

Abstract

Considering that battery separators will require further thinner materials and lower costs in the future, a multi-layer polyolefin porous membrane for laminating a modified porous layer, which has an exceptionally high peel strength to a modified porous layer, and is suitable for high-speed processing during slit process and battery assembly process, and a battery separator, on which the modified porous layer is laminated, is provided.

A multi-layer polyolefin porous membrane comprising at least two layers; protrusions made of polyolefin satisfying $5\text{ }\mu\text{m} \leq W \leq 50\text{ }\mu\text{m}$ (where W is a protrusion size) and $0.5\text{ }\mu\text{m} \leq H$ (where H is a protrusion height) and being irregularly disposed on one side of the multi-layer polyolefin porous membrane at a density of not less than 3 protrusions/cm² and not more than 200 protrusions/cm²; 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 .

FIGURE 3