

Abstract

Biaxially oriented polypropylene dielectric film, modified polypropylene material and use thereof

The invention belongs to the field of polymers, and relates to biaxially oriented polypropylene dielectric film, a modified polypropylene material and use thereof. The preparation raw materials of the biaxially oriented polypropylene dielectric film comprise a modified polypropylene grafted with an alkenyl-containing functional monomer. The modified polypropylene grafted with an alkenyl-containing functional monomer comprises a structural unit derived from polypropylene as a matrix phase and a structural unit derived from an alkenyl-containing functional monomer as a dispersion phase. The ash content of the modified polypropylene grafted with an alkenyl-containing functional monomer is less than 50 ppm. In the modified polypropylene grafted with an alkenyl-containing functional monomer, the mass ratio of the structure unit which is derived from an alkenyl-containing functional monomer and in a grafted state to the structure unit which is derived from an alkenyl-containing functional monomer and in a self-polymerization state is greater than or equal to 1.0. D50 of the dispersion phase is less than 450 nm. The biaxially oriented polypropylene dielectric film of the present invention can keep good dielectric performance and energy storage performance at a relatively high working temperature, and is suitable for high-temperature and high-operation field intensity working conditions.

[Figure 1]