
Dentistry — Dental furnace —

Part 2:

**Test method for evaluation of furnace
programme via firing glaze**

Médecine bucco-dentaire — Four dentaire —

*Partie 2: Méthode d'essai pour l'évaluation des programmes des fours
dentaires avec le degré de calcination*

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Foreword

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The committee responsible for this document is ISO/TC 106, *Dentistry*, Subcommittee SC 2, *Prosthetic materials*.

A list of all parts in the ISO 13078 series can be found on the ISO website.

Introduction

Dental furnaces are suitable for the manufacturing of metal-ceramic and partly also all-ceramic restorations for use in dentistry. Dental furnaces are particularly used for firing or sintering, respectively, of dental opaques, dentine and enamel materials to the respective compatible substructure materials. According to the current state of the art, the temperature of this process lies between 600 °C and 1 000 °C.

The different calibration processes applied by the manufacturers of dental furnaces as well as the varying construction types of the dental furnaces currently on the market influence the firing result.

Despite the fact that different dental furnaces can have identical digital external displays, different results regarding the degree of firing can be identified when processing the same ceramics under otherwise similar conditions.

A different degree of firing not only causes differences that can be judged directly by the human eye (e.g. colour and transparency), but also deviations that cannot be detected by the eye. These are, for instance, the linear coefficient of thermal expansion, the bonding strength, the strength values and the acid solubility. Such changes may result in clinical failures (e.g. fractures) as well as changed aesthetics of the dental ceramic restoration.

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