Polyvinyl chloride (PVC) films are conventionally used for a wide of variety of applications including graphic films. PVC has many properties that are advantageous for such applications and are easily printed using current printing technologies, e.g. piezo ink jet. For example, PVC graphic films are conformable to the varying topographies present on the exterior of a substrate, e.g. a vehicle, and plasticized PVC shows uniform elongation and good stress loss. However, in some cases the disposal of halogen-containing plastics may be undesirable for environmental reasons.

Polyolefin films and their corresponding use as graphic films are advantageous in that they typically do not contain halogens. However, polyolefin films are difficult to image and thus may require the application of an additional image receptive layer, such as an ink receptive layer, toner receptive layer, primer layer or the like. Furthermore, polyolefin films tend to be more elastic leading to greater tendency for pop-off.

Summary

The present application is directed to methods of using articles useful as graphic films. Specifically, the present application is directed to a method of displaying an image comprising providing a substrate with an irregular surface and applying an adhesive article to the substrate. The adhesive article comprises a film layer, and an adhesive layer. The film layer comprises a thermoplastic polyurethane and a cellulose ester. The adhesive layer adheres the adhesive article to the substrate.

In one aspect, there is provided a method of displaying an image comprising

providing a substrate with an irregular surface;

applying an adhesive article to the substrate, wherein the adhesive article comprises a film layer, the film layer comprising a polymer blend comprising a thermoplastic polyurethane and a cellulose ester; and an adhesive layer adjacent the film layer,

wherein the adhesive layer adheres the adhesive article to the substrate.

In some embodiments, the substrate is a vehicle. In some embodiments, the substrate is a rough surface. In some embodiments, the surface is curved. In some embodiments, the surface has any combination of these characteristics.

In some embodiments, the cellulose ester is a cellulose acetate butyrate. In other embodiments, the cellulose ester is a cellulose acetate propionate.

The film layer may additionally comprise polyester, a plasticizer, a poly(meth)acrylate or all these materials. In some embodiments, the film layer is hot melt processable.

The adhesive layer may be a structured adhesive layer.

In some embodiments, the film is a multilayer film, with at least one layer of the multilayer film comprising the polymer blend comprising a thermoplastic polyurethane and a cellulose ester. In such embodiments, the a second layer of the multilayer film may also comprises