Nowadays, there is a desire to manufacture hollow articles not only with a specific shape and sufficient mechanical stability, but also displaying a specific visual appearance. The object of the present invention therefore was to provide blow molded hollow articles, especially containers, e.g. bottles, having a pronounced surface pattern and/or visual color effect.

Subject of the invention is a process for the production of a multilayer polymeric hollow article comprising at least two layers, whereby at least one layer is a continuous layer with a uniform degree of thickness and at least one layer is a discontinuous or a non-uniform continuous layer with varying circumferential and/or longitudinal thickness creating a pattern and/or a visual effect given by color swirls, waves, streaks and/or varying translucency, by coextrusion blow-molding in two consecutive steps,
where in the first step an at least two-layer tubular parison is formed by coextrusion of at least two different thermoplastic polymers from a multilayer coextrusion die head whereby (i) the polymer forming a continuous layer with a uniform degree of thickness has a lower dynamic viscosity when passing through the coextrusion die head than the polymer forming a discontinuous or a non-uniform continuous layer; and (ii) the polymer forming a continuous layer with a uniform degree of thickness is extruded at a higher extrusion rate than the polymer forming a discontinuous or a non-uniform continuous layer, and
in the second step, said parison is blow molded to form the multilayer polymeric hollow article.

One aspect of the invention thus relates to a multilayer blow-molded hollow article made of thermoplastic polymers and characterized by a pattern and/or a visual effect given by color swirls, waves, and/or streaks, whereby at least one layer is a continuous layer with a uniform degree of thickness, and at least one layer is a discontinuous or a non-uniform continuous layer with varying circumferential and/or longitudinal thickness.

Another aspect relates to a process for the production of a multilayer polymeric hollow article as described herein, by coextrusion blow-molding in two consecutive

steps, where in the first step an at least two-layer tubular parison is formed by coextrusion of at least two different thermoplastic polymers from a multilayer coextrusion die head whereby (i) the polymer forming a continuous layer with a uniform degree of thickness has a lower dynamic viscosity when passing through the coextrusion die head than the polymer forming a discontinuous or a non-uniform continuous layer; and (ii) the polymer forming a continuous layer with a uniform degree of thickness is extruded at a higher extrusion rate than the polymer forming a discontinuous or a non-uniform continuous layer, and
in the second step, said parison is blow molded to form the multilayer polymeric hollow article.

Preferably, the at least one discontinuous or non-uniform continuous layer has a discontinuously varying circumferential and/or longitudinal thickness.

Expediently, the viscosity of the polymers when passing through the die head relates to the dynamic viscosity (in Pa.s) at the specific temperature in the die head.

The rate of extrusion (in kg/h) relates to the amount of material extruded through the die head in a given period of time, while the extruder is expediently operating under stable conditions, e.g. constant speed and temperature.