Claims

1. A method for producing a polymer system present in at least two phases, comprising the following steps:

   a) polymerising a monomer composition I, comprising in total at least 80 wt.% of one or more monomers selected from the group consisting of methacrylic acid esters, methacrylamides and monomers with at least one polymerisable vinyl group, in order to form a polymerisate A; and

   b) polymerising a monomer composition II, comprising in total at least 80 wt.% of one or more monomers selected from the group consisting of methacrylic acid esters, methacrylamides and monomers with at least one polymerisable vinyl group, wherein at least 50 wt.% of the monomers in monomer composition II differ from those in monomer composition I, in the presence of polymerisate A in order to form polymerisate B, thereby obtaining a polymer system which is present in at least two phases and comprises polymerisates A and B;

   characterised in that step b) is carried out in a closed casing.

2. The method according to claim 1, characterised in that at least the polymerisation in step b) is a controlled radical polymerisation.

3. The method according to any one of claims 1 and 2, characterised in that at least the polymerisation in step b) is carried out in the presence of at least one controller substance containing at least one sequence -S-C(=X)-, wherein X stands for S, O or NR', wherein R' stands for an organic group.

4. The method according to claim 3, characterised in that the controller substance is selected from the group consisting of trithiocarbonates and xanthates.

5. The method according to any one of the preceding claims, characterised in that the material of the closed casing is selected from the group consisting of ethylene-vinyl acetate copolymers, ethylene-acrylic acid copolymers, polyethylene, polypropylene, polybutadiene and ionomer films.

6. The method according to any one of the preceding claims, characterised in that, in step b), polymerisate A is dissolved in monomer composition II.

7. The method according to any one of the preceding claims, characterised in that the polymerisation of step b) takes place in the absence of solvent.

8. A polymer system present in at least two phases and in a closed casing, obtainable by a method according to any one of the preceding claims.

9. The polymer system according to claim 8, characterised in that the polymer system is a block copolymer.

10. The polymer system according to any one of claims 8 and 9, characterised in that the polymer system is an elastomer.

11. Use of a polymer system according to any one of claims 8 to 10 as at least one polymer component in an extrusion method for producing an adhesive composition.

12. A composition for producing a pressure-sensitive adhesive comprising a polymer system obtainable by a method according to any one of claims 1 to 7, wherein the polymer system is no longer present in the closed casing and the composition is free from cross-linking agents.