A design of easy-open plastic bag

TECHNICAL FIELD

A protrusion structure is added on plastic bag in order to open plastic bag easily.

BACKGROUND:

A plastic bag is commonly cumulated electronic static, which cause difficulty to open plastic bag. When human hand is in dry environment, it is more difficult to open plastic bag. Usually, people have to put some water or spit on fingers in order to open it easily.

A protrusions or pin holes is added on plastic bag, to increase roughness and so that the bag is opened easily.

During plastic bag manufacturing, the first step is the blown-film extrusion process. Small plastic granular (called resin) are melted under 180°C-240°C until they become molten. Once resin pellets reach the desired level of pliability, they are then pressed (extruded) through a circular die gap to form a continuous tube of plastic. In this molten state, the tube of plastic is pinched off at one end, and then inflated and stretched to the size and thickness of the desired finished product. The inflated bubble of plastic is drawn vertically up a tower so that it has a chance to cool before it is flattened out and wound onto a roll. Once the plastic is on a roll, it can be cut to form tubing, single-wound sheeting, or centerfold sheeting. Most often, we transform the plastic into poly bags.

After the blown-film extrusion process is complete. The last step starts with pressing the two printed sheets together to create the sides of the bag. The plastic can then be wound and cut to the most suitable size and shape based on the actual use or application for the bag. The machine that does this heat sealing and cutting does its job according to the measurements installed to draw out the required length of one plastic bag [100], which is shown in Figure 1.

Additionally, make an easy-open plastic bag is added protrusion at last step, a hot bar is pressed down on plastic bag, the hot bar is designed with multiple small bumps, with 0.1-0.5mm diameter, and pitch is 0.8mm to 1.5mm. number of bumps on hot bar are determined by each design. Typically, there are 4 by 2 arrays. In Figure 2, During hot pressing, bumps on hot bar make protrusion [200] on plastic bag [100] as shown flat type of plastic bag with protrusion. These protrusions are to increase roughness on plastic bag, to open plastic bag easily. In Figure 3, it shows a T-shirt type plastic bag with protrusions [200] is near edge of plastic opening.

DESCRIPTION OF DRAWING

Figure 1 shows prior art of plastic bag.

Figure 2 shows invention of flat type of plastic bag near edge of plastic bag opening

Figure 3 shows the invention of T-shirt type of plastic bag near edge of plastic bag opening.

Claim

1. A new plastic bag compromising: protrusions with 0.1-0.5mm diameter, and pitch is 0.8mm to 1.5mm. Typically, there are 4 by 2 arrays protrusions [200] on plastic bag [100] as shown in Fig 2 a flat type of plastic bag.

2. protrusions with 0.1-0.5mm diameter, and pitch is 0.8mm to 1.5mm. Typically, there are 4 by 2 arrays protrusions [200] on plastic bag [100] as shown in Fig 3, T-shirt type plastic bag as shown in Fig 3, protrusions [200] is near edge of plastic opening.