

Alumina 4N Resin firing schedules and instructions

Formlabs recommends firing parts printed in Alumina 4N Resin twice, first in a burnout oven and then in a sintering kiln. Several firing schedules are recommended below. Refer to [Formlabs Support](#) for the most updated information about firing parts printed in Alumina 4N Resin.

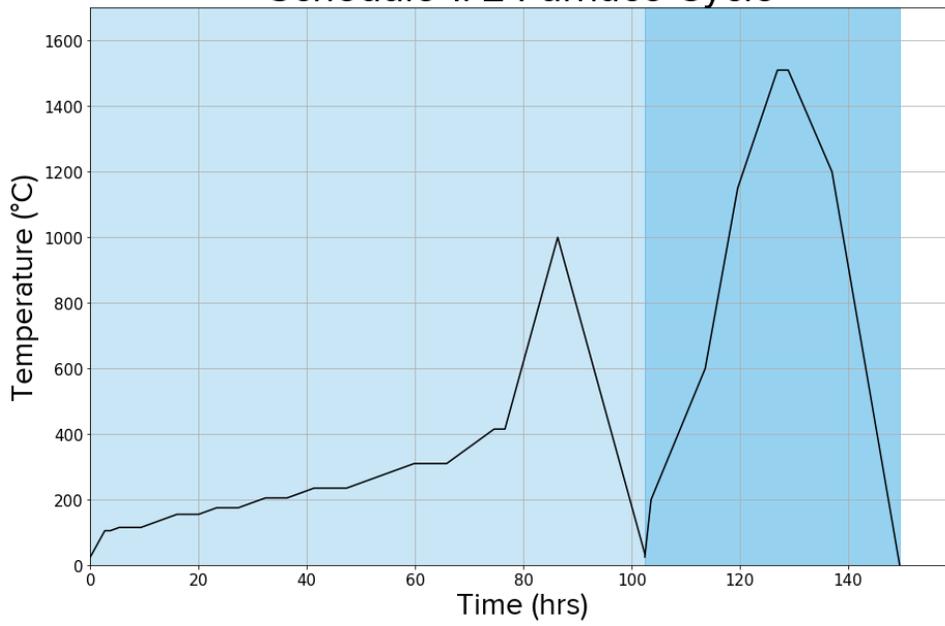
Two-furnace schedule

Formlabs recommends using a 4.5-day burnout and 2-day sintering firing schedule to achieve the mechanical properties shown in the [Technical Data Sheet \(TDS\)](#).

TIME STEP (min)	TOTAL TIME (hr)	END TEMP °C	RATE °C/min
0	0	25	
160	2.67	105	0.5
60	3.67	105	0
100	5.33	115	0.1
240	9.33	115	0
400	16	155	0.1
240	20	155	0
200	23.33	175	0.1
240	27.33	175	0
300	32.33	205	0.1
240	36.33	205	0
300	41.33	235	0.1
360	47.33	235	0
750	59.83	310	0.1
360	65.83	310	0
525	74.58	415	0.2
120	76.58	415	0
585	86.33	1000	1
965	102.42	35	1
0	102.42	25	
70	103.58	200	2.5
600	113.58	600	0.67
360	119.58	1150	1.53
440	126.92	1510	0.82
120	128.92	1510	0

485	137.00	1200	-0.64
750	149.50	0	-1.6

Schedule 1: 2 Furnace Cycle

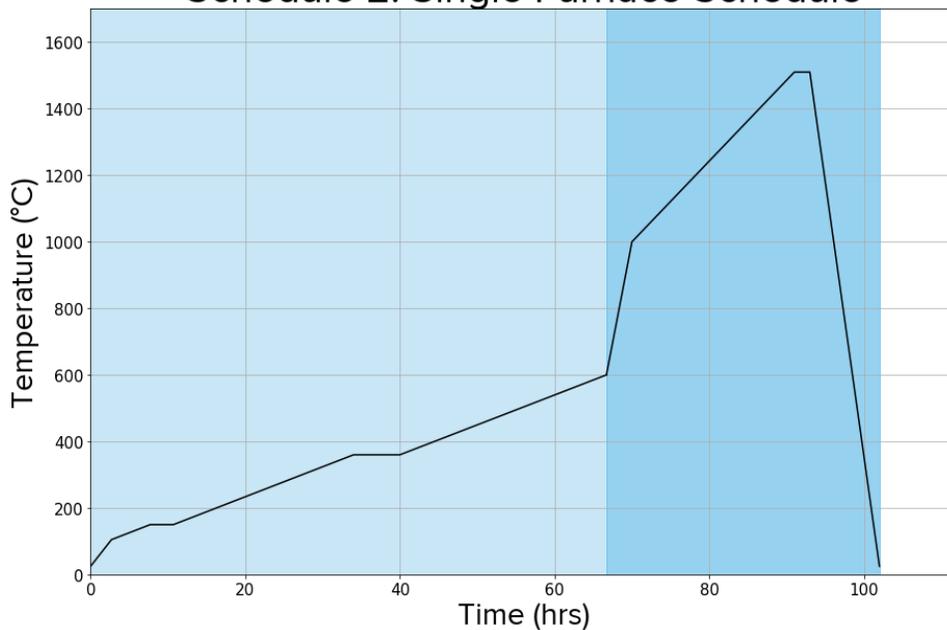


Single-furnace schedule

For firing only in a sintering kiln, Formlabs suggests a schedule of 2.5-day burnout and 2-day sintering. Using a single furnace eliminates the risk of breaking brown parts while transferring from a burnout oven to a sintering kiln. Repeated use of a single furnace schedule may limit the service life of some elements on some kilns, as well as having a slightly less accurate burnout.

TIME STEP (min)	TOTAL TIME (hr)	END TEMP °C	RATE °C/min
0	0	25	
160	2.7	105	0.5
300	7.7	150	0.15
180	10.7	150	0
1400	34.0	360	0.15
360	40.0	360	0
1600	66.7	600	0.15
200	70.0	1000	2
1260	91.0	1510	0.40
120	93.0	1510	0
540	102.0	25	2.75

Schedule 2: Single Furnace Schedule



Fast firing schedule

For extremely thin parts, Formlabs suggests a fast firing schedule of 2-day burnout and 2-day sintering. Only use this schedule for extremely thin parts that do not need a long burnout time to evacuate organics.

TIME STEP (min)	TOTAL TIME (hr)	END TEMP °C	RATE °C/min
0	0	25	
2000	33.33	500	0.25
475	41.25	25	1
0	41.25	25	
300	46.25	1000	3.25
1260	67.25	1510	0.40
120	69.25	1510	0
540	78.25	25	2.75

Schedule 3: Fast Firing Schedule

