Citation List

Patent Literature

[0003]

Patent Literature 1: JP6716764B

Patent Literature 2: JP2020-121455A

Summary

Technical Problem

[0004]

Ordinary packaging materials include a film made of a variety of resins as a substrate. Polyethylene-based mono-material packaging materials include a polyethylene-based substrate. Examples of characteristics necessary for the polyethylene-based substrate include stiffness, low shrinkage, and strength. As a method for improving strength, there is a method in which a film is stretched, and for example, a biaxially oriented film tends to be superior in terms of strength to a uniaxially oriented film. In addition, from the viewpoint of stiffness and low shrinkage, high-density polyethylene (HDPE) is suitable as a polymer that constitutes polyethylene-based substrates. However, generally, there is a tendency that it is difficult to biaxially stretch a film made of high-density polyethylene.

[0005]

direction is 15% or less, and a heat shrinkage rate in the TD direction is 15% or less.

In another aspect of the present disclosure, there is provided a laminate, comprising a layer made of the biaxially oriented film as disclosed herein.

In a further aspect of the present disclosure, there is provided a packaging material, comprising a layer made of the biaxially oriented film as disclosed herein.

An aspect of a method for producing a biaxially oriented film of the present disclosure includes a step of providing a material containing an ethylene-based polymer having a melt flow rate (MFR) of 0.01 g/10 min or higher and 5.0 g/10 min or lower, a density of 941 kg/m^3 or higher and lower than 970 kg/m^3, a melt tension of 31 to 250 mN, and Mw/Mn of 6.1 or more, a step of forming a film using at least the material, and a step of biaxially stretching the film.

Advantageous Effects of Invention

[0007]

According to the present disclosure, it is possible to provide a polyethylene-based biaxially oriented film having an excellent balance among stiffness, low shrinkage, and strength and a production method thereof.

Description of Embodiments

[0008]

Hereafter, an embodiment of the present disclosure will be described in detail.

Regarding each component that is described in the present specification, one or more kinds thereof can be used.