**Claims**

1. Process for producing HT foams for further processing into sandwich materials, wherein particles of a high-temperature polymer are foamed and sintered in a mould at a sintering temperature $T_1$ to form an HT foam moulding and subsequently the mould cavity is heated to a temperature $T_2$ at least 10°C above the sintering temperature and not more than 20°C above the glass transition temperature of the HT polymer for 5 to 120 sec,
and wherein the sintering temperature $T_1$ of the HT polymer is between 140°C and 220°C, the glass transition temperature of the HT polymer is between 210°C and 235°C and temperature $T_2$ is between 180°C and 255°C.

2. Process according to Claim 1, wherein the sintering temperature $T_1$ of the HT polymer is between 145°C and 180°C, the glass transition temperature of the HT polymer is between 215°C and 230°C and temperature $T_2$ is between 190°C and 240°C.

3. Process according to any of Claims 1 to 2, wherein the mould cavity is heated to a temperature $T_2$ for 15 to 90 sec.

4. Process according to any of Claims 1 to 3, wherein the HT polymer is polyetherimide (PEI).

5. Process according to any of Claims 1 to 4, wherein the particles of the high-temperature polymer are foamed in the mould to form the HT foam moulding at the sintering temperature $T_1$ between 140°C and 180°C in such a way that upon heating of the mould cavity to the temperature $T_2$ at least 5% by weight of the originally employed blowing agent still remains in the material.

6. Process according to any of Claims 1 to 5, wherein the mould cavity is heated to a temperature $T_2$ which is at least 15°C above the sintering temperature and below the glass transition temperature of the HT polymer for 5 to 120 sec.

7. Process according to any of claims 1 to 6, wherein prior to foaming the mould is filled with non-prefoamed HT polymer particles having a particle size between 0.5 and 5.0 mm.

8. Process according to any of claims 1 to 6, wherein prior to foaming the mould is filled with prefoamed HT polymer particles having a maximum particle size between 1.0 and 10 mm and a bulk density of 30 to 200 kg/m$^3$.