

Programming of furnaces from different manufacturers:

Dekema classic

Zirconium oxide: C450 T180 T180.L9 V9 T045.C810 T60 V0 T055.C650 L0

Lithium disilikat: C450 T180 T180.L9 V9 T045.C780 T60 V0 T045.C650 L0

Dekema Series 6

Zirconium oxide

		# 000534689	14:18:20	00:20:05
Tc 400°C	Vc 0 %	Programm-Professional		
001	DD contrast®		MM:SS	
Drying			03:00	
Closing			03:00	
Pre-heating	450 °C		--:--	
Temperature 1	810 °C	45°C / min.	01:00	
Temperature 2	650 °C	55°C / min.	--:--	
Temperature 3	--- °C	--- °C	--:--	
VAC	810 °C	100%	--:--	
Programm Edit			Programm Start	ESC

Lithium disilikat

		# 000534689	14:18:20	00:20:05
Tc 400°C	Vc 0 %	Programm-Professional		
001	DD contrast®		MM:SS	
Drying			03:00	
Closing			03:00	
Pre-heating	450 °C		--:--	
Temperature 1	780 °C	45°C / min	01:00	
Temperature 2	650 °C	45°C / min	--:--	
Temperature 3	--- °C	--- °C	--:--	
VAC	780 °C	100%	--:--	
Programm Edit			Programm Start	ESC

VITA Vacumat 6000M

Zirconium oxide

Pre-drying temperature	450	°C
Pre-drying time	6:00	min.
Pre-vacuum time	0:00	min.
Rise rate	45	°C
Rise time	7:56	min.
Vacuum on temperature	450	°C
Firing temperature	810	°C
Holding time	1:00	min.
Vacuum time	7:56	min.
Vacuum	100	%
Cooling temperature	650	°C
Cooling time	3:00	min.

Lithium disilikat

Pre-drying temperature	450	°C
Pre-drying time	6:00	min.
Pre-vacuum time	0:00	min.
Rise rate	45	°C
Rise time	7:19	min.
Vacuum on temperature	450	°C
Firing temperature	780	°C
Holding time	1:00	min.
Vacuum time	7:19	min.
Vacuum	100	%
Cooling temperature	650	°C
Cooling time	3:00	min.

VITA SMARTFIRE

Zirconium oxide

Pre-drying temperature / Pre-drying time	→ 450 °C 6:00 min.
Pre-drying lift position	<u>Settings:</u> ¹ 2:00 min. at 25 % 2:00 min. at 44 % 2:00 min. at 66 %
Pre-vacuum	100 % 0:00 min.
Rise time / temperature	↗ 45 °C / min. 7:56 min.
Main vacuum	100 % 7:56 min.
Firing temperature and holding time	→ 810 °C 1:00 min.
Cooling temperature	↘ 650 °C
Cooling lift position	75 %



Lithium disilikat

Pre-drying temperature / Pre-drying time	→ 450 °C 6:00 min.
Pre-drying lift position	<u>Settings:</u> ¹ 2:00 min. at 25 % 2:00 min. at 44 % 2:00 min. at 66 %
Pre-vacuum	100 % 0:00 min.
Rise time / temperature	↗ 45 °C / min 7:19 min.
Main vacuum	100 % 7:19 min.
Firing temperature and holding time	→ 780 °C 1:00 min.
Cooling temperature	↘ 650 °C
Cooling lift position	75 %



¹ The combustion chamber of Vita furnaces are closing in three steps during the drying and closing time. This must be set manually.

IVOCLAR PROGRAMAT

Zirconium oxide

Pre-drying temperature	Pre-drying time (mm:ss)	Closing time (mm:ss)	Temperature increase rate	Holding temperature	Holding time (mm:ss)	Vacuum on	Vacuum off
		S	t ↗	T	H	V1	V2
450 °C	03:00	03:00	45 °C / min.	810 °C	01:00	450 °C	810 °C

Lithium disilikat

Pre-drying temperature	Pre-drying time (mm:ss)	Closing time (mm:ss)	Temperature increase rate	Holding temperature	Holding time (mm:ss)	Vacuum on	Vacuum off
		S	t ↗	T	H	V1	V2
450 °C	03:00	03:00	45 °C / min.	780 °C	01:00	450 °C	780 °C

For an ideal firing result:

If the pre-drying time cannot be set, the closing time must be extended from three to six minutes. For an ideal firing result the pre-drying is totally important. By pre-drying, the processed liquids are evaporated before the actual firing process. If this is not done, the liquids in the veneering begin to boil and leave bubbles in the fired ceramic.

Firing chart DD contrast®

Firing parameters on zirconium oxide | All firing processes | Firing parameters can vary depending on the furnace type

Start temperature	Drying time*	Closing time*	Heating rate**	Final temperature	Holding time	Cooling time**	Vakuum***
450 °C	3 min.	3 min.	45 °C / Min.	810 °C	1 min.	3 min.	Max. (=100 %)

Firing parameters on lithium disilicate | All firing processes | Firing parameters can vary depending on the furnace type

Start temperature	Drying time*	Closing time*	Heating rate**	Final temperature	Holding time	Cooling time**	Vakuum***
450 °C	3 min.	3 min.	45 °C / min.	780 °C	1 min.	3 min.	Max. (=100 %)

* If a thicker layer is applied, the drying and closing times should be extended from three to five minutes.

** For solid restorations and significant differences in wall thickness, it is advisable to slow down the heating and cooling rate.

*** The maximum vacuum should be maintained until the specified final temperature is reached.