CREATION WILLI GELLER INTERNATIONAL – SIMPLY BRILLIANT

WILLI GELLER Creation

INSTRUCTIONS FOR USE
CREATION TITANIUM CERAMICS

ZTM Oliver Heinzle

TI

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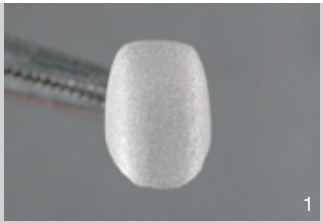
The coping after finishing.

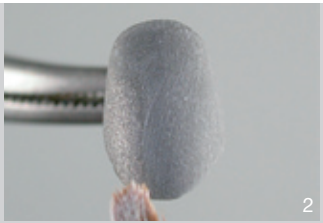
Finish using special, cross-cut hard metal cutters.These should only be used for working titanium. For the best results, the cutters should be cleaned regularly with a steam blaster.

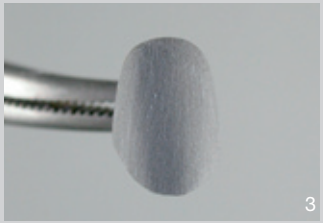
A slow speed of about 15,000 rpm, minimal pressure and grinding in only one direction are crucial when working the titanium coping. Sharp edges and overlaps should be avoided.

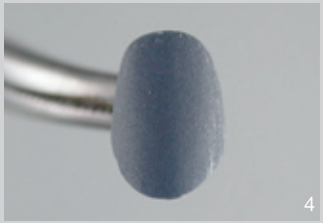
After finishing, sandblast the coping with aluminium oxide.

Sandblast with 2 bar of pressure and a grain size of 120 to 150 µm at a distance of approx. 10 cm from the coping. Blast at an angle of 45 °.The surface then needs to be passivated for 5 minutes. Steam clean the surface.









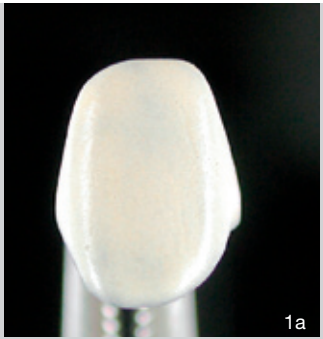
Crea TI Bond before firing.

Once the coping has been finished and blasted,mix the special bonder Crea TI Bond with the special liquid in a thin consistency and apply very thinly and evenly. Therefore the coping should still shine through.

Then fire the bonder under vacuum at 810 °C, 1 minute holding time.

When fired, the bonder is dark and slightly shiny.Thicker areas are slightly grey.They should definitely be avoided.

OPAQUE FIRING



1st OPAQUE FIRING

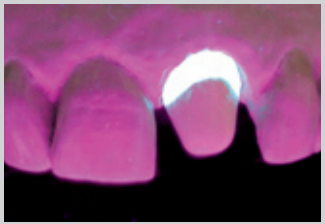
Apply the first opaque in a thin layer to cover the surface, as in the wash firing.

2nd OPAQUE FIRING

The second coating of opaque should mask the metal completely. After firing, the opaque has a shiny surface.

SHOULDER FIRING

View after the first shoulder firing.



UV view of the twice-fired shoulder.

1st SHOULDER FIRING

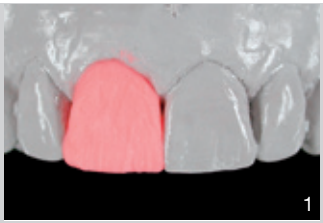
Isolate the shoulder area.

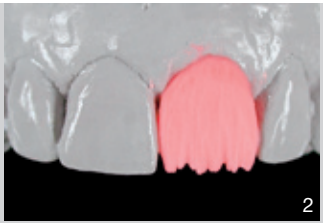
Using the shoulder porcelain that matches the tooth colour, cover the shoulder as far as the preparation margin.

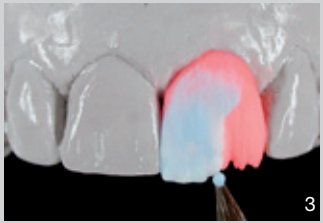
2nd SHOULDER FIRING

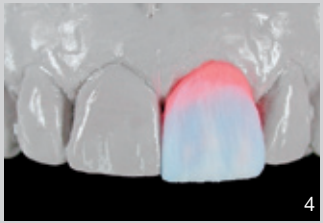
Use the shade of shoulder porcelain that matches the tooth colour to make up for firing shrinkage.

DENTINE BUILD-UP - INCISAL BUILD-UP









Now build up the complete anatomical tooth mould with dentine porcelain.

Cut back the dentine build-up in the incisal and interdental areas to create space for the additional layers of porcelain.

Then add to the dentine build-up individually with incisal and transparent porcelains.

Over-contour the length slightly in comparison with the adjacent teeth.

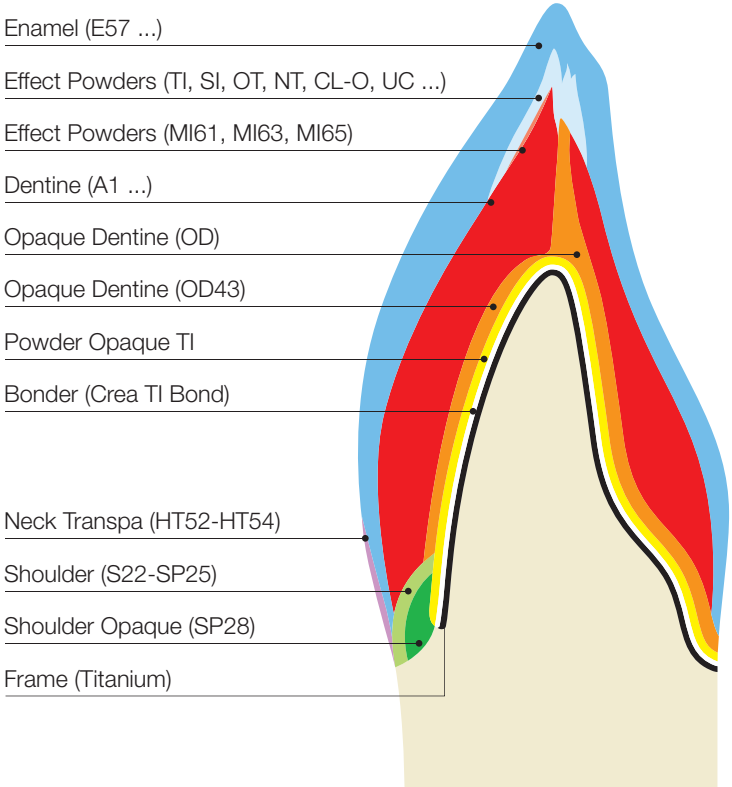
Crown after the first firing.

CORRECTION FIRING - GLAZE FIRING

Before the second dentine firing, finish the crown and clean with a steam blaster and ultrasonic cleaner. Then build it up to the final form by adding transparent and enamel porcelains.

After the glaze firing, match the surface of the porcelain to the situation in the mouth by mechanical polishing.

CREATION TI BUILD UP DIAGRAMME



COLOUR CHART

Vita® Shade		A1	A2	A3	A3,5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
Powder Opaque	16	A1	A2	A3	A3,5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
Powder Opaque Modifier	4	OM-12 pink				OM-13 lilac				OM-16 ochre				OM-17 brown			
Opaque Dentine Modifier	5	OD-32 havanna				OD-37 curry				OD-41 orange				OD-43 ivory			OD-44 cuba
Dentine	16	A1	A2	A3	A3,5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
Enamel	4	E-58	E-58	E-59	E-59	E-60	E-57	E-59	E-59	E-59	E-60	E-59	E-59	E-60	E-60	E-59	E-59
Clear	2	CL-0												Window UC			
Transpa	6	NT neutral			OT opal			TI-1 blue			TI-3 pink			TI-4 yellow			TI-5 grey
Effect Enamel	7	PS-0 white		PS-3 orange		SI-02 medium yellow			SI-04 light orange			SI-06 heavy orange			SO-10 blue		SO-11 orange
Neck Transpa	3	HT-52 khaki					HT-53 sand						HT-54 honey				
Shoulder Powders	5	SP-22 flamingo			SP-23 sand			SP-24 gold				SP-25 red brown				SP-28 opaque yellow	
Make In	3	MI-61 ivory					MI-63 honey yellow						MI-65 gold				
Approximal Dentine	2	AD-1 light yellow								AD-2 orange							
Gingival	1	G-2 dark pink															
Glaze	1	Glaze-GL															
Crea TI Bond	1	Crea TI Bond															
Bleach Opaque	1	O-AB															
Bleach Dentine	3	BD-A						BD-B						BD-B0			
Bleach Enamel	1	S-AB															
Bleach Shoulder	1	SP-AB															

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FIRING CHART

	Preheating Temperature	Drying Time	Raise of Temperature	V	Final Temperature	Holding Time	Appearance
Bonder Firing	450 °C	4 min.	55 °C/min.	+	810 °C	1 min.	Shining
1st Opaque Firing	450 °C	4 min.	55 °C/min.	+	810 °C	1 min.	
2nd Opaque Firing	450 °C	4 min.	55 °C/min.	+	810 °C	1 min.	
1st and 2nd Shoulder Firing	450 °C	4 min.	45 °C/min.	+	810 °C	1 min.	
1st Dentine Firing	400 °C	6 min.	45 °C/min.	+	780 °C	1 min.	
2nd Dentine Firing	400 °C	6 min.	45 °C/min.	+	775 °C	1 min.	
Glaze Firing	450 °C	2 min.	45 °C/min.	-	785 °C	-	
Glaze Firing with Glaze Powder	480 °C	2 min.	45 °C/min.	-	780 °C	1 min.	

The firing parameters given above are guidelines, which always need to be adjusted to the furnace used for firing and the situation of the furnace.
The important thing is to obtain the right firing result.

PHYSICAL PROPERTIES

Properties	Measure	Value	Norm
Dentine Firing	°C	780	
Coefficient Thermal Expansion (25 ° – 500°C)	10^{-6} xK^{-1}	2 Firings: 8,6 ± 0,3 4 Firings: 8,6 ± 0,3	
Glass Transition Temperature	°C	575 ± 10	
Solubility	µg/cm^2	11	max. 100
Density	g/cm^3	2,45	
Flexural Strength	MPa (Nm^2)	80	min. 50
Median Grain Size	D 50%	60	

All tested materials conform to EN ISO 9693:2000. The technical and physical values quoted relate to samples produced in-house and to our own measuring instruments.

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