carbonates. However, for the reasons described at the beginning, the amount of additives used must be kept as small as possible. Examples of such additives are mould release agents based on stearic acid and/or stearic alcohol, particularly preferably pentaerythritol stearate, trimethylolpropane tristearate, pentaerythritol distearate, stearyl stearate and glycerol monostearate, as well as conventional heat stabilisers.

In order to achieve the desired properties, the different additives can be combined with one another. These additives and added substances can be added to the polymer melt individually or in any desired mixtures or in a plurality of different mixtures, either directly during isolation of the polymer or after the melting of granules in a so-called compounding step.

The additives and added substances, or mixtures thereof, can be added to the polymer melt in the form of a solid, that is to say in the form of a powder, or in the form of a melt. Another type of metering is the use of masterbatches, that is to say a mixture of the additive or added substance with the polymer, preferably with polycarbonate, which has been homogenised by compounding, or mixtures of masterbatches of the additives or additive mixtures.

The addition of these substances is preferably carried out in conventional devices to the finished polycarbonate.

Suitable additives are described, for example, in Additives for Plastics Handbook, John Murphy, Elsevier, Oxford 1999 or Plastics Additives Handbook Hans Zweifel, Hanser, Munich 2001.

The polycarbonates according to the invention are outstandingly suitable as substrate materials for transparent injection-moulded parts, in particular for injection-moulded parts that are to be coated, such as, for example, transparent sheets, lenses, optical storage media or carriers for optical storage media, or articles from the automotive glazing sector, such as, for example, light-diffusing plates. It is accordingly possible to produce from the polycarbonate according to the invention in particular optical storage media or carriers for optical storage media, such as, for example, writable optical data storage media, which have good coatability and wettability and are suitable, for example, for the application of dyes from solution, in particular from non-polar media. In addition, the optical injection-moulded parts produced from these polycarbonates have a lower tendency to contamination.

The invention therefore also provides mouldings or extrudates produced from the polycarbonates according to the invention, such as, for example, disks for writable optical data storage means or materials from the automotive glazing sector, such as, for example, light-diffusing plates.

The examples which follow serve to illustrate the invention by way of example, without implying any limitation.

EXAMPLES

Relative Solution Viscosity

The relative solution viscosity was determined in dichloromethane at a concentration of 5 g/l at 25° C.

Content of Phenolic OH End Groups:

The content of phenolic OH end groups was obtained by IR measurement. For this purpose, a differential measurement of a solution of 2 g of polymer in 50 ml of dichloromethane compared with pure dichloromethane was carried out, and the difference in extinction at 3582 cm^{-1} was determined.

Coating Test:

The coating test simulates the behaviour of the corresponding material in the injection-moulding process in respect of coating formation. The coating test was carried out as follows:

20 g of polymer granules were dried for 4 hours at 120° C. and then placed in a small aluminium dish having a diameter of 80 mm. The small dish was then placed in a metal block which had a circular recess with a diameter of 85 mm and a depth of 50 mm, the metal block already having been heated electrically to 300° C.

The recess in the metal block was covered with a 0.03 mm thick aluminium foil, and a coolable metal block was in turn applied from the rear side. This metal block is provided with cooling channels through which water at an approximate temperature of 20° C. flows.

During the measuring time, which is 4 hours, volatile constituents evaporating out of the granules condense on the aluminium foil. When carrying out the measurement it must be ensured that the aluminium foil effectively seals the sample chamber to the outside.

The test apparatus was subsequently cooled down to ambient temperature, When ambient temperature had been reached, the aluminium foil was removed and weighed on a microbalance. The amount of condensate was determined from the difference in the weight of the foil before and after the test. The coating value is the weight of the coating precipitated on the foil relative to the original weight of the granules, in percent.

Measurement of the Electric Field Strength:

The influence of the process according to the invention was checked by means of measurements of the electric field strength on finished injection-moulded parts, in the present case on disks. The following injection-moulding parameters and conditions were established for the production of these optical disks:

Machine: Netstal Discjet

Matrix: audio stamper

Cycle time: 4.4 s

Temperature of the composition: 310-33 0° C.

Substrate dimensions: audio CD

Tool temperature, matrix side: 60° C.

Before the start of the injection-moulding process, a new audio stamper was inserted into the machine. Before the new stamper was inserted, the entire injection-moulding installation was cleaned of previous material so that the measured values were not falsified.

The electric field strength was measured using a field meter from Eltec (EMF 581230). Immediately after the end of the injection-moulding process, the disk was removed by means of a robot arm and deposited. The disk was not allowed to come into contact with metal, because otherwise the measurement is impaired. Furthermore, any ionisers present had to be switched off.

The field meter was positioned above the disk at a distance of 100 mm from the horizontal disk surface. The distance of the field meter from the inside edge of the disk was 29 mm and was oriented centrally over the writable surface. The disk was not moved. Measurement of the field accordingly took place within a period of from 3 to 10 seconds following completion of the injection-moulding process.

The measuring device was connected to an x/y plotter, on which the values were printed out. A particular integral value of the electric field was accordingly assigned to each measured disk. In order to limit the amount of data, 100 measurements were carried out after the start of the process, that is to say the corresponding electric field strength on the surface of the first 100 disks was recorded. After in each case 60 minutes, a further 100 measurements were carried out. After the 3rd series of measurements, that is to say after about 2 hours, the measurement was stopped.