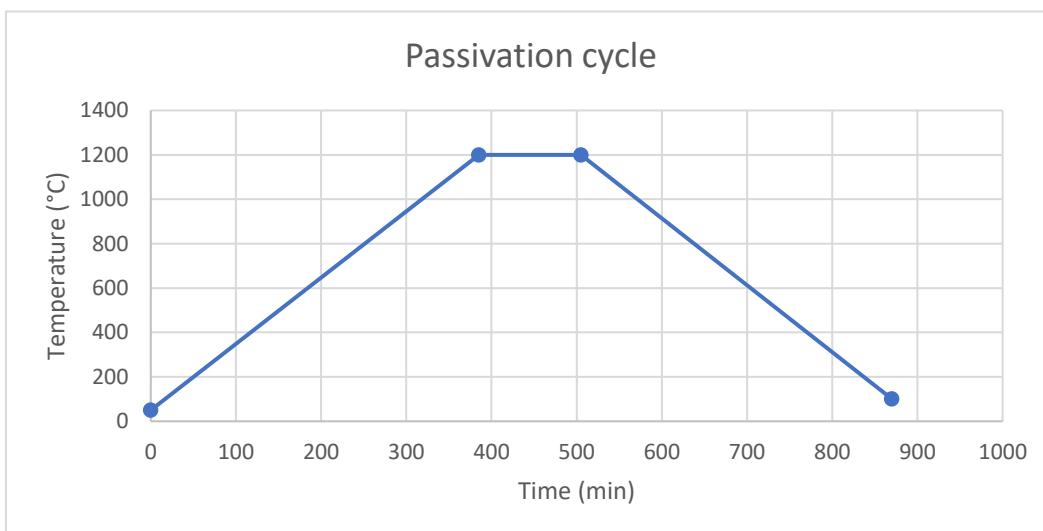


## Initial cycles

Before using your furnace for the first time, two cycles are necessary to “bake” and passivate it. Run these cycles with an empty oven.

Initial cycle		
Cycle	Code	Duration
« Baked cycle »	C01=50 ; t01=85 ; C02=300 ; t02=120 ; C03=300 ; t03=65 ; C04=100 ; t04=-121	4h30
« Passivation Cycle »	C01=50 ; t01=385 ; C02=1200 ; t02=120 ; C03=1200 ; t03=365 ; C04=100 ; t04=-121	14h30



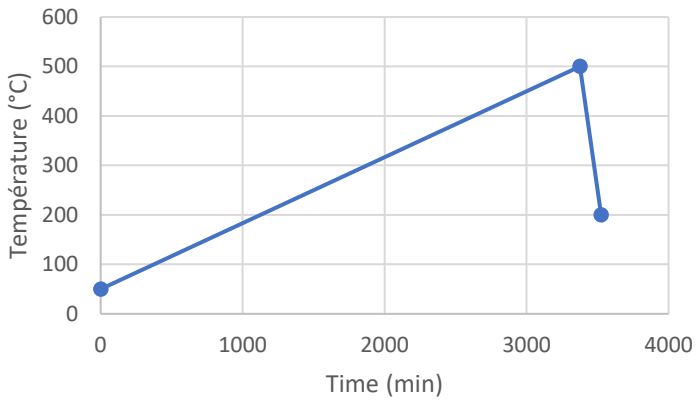
CONTACT NANOE

**Black/White zirconia**

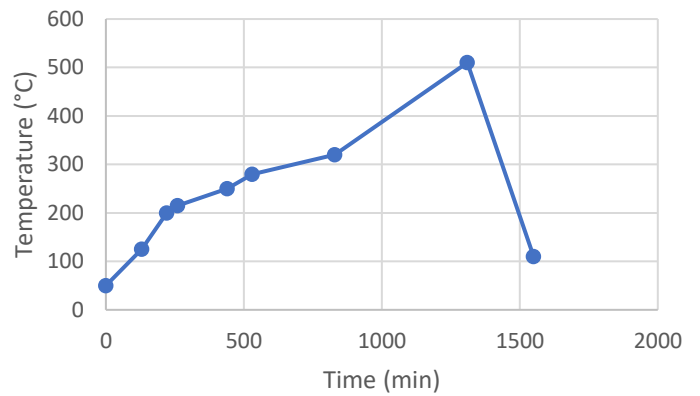
For ceramics, place the refractory blocks on both sides of the tube. **Do not close the flanges.**

Black/White Zirconia		
Cycle	Code	Duration
Slow debinding	C01 = 50 ; t01 = 3375 ; C02 = 500 ; t02 = 150 ; C03 = 200 ; t03 = -121	58h45
Fast debinding (FOR SMALL PARTS)	C01 = 50 ; t01 = 130 ; C02 = 125 ; t02 = 90 ; C03 = 200 ; t03= 40 ; C04= 215 ; t04=180 ; C05= 250 ; t05=90 ; C06=280 ; t06=300 ; C07=320 ; t07 = 480 ; C08=510 ; t08 = 240 ; C09 = 110 ; t09=-121	25h50
Sintering	C01 = 50 ; t01= 1425 ; C02= 1475 ; t02=120 ; C03=1475 ; t03= 637 ; C04= 200 ; t04= -121	36h20
Slow (debinding + sintering)	C01 = 50 ; t01 = 3375 ; C02 = 500 ; t02=975 ; C03=1475 ; t03=120 ; C04=1475 ; t04=637 ; C05=200 ; t05=-121	85h10
Fast (debinding + sintering) FOR SMALL PARTS	C01 = 50 ; t01 = 130 ; C02 = 125 ; t02 = 90 ; C03 = 200 ; t03= 40 ; C04= 215 ; t04=180 ; C05= 250 ; t05=90 ; C06=280 ; t06=300 ; C07=320 ; t07 = 480 ; C08=510 ; t08=965 ; C09=1475 ; t09=120 ; C10=1475 ; t10=637 ; C11 =200 ; t11=-121	50h30

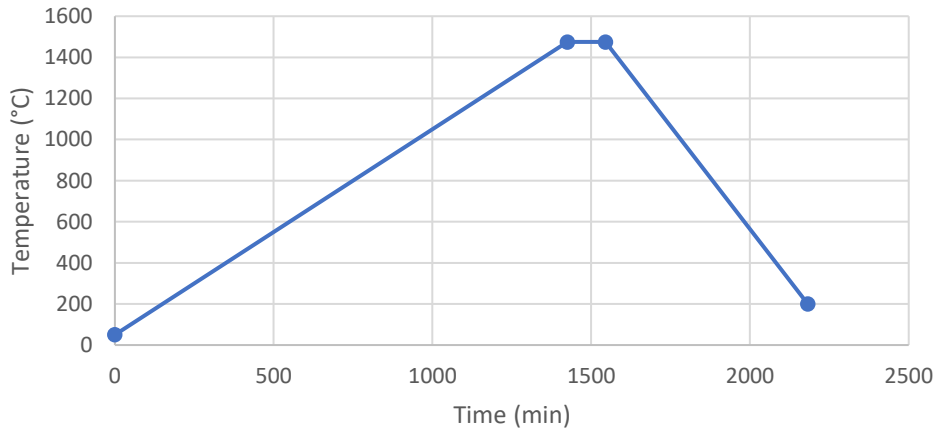
Slow debinding



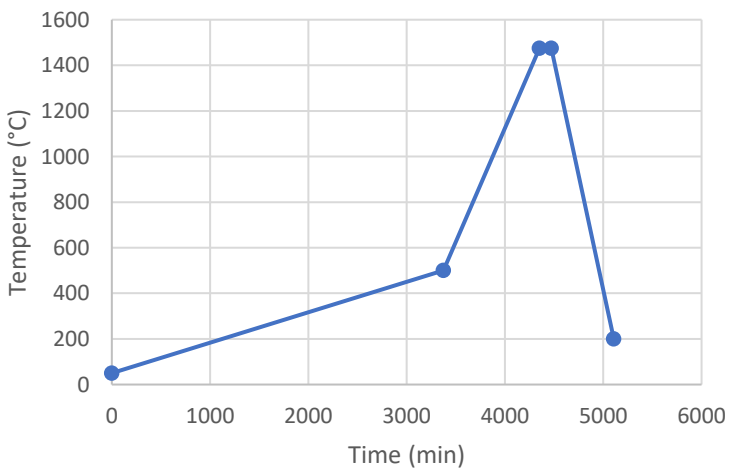
Fast debinding (for small parts)



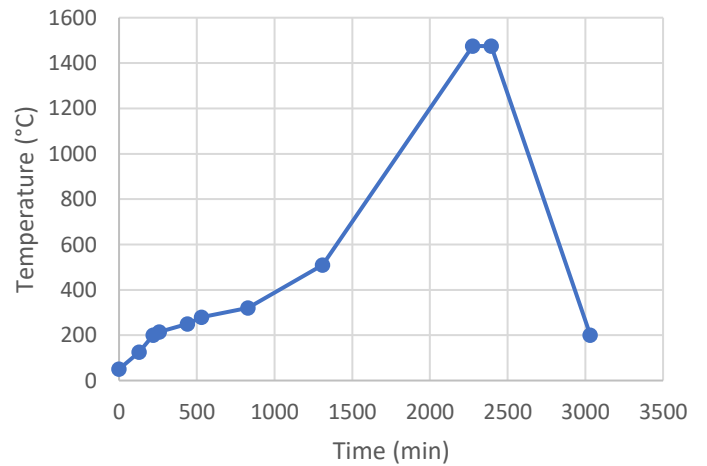
Black/white zirconia sintering



Debinding + sintering Zirconia



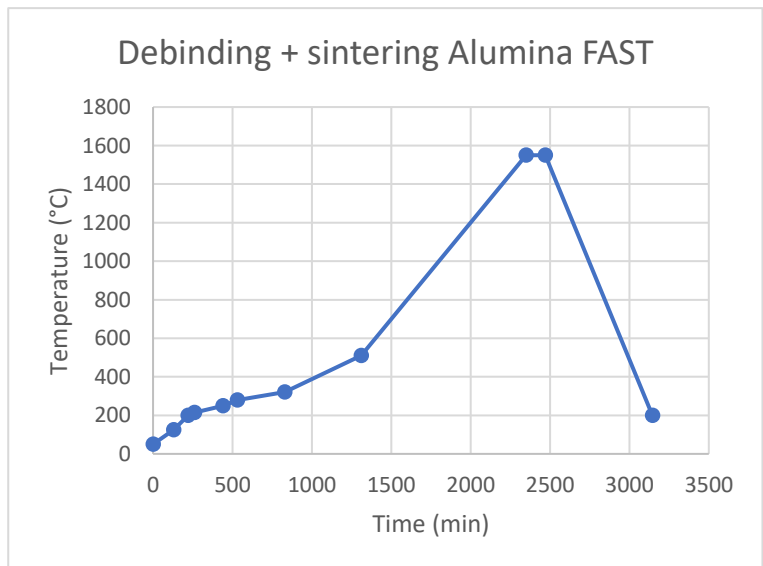
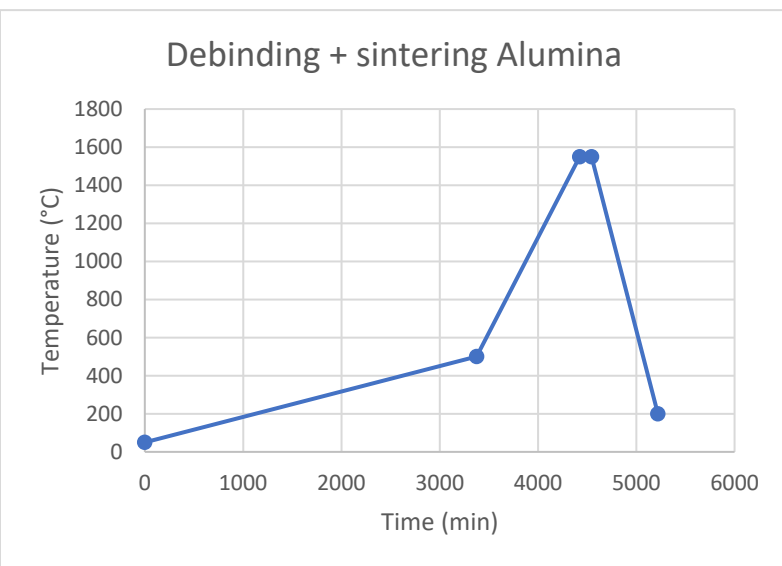
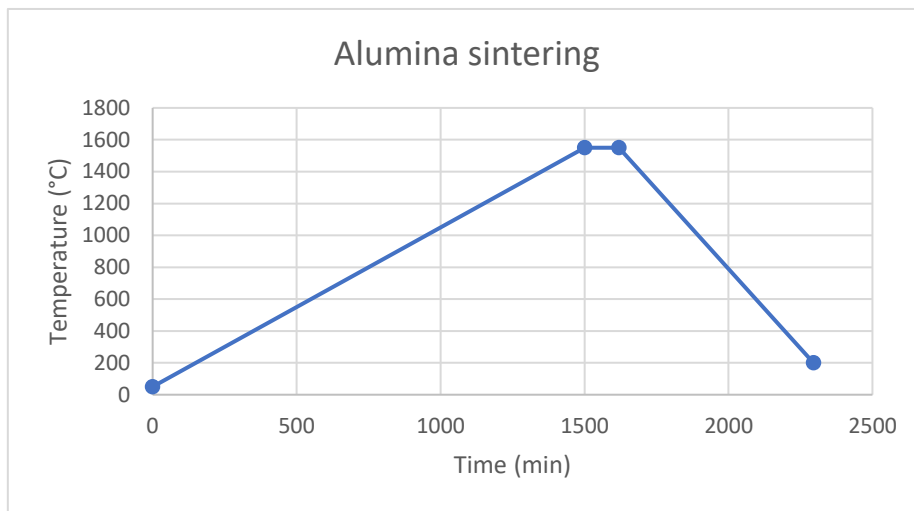
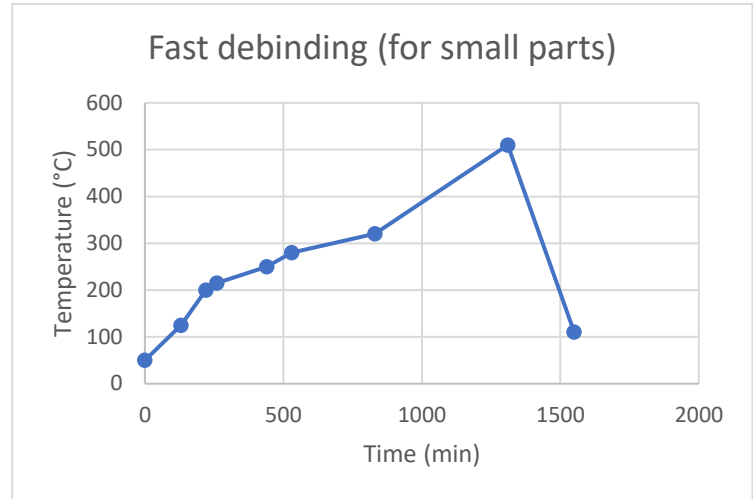
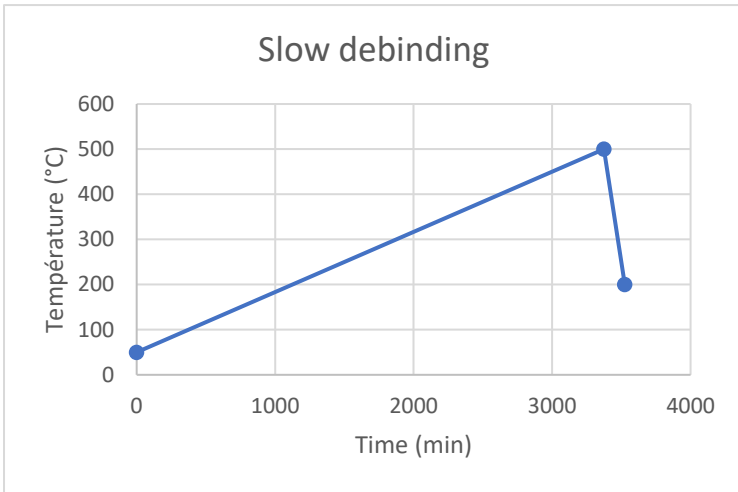
Debinding + sintering Zirconia FAST



## Alumina

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

Alumina		
Cycle	Code	Duration
Slow debinding	C01 = 50 ; t01 = 3375 ; C02 = 500 ; t02 = 150 ; C03 = 200 ; t03 = -121	58h45
Fast debinding (FOR SMALL PARTS)	C01 = 50 ; t01 = 130 ; C02 = 125 ; t02 = 90 ; C03 = 200 ; t03 = 40 ; C04 = 215 ; t04 = 180 ; C05 = 250 ; t05 = 90 ; C06 = 280 ; t06 = 300 ; C07 = 320 ; t07 = 480 ; C08 = 510 ; t08 = 240 ; C09 = 110 ; t09 = -121	25h50
Sintering	C01 = 50 ; t01 = 1500 ; C02 = 1550 ; t02 = 120 ; C03 = 1550 ; t03 = 675 ; C04 = 200 ; t04 = -121	38h15
Slow (debinding + sintering)	C01 = 50 ; t01 = 3375 ; C02 = 500 ; t02 = 1050 ; C03 = 1550 ; t03 = 120 ; C04 = 1550 ; t04 = 675 ; C05 = 200 ; t05 = -121	87h00
Fast (debinding + sintering) FOR SMALL PARTS	C01 = 50 ; t01 = 130 ; C02 = 125 ; t02 = 90 ; C03 = 200 ; t03 = 40 ; C04 = 215 ; t04 = 180 ; C05 = 250 ; t05 = 90 ; C06 = 280 ; t06 = 300 ; C07 = 320 ; t07 = 480 ; C08 = 510 ; t08 = 1040 ; C09 = 1550 ; t09 = 120 ; C10 = 1550 ; t10 = 675 ; C11 = 200 ; t11 = -121	52h25



## Metal H13

H13 cycle are performed in an argon mixture with 2.5% hydrogen atmosphere.

The flow and the pressure must be adjusted.

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

After every treatment (only for metal), run a “cleaning cycle” under ambient atmosphere (inlet and outlet valves open, but with the **refractory blocks stuck to the crucible**)

H13		
Cycle	Code	Duration
Slow debinding	C01 = 50 ; t01 = 3600 ; C02 = 650 ; t02 = 120 ; C03 = 650 ; t03 = 225 ; C04 = 200 ; t04=-121	65h45
Fast debinding (FOR SMALL PARTS)	C01 = 50 ; t01 = 180 ; C02 = 200 ; t02 = 2400 ; C03 = 600 ; t03 = 120 ; C04 = 600 ; t04= 200 ; C05 = 200 ; t05 = -121	48h15
Sintering	C01 = 50 ; t01=1300 ; C02= 1350 ; t02=120 ; C03=1350 ; t03= 575 ; C04= 200 ; t04= -121	33h15
Slow (debinding + sintering)	C01 = 50 ; t01= 3600 ; C02= 650 ; t02=120 ; C03=650 ; t03= 840 ; C04= 1350 ; t04= 120 ; C05 = 1350 ; t05 = 575 ; C06 = 200 ; t06 = -121	87h30
Fast (debinding + sintering) FOR SMALL PARTS	C01 = 50 ; t01= 180 ; C02= 200 ; t02=2400 ; C03=600 ; t03= 450 ; C04= 1350 ; t04= 120 ; C05 = 1350 ; t05 = 575 ; C06 = 200 ; t06 = -121	62h00
Cleaning cycle	C01=50 ; t01=690 ; C02=1200 ; t02=10 ; C03=1200 ; t03=300 ; C04=200 ; t04=-121	16h40

