

**TITLE OF INVENTION: ULTRA-THIN HIGH-STRENGTH LITHIUM-ION
BATTERY SEPARATOR AND PREPARATION METHOD THEREFOR**

ABSTRACT

Provided are an ultra-thin high-strength lithium-ion battery separator and a preparation method therefor. The preparation method for the ultra-thin high-strength lithium-ion battery separator includes the following steps: mixing a nucleating agent, ultra-high molecular weight polyethylene powder, an antioxidant and a pore-forming agent, and stirring uniformly to obtain a premixed raw material; injecting the premixed raw material into an extruder, heating to obtain a thermodynamic single-phase melt, and carrying out melt casting on the thermodynamic single-phase melt to obtain a crystalline cast strip, where a ratio of a linear speed of a chill roll in the melt casting to a flow rate of the thermodynamic single-phase melt during the melt casting is 5-50; and carrying out machine-direction stretching and first transverse-direction stretching on the crystalline cast strip, extracting and washing, drying, and carrying out second transverse-direction stretching, shrinkage and heat setting to obtain an ultra-thin high-strength lithium-ion battery separator.

FIG. 1