

Claims

1. Polymer mixture comprising polyetherimide and polyether ether ketone and also at least one nucleating agent for the production of foams having a density determined in accordance with DIN EN ISO 1183 of 40 to $\leq 200 \text{ kg/m}^3$ and a glass transition temperature measured in accordance with DIN EN ISO 6721-1 of between 140 and 230°C.
2. Polymer mixture according to Claim 1, characterized in that it contains 50% to 99.999% by weight of PEI and 0% to 49.999% by weight of PEEK, 0.001% to 2% by weight of a nucleating agent, 0% to 25% by weight of a blowing agent and 0% to 20% by weight of an additive.
3. Polymer mixture according to Claim 1, characterized in that 0.001% to 20% by weight of a blowing agent is added.
4. Polymer mixture according to Claim 1, characterized in that 0.1% to 10% by weight of an additive is added.
5. Polymer mixture according to Claim 3, characterized in that a foam having a density of 25 to $\leq 100 \text{ kg/m}^3$ is produced by extrusion.
6. Polymer mixture according to Claim 3, characterized in that blowing agent-loaded particles are produced by underwater pelletization.
7. Blowing agent-loaded particles according to Claim 6, characterized in that ellipsoidal particles having a mass of 0.5-15 mg, preferably between 1-12 mg, more preferably between 3 and 9 mg are produced.
8. Polymer mixture according to Claim 2, characterized in that particles are produced by underwater pelletization or strand pelletization that are then loaded with blowing agent in a suitable container.
9. Foam particles, characterized in that blowing agent-loaded particles according to Claim 6 to 8 are prefoamed by heating.
10. Foam particles according to Claim 9, characterized in that they have a bulk density of between 25 to $\leq 100 \text{ kg/m}^3$.
11. Mouldings, characterized in that foam particles according to Claim 10 are sintered with the aid of a shaping mould and an input of energy to form moulded foams having a density of 25 to $\leq 100 \text{ kg/m}^3$.
12. Mouldings, characterized in that the foaming process according to Claim 11 is effected by IR radiation, an input of heat from a fluid, heat conduction or electromagnetic waves.
13. Mouldings, characterized in that foam particles according to Claim 10 are adhesive-bonded with the aid of a shaping mould and an additive.
14. Use of a PEI/PEEK foam obtainable according to Claim 5 or of a PEI/PEEK particle foam according to any of Claims 11-13 in the aviation industry, shipbuilding, rail vehicle construction or vehicle construction.