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**Dentistry — Dental furnace —**  
**Part 3:**  
**Test method for the evaluation of**  
**high temperature sintering furnace**  
**measurement with a separate**  
**thermocouple**

*Médecine bucco-dentaire — Fours dentaires —*

*Partie 3: Méthode d'essai pour l'évaluation du mesurage des hautes températures de frittage au moyen d'un thermocouple externe*





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## Introduction

In dentistry, sintering furnaces are used for sintering restorations made from oxide ceramics and from sintered metal. Significantly higher temperatures than those for firing dental ceramic masses containing silicates are necessary, for example, zirconium oxide ( $\text{ZrO}_2$ ) is typically sintered at a temperature of up to 1 700 °C.

The sintering temperature is of vital importance for the properties of the sintered material. Incorrect sintering temperatures can result in low strength, discrepant colouration or low ageing resistance. Furthermore, a poor accuracy of fit owing to excessively low or uneven shrinkage can occur. Too high a sintering temperature generally results in a larger grain size and can lead to a softening and consequently a deformation of the restoration. Too low a sintering temperature results in an inadequate sintering quality and possibly residual porosity.