

Separator for Batteries and Method for Producing Separator for Batteries

ABSTRACT

A battery separator comprising a microporous polyolefin membrane having a
 5 thickness of 16 μm or less, and a modifying porous layer comprising a fluorine resin
 and an inorganic particle or cross-linked polymer particle, the modifying porous layer
 being laminated on one side of the microporous polyolefin membrane, wherein the
 microporous polyolefin membrane has (a) a shutdown temperature of 135°C or lower,
 and (b) a rate of air resistance change of 1×10^4 sec/100 cc/°C or more, and Expression
 10 1 and Expression 2 are satisfied, and a process for producing the battery separator.

$$0.01 \leq \text{absT}(1200) \leq 0.30 \quad \text{Expression 1}$$

absT(1200): Absorbance of an absorption having a peak at or near 1,200 cm^{-1} per 10 μm
 thickness of a microporous polyolefin membrane, as measured by infrared spectroscopy
 (transmission method) after peeling a modifying porous layer off the microporous
 15 polyolefin membrane

$$0.001 \leq \text{absR}(1200) \leq 0.030 \quad \text{Expression 2}$$

absR(1200): Absorbance of a maximum peak at or near 1,200 cm^{-1} , as measured by
 infrared spectroscopy (reflection method) on the surface of a microporous polyolefin
 membrane that is opposite to a modifying porous layer

20 Provided are a battery separator suitable for high-capacity batteries, which has
 adhesion to electrodes and is excellent in shutdown properties and electrolyte
 permeability, and a process for producing the battery separator.

Figure 1