

Calibration Set – Zenoflex dimension

Order-No. 8595240SET

Content: 1 x ceramic sample mould, 1 x Zenoflex dimension reference pellet with instructions

Zenoflex dimension is a completely new type of veneering ceramic featuring a unique ASM microstructure (anti-stress-minerals). Because of this dense and homogeneous ASM microstructure Zenoflex dimension produces an extremely high shine, the like of which is rarely achieved with a traditional veneering ceramic, even after the first dentine bake. Very good results in terms of shine and translucency are obtained even if the restoration is underfired. The Zenoflex dimension material owes many of its excellent properties (abrasion comparable to that of natural dentition, gingiva friendly etc.) to its extremely smooth and homogenous surface.

A dental technician using Zenoflex dimension for the first time will find the degree of shine achieved after the first dentine bake remarkably high. However, since there is no rounding of the edges when using the Zenoflex dimension firing program, this is in keeping with the natural properties of the material attributable to the innovative ASM microstructure. Under these conditions (i.e. correct degree of firing) the optimum material properties of Zenoflex dimension are obtained.

If, when using Zenoflex dimension, a shine comparable to that of traditional high-fusing systems is obtained, it is possible that Zenoflex dimension has been slightly underfired. This underfiring is particularly difficult to detect if the user is not yet experienced in using Zenoflex dimension.

As a rule it can be said that veneering ceramics are more sensitive to underfiring (physical properties such as CTE and strength are not correctly adjusted) than to overfiring. It is easy to identify the latter by the rounding of the edges and easy to correct it by slightly reducing the firing temperature (by about 5 – 10 °C)

Note!

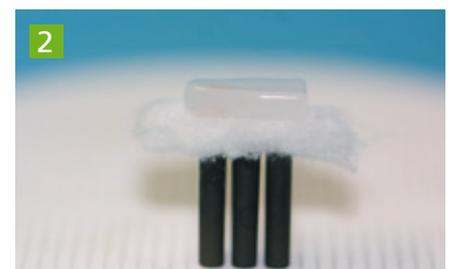
For the reasons given above it is extremely important to obtain the correct degree of firing for the veneering ceramic. Otherwise the best results can not be guaranteed and in exceptional cases (extreme underfiring) cracks and flaking can occur.

In order to achieve this goal, the general firing program of Zenoflex dimension may need to be adjusted to the particular furnace used (each of which has its own firing characteristics). This is easily achieved by using the Zenoflex dimension calibration set to determine the degree of firing and compare the results with a reference sample.

Procedure

First use the tool provided to make a test piece out of Zenoflex dimension Transpa Clear. To do this, fill the mould with ceramic material mixed with Zenoflex dimension Carving Liquid (or alternatively with Retain or Speed Liquid) and dry with a tissue. Then remove the excess ceramic material with a spatula and gently smoothen the surface with your finger.

Then place the firing sample made from Zenoflex dimension Transpa Clear on the firing pins supported on a thin firing cushion and position it at the side of the firing tray (see figs 1 and 2). The thickness of the cushion should not exceed 3 mm.



Positioning of the firing sample – The reference sample is marked with a turquoise X on the rear side.

Important!

Please use the firing trays and pins which are in daily use in the laboratory. Only then can the results obtained when performing the test firing be transferred to the full ceramic work (crowns and bridges), since firing trays and pins have a considerable influence on the degree of firing achieved (see figs. 1 and 2).

Firing program

Now fire the sample as follows, using the same firing program as for fullceramic veneering in accordance with the Zenoflex dimension instructions for use:

General firing program	Preheating Temperature [°C]	Drying Time [min:sec]	Heating Rate [°C/min]	Firing Temperature [°C]	Holding Time [min:sec]	Vacuum [hPa]	Extended Cooling [min]
Dentine Firing 1	575	9:0	45	900	2:00	50	–

Important!

When determining the degree of firing, make sure that the furnace chamber and the insulating material of the furnace are well heated through. **Rule of thumb!** The case of the furnace should be warm.

Analysis

Once the firing sample has been produced, compare it with the reference sample supplied by WIELAND.

Translucency and surface roughness (which can also be felt using the “finger-nail test”) of the firing sample and the reference sample should be identical.

Evaluation

Firing result	Procedure
There is no difference between the manufactured firing sample and the reference sample.	<ul style="list-style-type: none"> You can begin work directly with Zenoflex dimension in accordance with the firing programme printed in the instructions for use (please also note the concluding remark below)..
The firing sample seems to have a higher shine and the edges are slightly rounded.	<ul style="list-style-type: none"> Your furnace overfires slightly. Please lower the firing temperature 5 - 10 °C and make a new firing sample, which should then be identical with the reference sample (otherwise all parameters should be as given in the chart above). The temperature difference determined by this method should be subtracted from ALL end temperatures printed in the processing instructions and now corresponds to your individual “correction factor”. For example, you might now fire the first dentine bake of Zenoflex dimension at 890 °C / 2 min and the second dentine bake at 880 °C / 1 min, etc (a correction factor of -10°C) .
The firing sample shows a lower shine than the reference sample.	<ul style="list-style-type: none"> Your furnace underfires. Please increase the end temperature by 10 - 20 °C and make a new firing sample. (See the chart above for the firing programme, but with the firing temperature now at, for example, 920 °C). Repeat the process until the firing and reference samples are identical. Please add the temperature difference to ALL end temperatures printed in the firing programme given in the instructions for use (including Core Stain / Core Liner, etc). You may have to fire the first dentine bake of Zenoflex dimension at 930 °C / 2 min in order to obtain the correct material properties (correction factor + 30 °C)

Important!

The digital readout shown on the furnace display and the actual temperature set in the interior of the furnace can deviate considerably. This is due to phenomena such as the aging of the furnace or the calibration standard used by the manufacturer. Don't be deterred by these deviations. The only true guideline for your results is the degree of firing achieved in your test firing and its comparison with the reference sample.

Note!

Please note that in the case of very large restorations (or a large number of small ones) more energy is required in order to fire all the crown and bridgework correctly. In order to avoid underfiring, please therefore increase the firing temperature of the 1st dentine bake by 2 °C per extra unit* (based on the “correct” temperature determined by the firing test). * e.g. per 4 °C for a 3 unit bridge (comparing Instructions for use Zenoflex dimension)