

ENERGY-SAVING FOAMED POLYPROPYLENE BEAD AND PREPARATION METHOD THEREOF

Abstract

The present invention discloses an energy-saving foamed polypropylene bead and a preparation method thereof. The formula includes the following ingredients in parts by weight: 85-99 parts of foamable polypropylene with a high melting point and 1-15 parts of polyolefin with a low melting point. The foamable polypropylene with the high melting point is a random copolymer, a comonomer is an ethylene-propylene copolymer or a propylene-butene copolymer, the melting point is 143-150 °C, the bending modulus is greater than 900 MPa, and auxiliary agents mainly include an antioxidant and a lubricant. The polyolefin with the low melting point can be polyethylene, polypropylene or a thermoplastic elastomer, and the like. The polyethylene is LDPE, HDPE or LLDPE, the density is 0.920-0.935 /cm³, the elongation at break is greater than 800%, the softening point is 100-110 °C, the melt index is 2-15, and the melting point is 100-140 °C; and the polyethylene is a random copolymer combining ethylene, propylene and butene, the melting point is 115-140 °C, the melt index is 5-15, and the elongation at break is greater than 500%. A draw ratio of the bead after being foamed is 0.5-2. Double-layer coextrusion is performed by using two extruding machines in the process of the present invention, the foamable polypropylene with the high melting point is located on a core layer, and a polyethylene material is located on a skin layer. By adoption of the present invention, the production efficiency of foamed polypropylene can be improved, the energy consumption can be reduced, and the seamless docking of the EPS production process can be realized.

[Fig. 1]