

Method for the production of thermoformed plastic parts from polyethylene
terephthalate

Abstract

A method for the production of thermoformed plastic parts from nucleation-free,
5 amorphous polyethylene terephthalate is described. In order to enable the
production of fully pure grade recyclable, transparent plastic parts suitable for use
in microwaves despite economical cycle times and low energy consumption, it is
proposed that, in a feed step, a semi-finished product (1) having a predetermined
semi-finished product width is first fed in a machine direction (MD) running parallel
10 to the longitudinal direction of the semi-finished product to a processing section (3)
of a thermoforming apparatus comprising a thermoforming tool and is then heated
there in at least one heating step to a stretching temperature of 90 - 180°C, and is,
as a function of the set stretching temperature, actively stretched at a degree of
stretching of 1.2 - 5.0 in the machine direction (MD) in at least one stretching step,
15 , wherein the at least one heating step is taking place simultaneously with the at
least one stretching step or preceding it in time, and then, in a forming step, the
semi-finished product (1) stretched in the processing section (3) is formed with the
aid of the cooled hot thermoforming tool and is quenched to a temperature of at
least 30°C below the glass transition temperature of the polyethylene terephthalate
20 used.

Fig. 1