat ceramic membrane comprising:

a plate-shaped porous support made of ceramics; and

a filtration membrane formed on an outer surface of the porous support, wherein

inside the porous support, a plurality of water collection passages where filtrate water obtained by permeation of water-to-be-treated through the filtration membrane flows are formed, and a region where a thickness between a membrane surface of the filtration membrane and the water collection passage is different is ensured, and

the thickness of the flat ceramic membrane at the water collection passage, which is along a supply direction of air for membrane cleaning, in a region located in a vicinity of an end portion is greater than the thickness in a region that is a region other than the vicinity of the end portion.

2. The flat ceramic membrane as claimed in claim 1, wherein

the water collection passages are arranged at regular intervals.

3. The flat ceramic membrane as claimed in claim 1 or 2, wherein

a cross section of the water collection passage in the region located in the vicinity of the end portion is smaller than a cross section of the

water collection passage in the region other than the vicinity of the end portion.

4. The flat ceramic membrane as claimed in claim 1 or 2, wherein

the cross section of the water collection passage, which is along the supply direction, is smaller from a middle portion of the porous support as the water collection passage approaches the end portion.

5. The flat ceramic membrane as claimed in any one of the preceding claims 1 to 4, wherein

a drain portion for draining the filtrate water supplied from one end openings of the water collection passages is fixed to one end portion of the porous support.