Claims

1. Polymer mixture for the production of foams having a density determined in accordance with DIN EN ISO 1183 of 40 to ≤ 200 kg/m^3 and a glass transition temperature measured in accordance with DIN EN ISO 6721-1 of between 140 and 230°C,
wherein the polymer mixture contains 50% to 99.999% by weight of polyetherimide (PEI) and 0% to 49.999% by weight of polyether ether ketone (PEEK), 0.001% to 2% by weight of at least one nucleating agent, 0% to 25% by weight of a blowing agent and 0% to 20% by weight of an additive.

2. Polymer mixture according to Claim 1, wherein the polymer mixture comprises 0.001% to 20% by weight of a blowing agent.

3. Polymer mixture according to Claim 1, wherein the polymer mixture comprises 0.1% to 10% by weight of an additive.

4. Polymer mixture according to Claim 2, wherein a foam obtainable by extrusion has a density of 25 to ≤ 100 kg/m^3.

5. Blowing agent-loaded particles obtainable by underwater pelletization from a polymer mixture according to Claim 2.

6. Blowing agent-loaded particles according to Claim 5, wherein the particles have an ellipsoidal shape and a mass of 0.5-15 mg, preferably between 1-12 mg, more preferably between 3 and 9 mg.

7. Polymer mixture according to Claim 1, wherein the polymer mixture comprises particles obtainable by underwater pelletization or strand pelletization and loading with blowing agent in a suitable container.

8. Foam particles obtainable from blowing agent-loaded particles according to Claims 5 to 7 via prefoaming by heating.

9. Foam particles according to Claim 8, wherein the foam particles have a bulk density of between 25 to ≤ 100 kg/m^3.

10. Mouldings obtainable from foam particles according to Claim 9 by sintering with the aid of a shaping mould and an input of energy to form moulded foams having a density of 25 to ≤ 100 kg/m^3.

11. Mouldings according to Claim 10, wherein the input of energy is effected by IR radiation, an input of heat from a fluid, heat conduction or electromagnetic waves.

12. Mouldings obtainable from foam particles according to Claim 9, wherein the foam particles are adhesive-bonded with the aid of a shaping mould and an additive.

13. Use of a foam obtainable from a polymer mixture according to Claim 1 or of a particle foam obtainable from a polymer mixture according to Claim 1 in the aviation industry, shipbuilding, rail vehicle construction or vehicle construction.