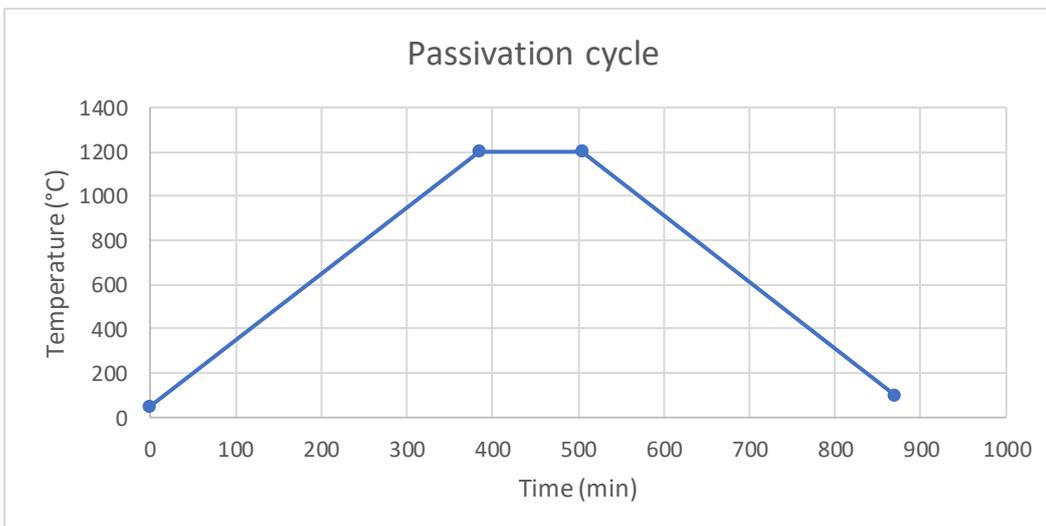


Before using your furnace for the first time, two cycles are necessary to “bake” and passivate it. Run these cycles with the refractory blocks on both sides of the tube but with an empty oven.

Initial cycles			
Cycle	Code	Ramps	Duration
« Baked cycle »	C01=50 ; t01=85 ; C02=300 ; t02=120 ; C03=300 ; t03=65 ; C04=100 ; t04=-121	176°C/h to 300°C 2 hours hold 200°C/h to 100°C	4h30
« Passivation Cycle »	C01=50 ; t01=385 ; C02=1200 ; t02=120 ; C03=1200 ; t03=365 ; C04=100 ; t04=-121	179°C/h to 1200°C 2 hours hold 181°C/h to 100°C	14h30



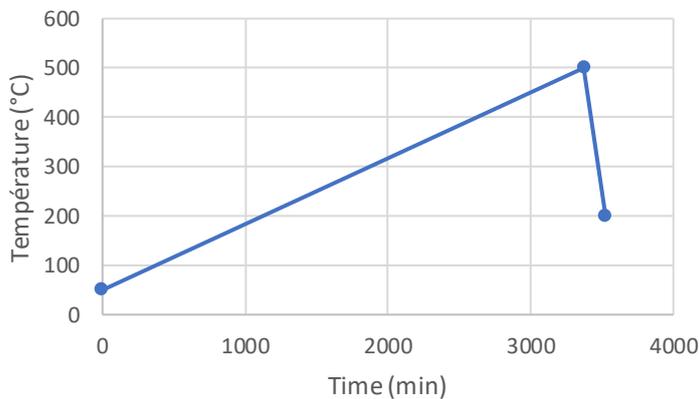
CONTACT NANOE

For ceramics, place the refractory blocks on both sides of the tube. **Do not close the flanges.**

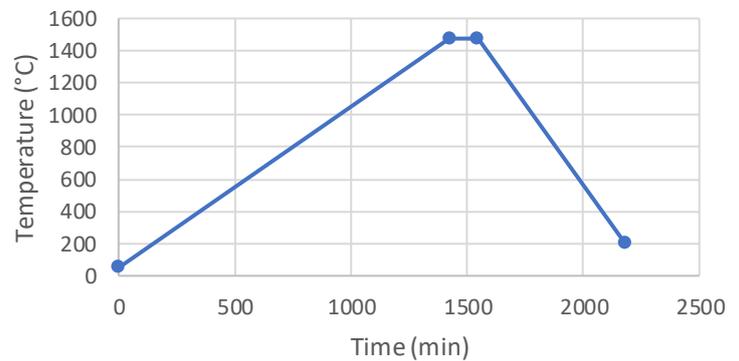
Black/White Zirconia

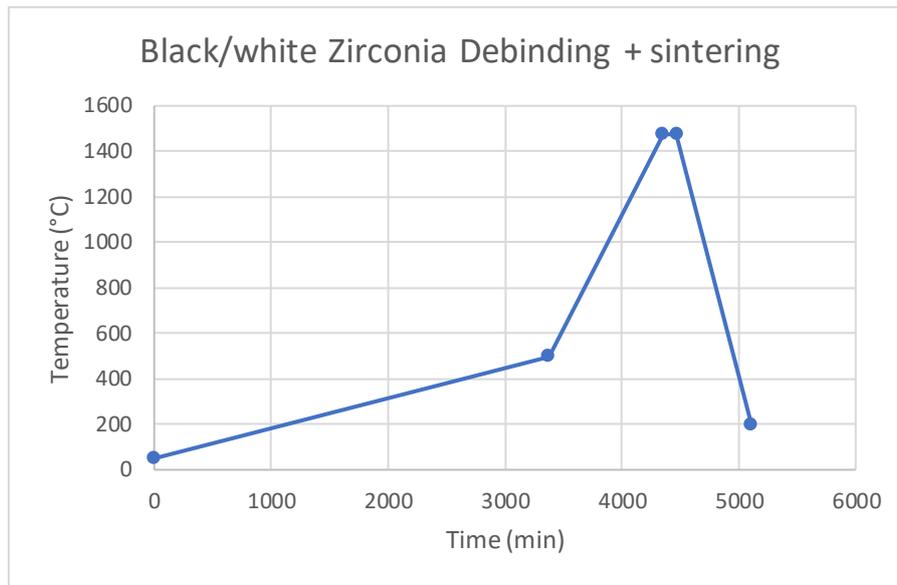
Cycle	Code	Ramps	Duration
Debinding	C01 = 50 ; t01 = 3375 ; C02 = 500 ; t02 = 150 ; C03 = 200 ; t03 = -121	8°C/h to 500°C 120°C/h to 200°C	58h45
Sintering	C01 = 50 ; t01= 1425 ; C02= 1475 ; t02=120 ; C03=1475 ; t03= 637 ; C04= 200 ; t04= -121	60°C/h to 1475°C 2 hours hold 120°C/h to 200°C	36h20
Debinding + sintering	C01 = 50 ; t01 = 3375 ; C02 = 500 ; t02=975 ; C03=1475 ; t03=120 ; C04=1475 ; t04=637 ; C05=200 ; t05=-121	8°C/h to 500°C 60°C/h to 1475°C 2 hours hold 120°C/h to 200°C	85h10

Black/white Zirconia Debinding



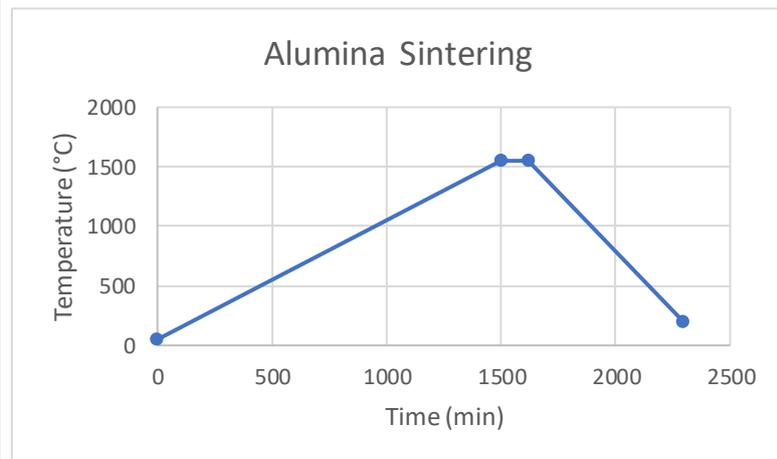
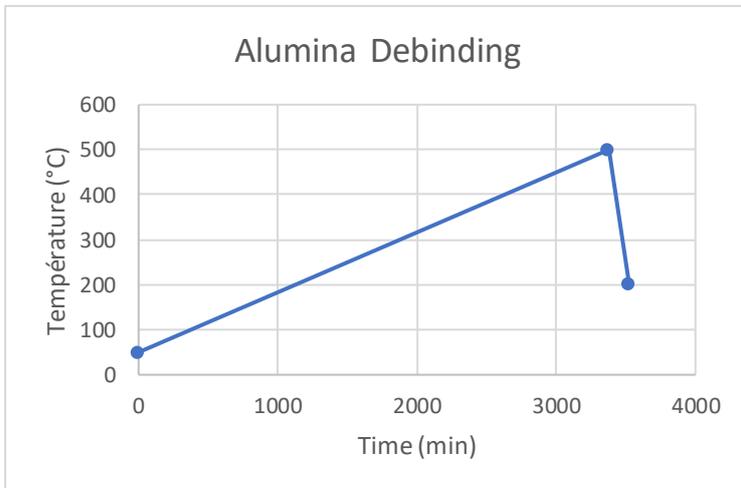
Black/white Zirconia Sintering

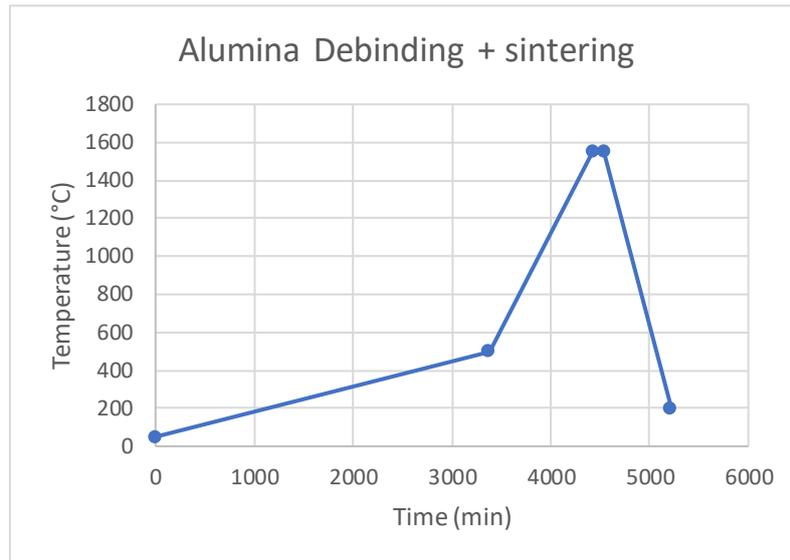




For ceramics, place the refractory blocks on both sides of the tube. **Do not close the flanges.**

Alumina			
Cycle	Code	Ramps	Duration
Debinding	C01 = 50 ; t01 = 3375 ; C02 = 500 ; t02 = 150 ; C03 = 200 ; t03 = -121	8°C/h to 500°C 120°C/h to 200°C	58h45
Sintering	C01 = 50 ; t01= 1500 ; C02= 1550 ; t02=120 ; C03=1550 ; t03= 675 ; C04= 200 ; t04= -121	60°C/h to 1550°C 2 hours hold 120°C/h to 200°C	38h15
Debinding + sintering	C01 = 50 ; t01 = 3375 ; C02 = 500 ; t02= 1050 ; C03=1550 ; t03=120 ; C04=1550 ; t04=675 ; C05=200 ; t05=-121	8°C/h to 500°C 60°C/h to 1550°C 2 hours hold 120°C/h to 200°C	87h00





316L and H13 cycles are performed in an argon mixture with 2.5% hydrogen atmosphere.

For metals, place the refractory blocks on both sides of the tube and **close the flanges**.

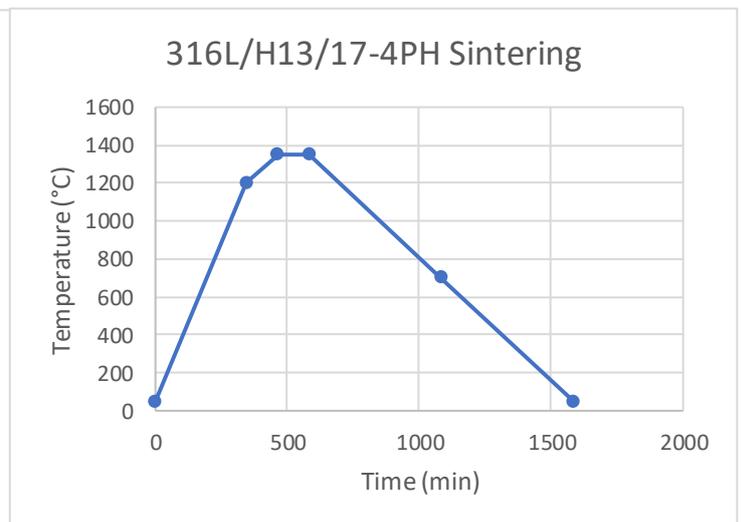
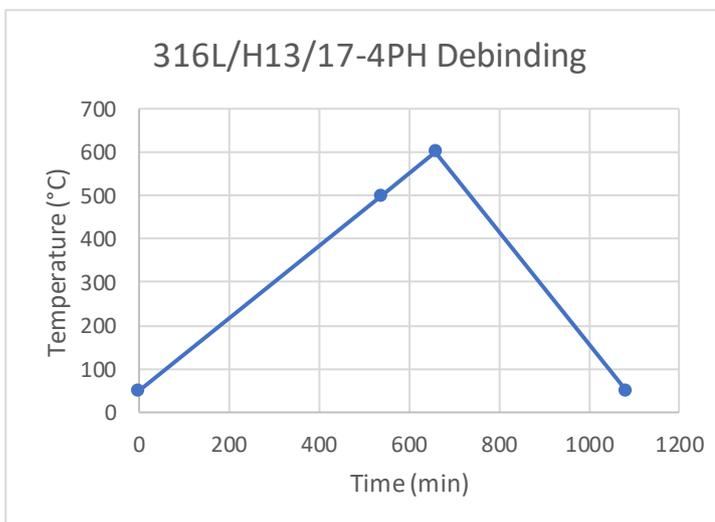
The flow and the pressure must be adjusted.

- Flow: 0.4 – 0.6 LPM (0.5 LPM recommended)
- Pressure: 0.2 bar

See the manual of the tubular furnace for more details.

316L, H13 and 17-4PH

Cycle	Code	Ramps	Duration
Debinding	C01= 50 ; t01= 540 ; C02= 500 ; t02= 120 ; C03= 600 ; t03= 423 ; C04= 50 ; t04= -121	50°C/h to 600°C 78°C/h to 50°C	18h03
Sintering	C01 = 50 ; t01= 345 ; C02= 1200 ; t02=120 ; C03= 1350 ; t03= 120 ; C04= 1350 ; t04= 500 ; C05= 700 ; t05= 500 ; C06= 50 ; t06= -121	200°C/h to 1200°C 50°C/h to 1350°C 2 hours hold 78°C/h to 50°C	26h25
Debinding + sintering (recommended)	C01= 50 ; t01= 540 ; C02= 500 ; t02= 120 ; C03= 600 ; t03= 180 ; C04= 1200 ; t04= 180 ; C05= 1350 ; t05= 120 ; C06= 1350 ; t06= 500 ; C07= 700 ; t07= 500 ; C08= 50 ; t09= -121	50°C/h to 600°C 200°C to 1200°C 50°C/h to 1350°C 2 hours hold 78°C/h to 50°C	35h40



CONTACT NANOe

