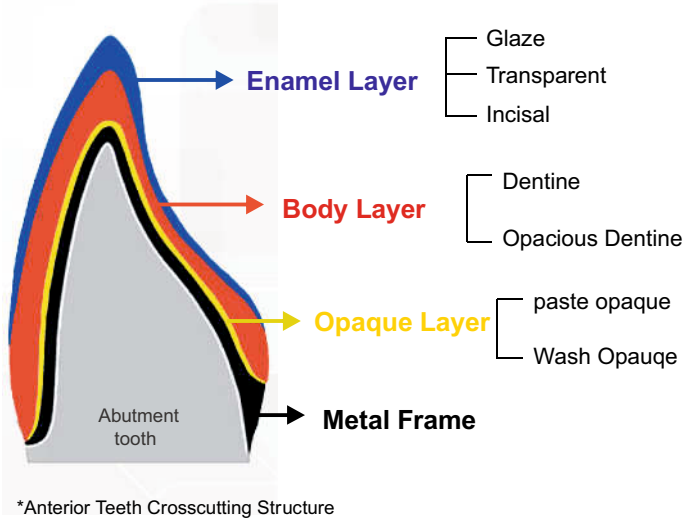
ZERODENT TIBBİ MALZ. SAN. TİC. LTD. ŞTİ
Add: ŞAİR MEHMET EMİN SOKAK NO:12/A FATİH-İST/TURKEY
Tel: +902125317410 +902125889501
Watsapp: +905537554399
Website: www.zerodent.com.tr

CE 2292 ISO13485

shark

Ceramic layer distribution

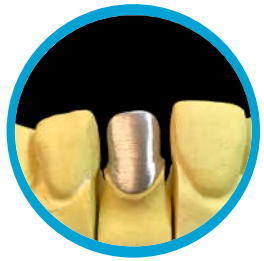


*Anterior Teeth Crosscutting Structure

Application procedures

1. Metal frame treatment
2. Wash Opaque & Opaque application
3. Dentine building
4. Enamel & Transparent building
5. Contouring & Glaze application

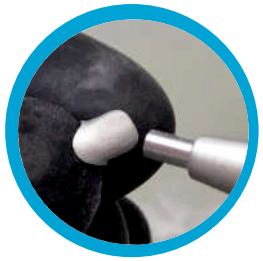
Metal frame treatment



Grinding Metal Frame

Grind the metal frame, to get a smooth surface.

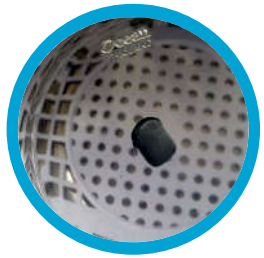
Standard:
1)Metal frame thickness no less than 0.3mm.
2)No sharp edges, to avoid cracks due to thin edges.



Sand Blasting

Sandblast metal surface, to roughen the frame.

Standard:
Roughen surface, strengthening physical bonding force.
No contamination on metal surface, reducing possibilities of bubble problems.

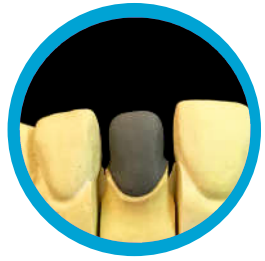


Ultrasonic Cleaning or Steam Cleaning

Clean metal frame with ultrasonic or steam machine for 1 minute.

Standard:

Clean the frame surface to avoid bubbles.



Oxidation

Oxidize the metal crown following the metal suppliers' recommendation.
Standard:
Degas the metal surface, to avoid bubbles.
Attention:
Use tweezer to pick up the metal crown after oxidation.

NE Bond

Used for tolerating opaque with any kind of metal

Mixing

If Bond is dry, use Opaque Liquid to get the optimal condition.

* Use plastic stick to mix, avoid mixing with water or other liquid.

Coating

Use flat-end brush to coat a very thin layer of Bond on metal crown before firing.
* Avoid thick layer on metal crown.
* Avoid water in the brush.
* Seal the Bond bottle after use to avoid contamination.

Firing

* Fire Bond referring to the Firing Parameters.

PS: Firing paretemers can be changed by the user depending the machine performance

Opaque application

Used for covering metal color and differentiating shades.

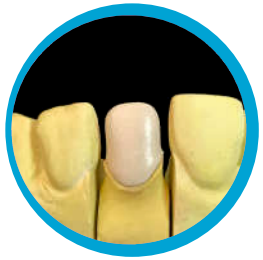
Mixing

If Opaque is dry, use Opaque Liquid to dilute it and get the optimal condition as shown in the picture.
* Use plastic stick to mix, avoid water or other liquid.

Coating

Use plastic stick to coat Opaque evenly on the surface, covering metal color.
Fire until Opaque layer is baked dry.

* Vibrate metal crown after Opaque coating, to ensure Opaque is well laid on the crown.



Firing

Fire referring to Firing Parameters.
* Preheat metal crown until Opaque layer looks white before firing, to avoid bubbles and cracks.
* Opaque layer should be smooth and metal color should not be seen, otherwise additional Opaque layer shall be applied.

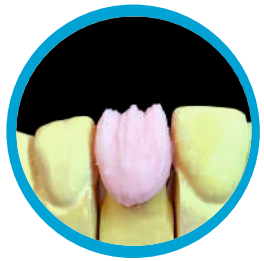
shark

Dentine building up

Mixing

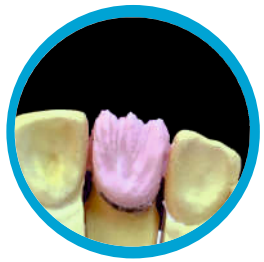
Use Modeling Liquid to mix Dentine powder until it becomes pasty, as shown in the picture.

* Don’t make it too dry or too wet.



Building up Dentine

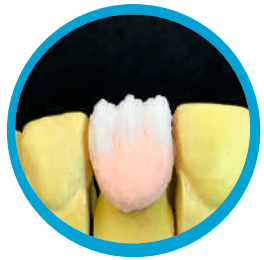
Judge the size of Dentine layer based on space and occlusion.
Due to shrinkage effect, normally Dentine layer should be around 10% larger to compensate the firing shrinkage effect.



Attention

Cervical shade of natural tooth is darker than Dentine layer.
The thickness of Dentine layer should be thinner from the cervical 1/3 to the incisal 1/3 in order to reserve space for Enamel and Transparent layer.

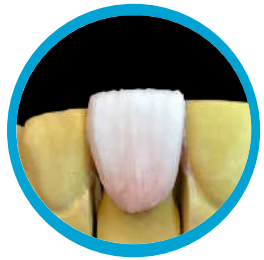
Enamel & Transparent building up



Building up Enamel

Apply Enamel ceramic to the incisal 1/3.

* Use brush to compact and smoothen surface.



Building up Transparent

Apply Transparent to the incisal 2/3 if needed, covering Enamel.
Slight overbuilding is allowed at incisal area.

Add-on

Add-on Dentine & Transparent to interproximal space if needed

*Use tweezer to pick up crown.

Firing

Fire referring to the Firing Parameters (See P14)

*Insufficient firing or over firing may lead to unstable crystalline structure and undesired shades.

Mixing Chart **SHARKMC** – Vita* 3D

Vita 3D Master	CLARAMC	Ratio	Opaque	Enamel	Note
1M1	BD-1 + D-D2	1:1	A1	E1	
1M2	D-A1 + D-A2	5:1	A2	E2	
2L1,5	D-A1 + D-C3	6:1	A2	E2	
2L2,5	D-B2 + D-D4	1:2	B2	E3	
2M1	BD-1 + D-D2 + E5	1:4:1	A2	E2	
2M2	D-A1 + D-A4 + D-D4	6:1:1	A3	E2	
2M3	D-B2 + D-B4	1:1	B3	E3	
2R1,5	D-A1 + ET-3 + E5	3:1:1	D3	E3	
2R2,5	D-A2 + D-C3	8:1	A2	E3	
3L1,5	D-A1 + D-C3	1:2	D4	E3	
3L2,5	D-B4 + D-A3 + E5	4:1:1	B3	E4	
3M1	D-A1 + NT-3 + ET-5	3:2:1	A2	E4	
3M2	D-D3 + D-A4	4:1	D3	E4	
3M3	D-B4 + D-A3 + ET-3	4:1:2	B3	E4	
3R1,5	D-C1 + NT-5 + E5	4:1:3	A2	E4	
3R2,5	D-B3 + NT-3	3:1	A4	E4	
4L1,5	D-C3 + NT-3	5:1	D3	E4	
4L2,5	D-A4 + D-C4 + NT-4	5:2:1	C4	E4	
4M1	D-A2 + NT-5 + ET-5	5:1:3	C2	E4	
4M2	D-A3 + NT-3 + ET-5	2:1:1	A3	E4	
4M3	D-A4 + NT-4	5:2	A4	E4	
4R1,5	D-D3 + NT-5 + ET-5	3:1:1	D3	E4	
4R2,5	D-A4 + NT-5 + E5	2:1:1	A4	E4	
5M1	D-D3 + NT-5 + ET-5	4:2:4	C4	E4	
5M2	D-A3 + D-C4 + NT-5	1:4:2	A3	E4	
5M3	D-A4 + NT-4 + NT-5	3:2:1	A4	E4	

All mixtures are based on our internal test results. Depending on the situation/thickness the mixing ratio has to be adapted.

Firing Parameters

	Initial Temperature	Drying Time	Hight Heat	Delay İn Vacuo	Vacuum Start	Vacuum Finish	Temperature increase per
Oxide Firing	(Metal bY the manufacturer)						
Bond Firing	550°C	6 dk.(6 Min.)	980°C	1Dk. (1 Min.)	550°C	970°C	80°C
1. Opaque Firing	450°C	6 dk.(6 Min.)	960°C	1Dk. (1 Min.)	450°C	950°C	60°C
2. Opaque Firing	450°C	6 dk.(6 Min.)	950°C	1Dk. (1 Min.)	450°C	940°C	60°C
1. Dentine Firing	550°C	6dk.(6Min.)	930°C	1Dk. (1 Min.)	550°C	925°C	53°C
2. Dentine Firing	550°C	5dk.(5Min.)	925°C	1Dk. (1 Min.)	550°C	920°C	53°C
Glaze Powder Firing	500°C	3Dk.(Min)	910°C	1Dk. (1 Min.)	—	—	65°C

Note:
This Firing Parameters chart is only for reference.
Optimal results will be obtained during practical operation.
Firing temperature and holding time shall be adjusted according to furnace condition,crown design a bridge length.

ZERODENT TIBBİ MALZ. SAN. TİC. LTD. ŞTİ
Add: ŞAİR MEHMET EMİN SOKAK NO:12/A FATİH-İST/TURKEY
Tel: +902125317410 +902125889501
Watsapp: +905537554399
Website: www.zerodent.com.tr
CE 2292 ISO13485