

ABSTRACT

A preparation (10, 11,12,13) to be fixed to a natural tooth part or tooth, in particular for the replacement of a load-bearing tooth part, is for example a filling for a drilled-out tooth (1), a crown, bridge or prosthesis to be placed on a tooth stub, or a tooth pin to be fixed in a tooth root for fastening an artificial tooth part. The preparation has surface regions which consist of a material with thermoplastic properties. The preparation (10, 11, 12,13) has oscillation properties with such low damping losses that for a liquefaction of the material with thermoplastic properties by way of oscillations there are local stress concentrations required, and in a manner such that such stress concentrations only occur in the region of the preparation surface. The preparation is positioned on a suitably prepared natural tooth part in a manner such that the material with the thermoplastic properties is in contact or may be brought into contact with the dentin surface and/or enamel surface. The preparation is then made to mechanically oscillate and is simultaneously pressed against the natural tooth part, whereby the material with the thermoplastic properties is at least partly liquefied and brought into intimate contact with the dentin or enamel surface in a manner such that after solidification it forms a positive fit and/or material fit connection. Teeth restored with such preparations have a high stability and a long life, which in particular is attributed to the fact that the thermoplastic material, in contrast to known cements used for the same purpose, shrinks less and has the ability to relieve internal stress by creeping. The thermoplastic material is also able to equalise inaccuracies between the natural tooth part or tooth and further artificial elements, therewith reducing the known high accuracy requirements asked for in dental technology.

(Figure 2)