

ABSTRACT

The present application provides a coated separator, and a preparation method thereof and the use thereof. The coated separator includes a substrate and a coating that coats at least one side of the substrate. Raw materials for the preparation of the coating include an emulsion-type binder, a solvent-type binder and inorganic particles. An average particle diameter of the emulsion-type binder is denoted as A, an average particle diameter of the inorganic particles is denoted as B, an average pore diameter of the substrate is denoted as C, D10 particle diameter of the inorganic particles is denoted as D, and then A, B, C and D satisfy the following relations: $C:A:B=(0.4-0.8):1:(2-9)$; and $A+D \geq 3.5C$. In the present application, by the addition of the emulsion-type binder to the preparation raw materials for the coating, the water resistance of the coated separator can be improved, and a ratio of the particle diameter of the emulsion-type binder to the particle diameter of the inorganic particles to the pore diameter of the substrate can be controlled within a specific range, thereby enabling the separator to have a relatively good air permeability.

No figure.