Claims

[Claim 1]

A multi-layered polyolefin porous membrane comprising at least two layers;

protrusions made of polyolefin satisfying 5 μm ≤ W ≤ 50 μm (where W is a protrusion size) and 0.5 μm ≤ H (where H is protrusion height) and being randomly disposed on a surface of one side of the multi-layered polyolefin porous membrane at a density of not less than 3 protrusions/cm^2 and not greater than 200 protrusions/cm^2, wherein the protrusions made of polyolefin comprises polyethylene as the major component;

a meltdown temperature being not lower than 165°C;

an air permeation resistance being not greater than 300 sec/100 cc Air; and

a membrane thickness being not greater than 20 μm.

[Claim 2]

The multi-layer polyolefin porous membrane according to claim 1, wherein the at least one layer contains a polypropylene having an amount of heat of fusion of not less than 90 J/g.

[Claim 3]

A battery separator comprising a modified porous layer laminated on at least a side having protrusion of the multi-layered polyolefin porous membrane described in claim 1 or 2.