

C01 Dental Castable Resin Instruction

1. The Product Description

C01 is a transparent green castable resin for dentistry. It is mainly used for direct investment casting of nickel-chromium and cobalt-chromium casting alloys. C01 ensures high precision in both form and dimensional, making it the ideal choice for producing crowns, bridges, and dental brackets that result in a perfect fit every time. This resin's excellent fluidity, speeds up the 3D printing process and produces prints with clear details and high shape accuracy. Additionally, C01 resin has a strong rigidity and does not require post-curing, saving valuable time. The prints also do not need thick supports, and the supports are easily removable, leaving no surface pits and reducing manual grinding time. We provide detailed casting guidance to avoid common "ring cracking" issues and ensure successful casting.

2. Material Properties Data

| | METHOD | C01-DATA |
|---------------------|---------------|----------|
| Shore Hardness | ASTM:D2240-05 | 78D |
| Tensile Strength | ASTM: D638-14 | 26MPa |
| Flexural Strength | ASTM: D790-10 | 39MPa |
| Flexural Modulus | ASTM: D790-10 | 400MPa |
| Notched IZOD | ASTM:D256-10 | 6J/m |
| Elongation at Break | ASTM: D638-14 | 4.50% |
| Viscosity (25℃) | ASTM:D4212-10 | 100mpa.s |

3. Printing

You can download the resin printing parameters from RESIONE's official website. The detailed operations are as follows: RESIONE's official website —>Support—>Settings

4.Cleaning and Post-curing

Cleaning: Cleaning with the ethanol(concentration \geq 95%), or IPA , the cleaning and soaking time shall not exceed 10min. Please use compressed air to dry the prints after cleaning it.

No need for post-curing.

5. Casting Guide

STEP 1: CAD Design

1 Scan



2 Crown and Bridge Design



STEP 2: 3D Print

1 Orient parts for Printing With Supports



2 Printing parameters recommended by RESIONE



STEP 3: Cleaning and post-treatment

- 1 Wash with $\geq 95\%$ alcohol or IPA



- 2 Try on to verify accuracy



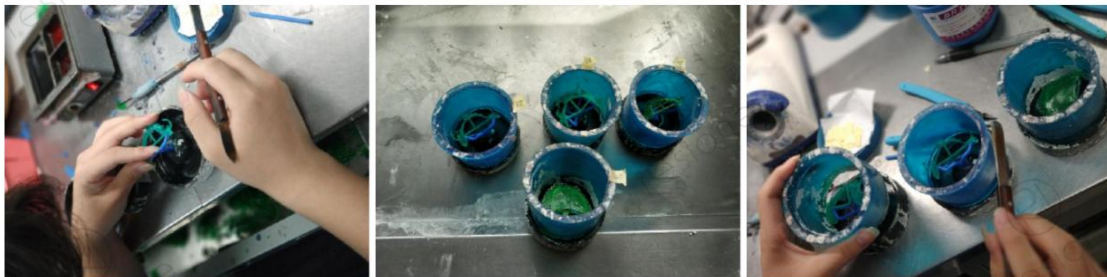
- 3 Support Removal



- 4 Repair the damaged



STEP 4: Seed wax casting channel



Investment

Please follow the instructions provided by the dental investment material supplier. If you do not have dental investment material, you can refer to our scheme

The most suitable temperature for preparing dental investment materials is above 20°C



Powder : Mixed liquid
100g : 22ml

(Mixed liquid=Tap water 13.2ml: Dental casting liquid 6.6ml)

Note: when the temperature is lower than 10°C, the liquid should be adjusted to 20ml; when the temperature is lower than 5°C, the liquid should be adjusted to 18ml. If the thin edge model is not completely cast, the liquid can be appropriately reduced.

Investment

1. Effective operation time: about 3-5 minutes (15-25°C), the higher the room temperature, the shorter the operation time

2. Clean and wipe the mixing container before operation.



3. Add the liquid first and then the powder. Mix manually for about 20 seconds and then vacuum blender for 45 seconds.



Investment

1. The casting ring oscillates on the oscillating machine at the lowest vibration level for 10 seconds. The embedding of paste is carefully poured into the casting dental model, and no vibration is allowed after complete filling.
2. The casting ring is removed as soon as possible after curing and heating up to about 43°C, so that the expansion is more uniform and the ring is not easy to crack
3. The mould is soaked in water and let stand for 25-30 minutes to make the embedding material completely solidified

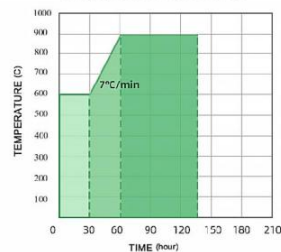
The embedded material deformation caused by moving the die or removing the casting ring prematurely may lead to micro cracks in the model



Burnout Process

Preheat the furnace to 600°C, put in furnace at 600°C, insulation for 30 minutes is the best, adjust the heating rate of 7°C/min to rise to 900°C, insulation for 30 minutes to 60 minutes can be cast successfully.

Burnout Schedule



Note: The casting mold tilts to leave an air inlet at the bottom.

The insulation time shall be adjusted according to the actual number and size of casting molds.



■ The alloy is fused and centrifugal filling



■ Take the model out and polish it

