Claims

1. An apparatus for devolatilizing solvent-containing polycarbonate melts, characterized in that a flash devolatilizer is combined with a vented extruder, said downpipe devolatilizer being arranged directly above said extruder.

2. The apparatus as claimed in claim 1, characterized in that the inlet element of the flash devolatilizer is in the form of a distributor plate with an upstream product distributor, or as a pipe with orifices.

3. The apparatus as claimed in claim 1 or 2, characterized in that vapor lines are mounted on the downpipe devolatilizer.

4. The apparatus as claimed in any of claims 1 to 3, characterized in that the flash devolatilizer is heated by means of condensing steam, by means of a condensing organic heat carrier or by means of a liquid organic heat carrier.

5. The apparatus as claimed in any of claims 1 to 4, characterized in that the combination of a flash devolatilizer and vented extruder is upstream of at least one further flash devolatilizer/downpipe devolatilizer.

6. The apparatus as claimed in any of claims 1 to 5, characterized in that the vented extruder is of two- or four-shaft design.

7. The apparatus as claimed in any of claims 1 to 6, characterized in that the vented extruder is a closely intermeshing, corotatory twin-screw extruder.

8. The apparatus as claimed in any of claims 1 to 7, characterized in that the extruder has several devolatilizing zones in conveying direction.

9. A process for devolatilizing polycarbonate solutions as claimed in any of claims 1 to 8, characterized in that a polycarbonate solution comprising at least one organic solvent and at least one polycarbonate is prepared by the interfacial process and, in a second step, this polycarbonate solution is supplied to a flash devolatilizer in combination with a vented extruder, said flash devolatilizer being arranged directly above the extruder such that the polymer solution falls directly into the vented extruder.

10. The process as claimed in claim 9, characterized in that the solvent-containing vapors formed in the flash devolatilizer are removed directly from the housing of the flash devolatilizer by means of vapor lines.

11. The process as claimed in either of claims 9 and 10, characterized in that inert gases as entraining agents are injected into and mixed into the polymer melt stream upstream of the flash devolatilizer.

12. The process as claimed in any of claims 9 to 11, characterized in that inert gas is injected as entraining agent in one or more housings of the vented extruder.

13. The process as claimed in any of claims 9 to 12, characterized in that the input concentration of the polycarbonate into the flash devolatilizer is between 60% by weight and 95% by weight.

14. The process as claimed in any of claims 9 to 13, characterized in that the polymer is heated by means of a heat exchanger before entering the flash devolatilizer.

15. The process as claimed in any of claims 9 to 14, characterized in that the polycarbonates obtained have a residual solvent content of 20 ppm to 1000 ppm.

Claims

1. An apparatus for devolatilizing solvent-containing polycarbonate melts, wherein a flash devolatilizer, comprising an inlet having one or more pipes with orifices, is combined with a vented extruder, said flash devolatilizer being arranged directly above said extruder.

2. The apparatus as claimed in claim 1, wherein vapor lines are mounted on the flash devolatilizer.

3. The apparatus as claimed in claim 1, wherein the flash devolatilizer is heated by means of condensing steam, by means of a condensing organic heat carrier or by means of a liquid organic heat carrier.

4. The apparatus as claimed in claim 1, wherein the combination of a flash devolatilizer and vented extruder is upstream of at least one further flash devolatilizer.

5. The apparatus as claimed in claim 1, wherein the vented extruder is of two- or four-shaft design.

6. The apparatus as claimed in claim 1, wherein the vented extruder is a closely intermeshing, corotatory twin-screw extruder.

7. The apparatus as claimed in claim 1, wherein the extruder has several devolatilizing zones in a conveying direction.

8. A process for devolatilizing polycarbonate solutions as claimed in claim 1, wherein a polycarbonate solution comprising at least one organic solvent and at least one polycarbonate is prepared by the interfacial process and, in a second step, this polycarbonate solution is supplied to a flash devolatilizer in combination with a vented extruder, said flash devolatilizer being arranged directly above the extruder such that the polymer solution falls directly into the vented extruder.

9. The process as claimed in claim 8, wherein the solvent-containing vapors formed in the flash devolatilizer are removed directly from the housing of the flash devolatilizer by means of vapor lines.

10. The process as claimed in claim 8, wherein inert gases as entraining agents are injected into and mixed into the polymer melt stream upstream of the flash devolatilizer.

11. The process as claimed in claim 8, wherein inert gas is injected as entraining agent in one or more housings of the vented extruder.

12. The process as claimed in claim 8, wherein the input concentration of the polycarbonate into the flash devolatilizer is between 60% by weight and 95% by weight.

13. The process as claimed in claim 8, wherein the polymer is heated by means of a heat exchanger before entering the flash devolatilizer.

14. The process as claimed in claim 8, wherein the polycarbonates obtained have a residual solvent content of 20 ppm to 1000 ppm.