

BASIC LINE / INDIVIDUAL LINE / TOUCH UP

ceraMotion®
Me

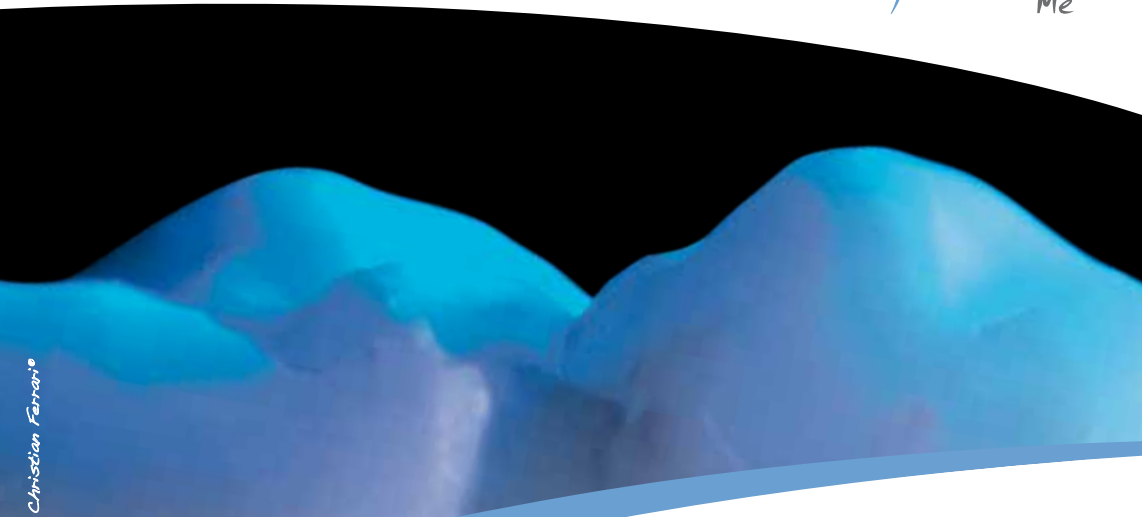


Photo: © Christian Ferrario

Instructions for Use

ceraMotion® Me – Metal ceramic



D
DENTAURUM

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You will find a shortened version of the basic instructions (Basic Line) in part one, which includes all the important information you will require. In part two you will find the information for the individualised layering technique (Individual Line).

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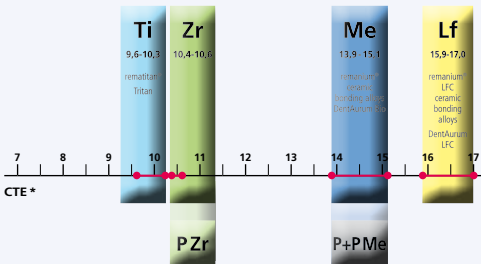
Classification CE 0483

ceraMotion® Me is a class 1a bonding ceramic (according to DIN EN ISO 6872:2008) which is used to veneer frameworks made from precious metal alloys or non-precious metal alloys and for the individualised layering of ceraMotion® P+PMe (press and press-on ceramic).

Indication

Allocation of ceramic to framework material

ceraMotion® Veneering ceramic



ceraMotion® Press ceramic

* CTE – Coefficient of thermal expansion of the framework material (10⁶ K⁻¹, 25 – 500 °C / 77-932 °F)

The ceramic material ceraMotion® Me is suitable for use on dental alloys with a thermal expansion of 13.9 to 15.1 · 10⁻⁶ K⁻¹ (25-500 °C / 77-932 °F).

This material can also be used to complete framework structures made of ceraMotion® P+PMe.

ceraMotion® Me must not be used on frameworks made of high performance ceramics (Al₂O₃, ZrO₂), titanium or titanium alloys, alloys containing more than 30 % silver, dental alloys exceeding the specified CTE range and frameworks made of ceraMotion® PZr.

ceraMotion® Me must not be used if there is a known intolerance to any constituent.

Framework design

The substructure is an anatomically reduced version of the finished tooth, whereby corners or edges within the framework must be avoided. The thickness of the fired ceramic material must not exceed 2 mm.

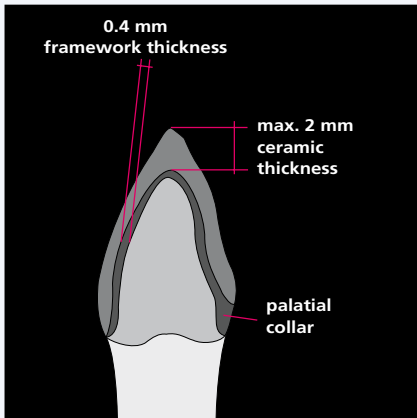


Fig. 1: framework design of an anterior crown

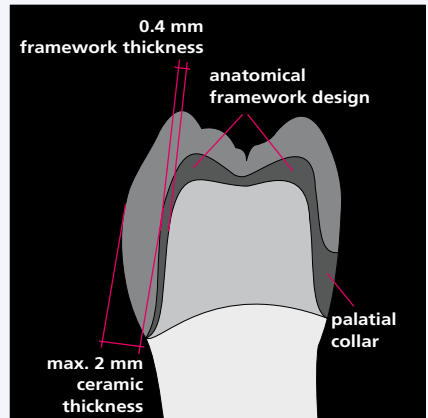


Fig. 2: framework design of a molar crown

Preparing the framework

When grinding, sandblasting and carrying out the oxide firing, please follow the alloy manufacturer's instructions.

Prepare remanium® alloys using a cross-cut tungsten carbide bur, sandblast using Al_2O_3 (125 μm) blasting material and then clean. remanium® does not require an oxide firing (Fig. 3).

Further information on preparation for frameworks made of precious metal alloys can be found online at www.remanium-kompendium.de

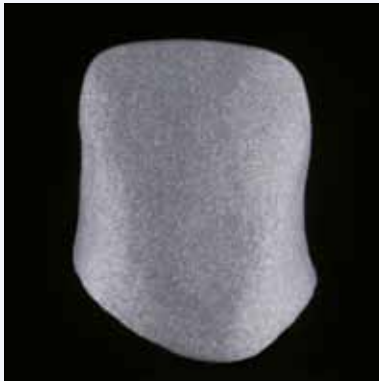


Fig. 3: framework

Note:

Dental alloys which contain zinc (Zn) must be placed in a pickling solution for 5-10 min after the oxide firing, see manufacturer's instructions for use.



Fig. 4: correctly fired material sample



Fig. 5: underfired material sample

Firing control

We recommend carrying out a test firing in order to assess the firing temperature of your furnace, as this is the only method of determining the firing procedure correctly.

The test sample is prepared by mixing transpa material T with the Modelling Liquid (REF 254-000-10).

Carry out the first dentin firing. When firing, place the test sample onto platinum foil and not onto a piece of firing wool, otherwise the results may appear cloudy.

The furnace temperature is correct if the fired test sample is clearly transparent and has sharp edges (see Fig. 4).

If the furnaces end temperature is too high, the fired test sample will be extremely shiny and has no sharp edges. If the end temperature is too low, the fired test sample will be milky white in colour (see Fig. 5).

Please increase/decrease the end temperature of the furnace in 10 °C / 50 °F steps. Subsequently fire a new test sample.



Fig. 6: application with a brush



Fig. 7: Paste Opaque after the first firing

Paste Opaque

Paste Opaque:

Paste Opaque can be used for all precious and non-precious metal alloys, as well as for galvano gold.

Apply an even covering of the Paste Opaque to the framework, a wash firing is not required (please observe the alloy manufacturer's instructions).

Note:

Before use, mix the Paste Opaque in its pot using a glass or agate spatula. The paste should have a creamy consistency. In order to achieve the correct consistency after mixing, it is possible to add Paste Liquid (REF 254-006-02) in very small quantities.

Avoid contact between Paste Opaque and water; clean the brush with Paste Liquid.



Fig. 8: second layer of Paste Opaque



Fig. 9: Paste Opaque after firing

	Start temp. (°C / °F)	Drying time (min)	Heat rate (°C / °F/min)	Vacuum start (°C / °F)	Vacuum end (°C / °F)	Firing temp. (°C / °F)	Holding time (min)
Paste Opaque 1 + 2	500 / 932	8	75 / 167	500 / 932	950 / 1742	950 / 1742	1 (with vacuum)

Powder Opaque

Opaque can be used on all indicated dental alloys. Apply the Opaque to the framework in an even coating in 1-2 layers, no wash firing is required.

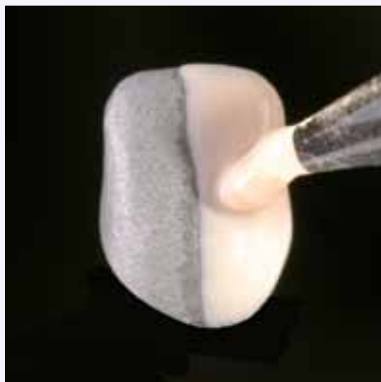


Fig. 10: first application of Opaque



Fig. 11: Opaque after firing

Note: Mix the Opaque with Powder BOL Liquid (REF 254-008-10) to a creamy consistency. The Opaque can also be applied using the spray-on-technique.

	Start temp. (°C / °F)	Drying time (min)	Heat rate (°C / °F/min)	Vacuum start (°C / °F)	Vacuum end (°C / °F)	Firing temp. (°C / °F)	Holding time (min)
Powder Opaque 1 + 2	500 / 932	6	75 / 167	500 / 932	930 / 1706	930 / 1706	1 (with vacuum)

Layering technique: Basic build-up

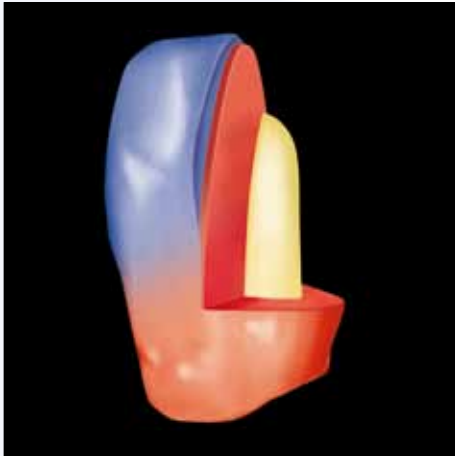


Fig. 12: basic build-up

- Opaque
- Dentin
- Incisal

Build-up

Build-up the complete anatomical tooth shape in Dentin, cut back the Dentin in the region of the incisal third. We approve to use ME Standard Modelling Liquid (REF 254-000-10)!

Note:

Up to 10 % of Stains/Body Stains can be mixed into the ceramic material.



Fig. 13: complete anatomical tooth shape



Fig. 14: cutting back the Dentin in the incisal third



Fig. 15: applying the incisal material



Fig. 16: build-up before the first firing

Build-up

Applying the incisal material

Incisal allocation table:

Dentin shade	Incisal Standard	Incisal Opal	Incisal Transpa
A1, A2, B1	I 1	IO 1	IT 1
A3, A3,5, B2, B3, B4, C1, C2, C3, D2, D3, D4	I 2	IO 2	IT 2
A4, C4	I 3	IO 3	IT 3

Note:

Build the tooth slightly larger than the actual anatomical size in order to compensate for ceramic shrinkage during firing (Fig. 15 + 16). When building-up a bridge, the teeth should be separated interdentally all the way back to the framework before the first firing, in order to control the shrinkage.

	Start temp. (°C / °F)	Drying time (min)	Heat rate (°C / °F/min)	Vacuum start (°C / °F)	Vacuum end (°C / °F)	Firing temp. (°C / °F)	Holding time (min)	Long time cooling
Dentin firing 1	500 / 932	6	55 / 131	500 / 932	870 / 1598	870 / 1598	2	–

Firing guide line

ceraMotion® Me has been developed specially for rapid cooling, this also concerns the use of non-precious alloys.

The surface of the ceramic should show a shiny appearance after baking.

For long-span bridges with massive pontics we are recommending the use of pins in every crown to support the construction.

The given parameter is intended only as a guideline, each dental furnace should be individually adjusted due to deviations through different manufacturers and the age of the furnace.

The firing table is intended for furnaces which are regularly calibrated with fine silver.

All information has been compiled with care, it is, however, provided without guarantee.

Correction technique

Results after the first dentin firing and correction build-up.



Fig. 17: results after the first dentin firing



Fig. 18: shape correction with Dentin and Incisal after the first dentin firing

Correction technique



Fig. 19: shape correction with Dentin and Incisal after the first dentin firing

Note:

When working on a bridge construction, apply Dentin to the interdental spaces and basal areas on the pontics first.

	Start temp. (°C / °F)	Drying time (min)	Heat rate (°C / °F/min)	Vacuum start (°C / °F)	Vacuum end (°C / °F)	Firing temp. (°C / °F)	Holding time (min)	Long time cooling
Dentin firing 2	500 / 932	4	55 / 131	500 / 932	870 / 1598	870 / 1598	1	–

Processing

Shape correction and finishing

Use recommended burs for the shape correction.

Grind over the entire surface area evenly and clean thoroughly before the glaze firing.



Fig. 20: finishing

Glaze firing

Individual colour nuances can be applied to the surface using Stains/Body Stains (Fig. 21). If required, apply glaze material mixed with Stains Liquid (REF 254-010-02) to the entire piece of work.



Fig. 21: Stains/Glaze application

	Start temp. (°C / °F)	Drying time (min)	Heat rate (°C / °F/min)	Vacuum start (°C / °F)	Vacuum end (°C / °F)	Firing temp. (°C / °F)	Holding time	Long time cooling
Stains fixation bake	500 / 932	4	75 / 167	500 / 932	860 / 1560	860 / 1560	20 s	–
Glaze firing	500 / 932	4	75 / 167	500 / 932	870 / 1598	870 / 1598	1 min	–
Glaze firing with glaze liquid	500 / 932	6	75 / 167	500 / 932	860 / 1560	860 / 1560	1 min	–

Finishing

The finished piece of work after glaze firing.



Fig. 22: labial view of the finished piece of work



Fig. 23: labial view of the finished piece of work

Preparing the framework for the ceramic shoulder

Please follow the alloy manufacturer's instructions for finishing, sandblasting and the oxide firing.

Prepare remanium® alloys using a cross-cut tungsten carbide bur, sandblast with Al_2O_3 (125 μm) and clean. remanium® does not require an oxide firing (Fig. 1).

Further information on preparation for frameworks made of precious metal alloys can be found online at www.remanium-kompodium.de



Fig. 1: reduced framework, sandblasted

Opaque



Fig. 2: individual Paste Opaque

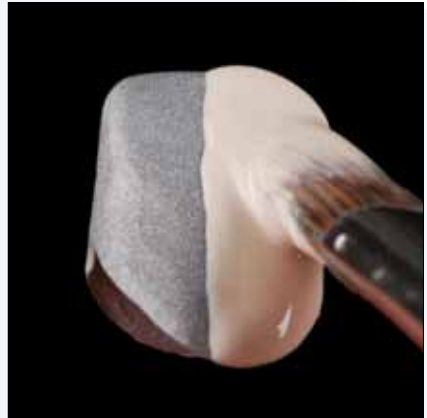


Fig. 3: application with a brush

Opaque



Fig. 4: Paste Opaque fired with inlaid white band



Fig. 5: Paste Opaque fired with inlaid orange effects

Layering technique: Individual build-up

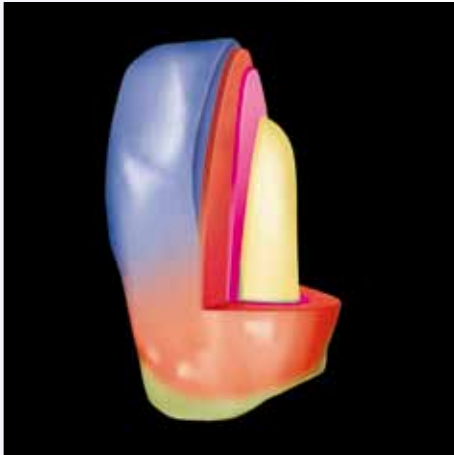


Fig. 6: individual build-up

- Opaque
- Shoulder
- Base Dentin
- Dentin
- Incisal

Mixing table shoulder materials

ceraMotion® Me has four different shoulder materials which can be divided into the shade groups A-B-C-D. With the shoulder material “white” it is possible to individually mix all shade nuances from A1 to D4 by following the information in the mixing table. By adding the shoulder material “transparent”, the translucence is increased in the shoulder. Use Shoulder Liquid (REF 254-004-02)!

Tooth shade	A	B	C	D	white
A1	50 %				50 %
A2	65 %				35 %
A3	70 %				30 %
A3,5	100 %				
A4	100 %				
B1		35 %			65 %
B2		80 %			20 %
B3		90 %			10 %
B4		100 %			
C1			50 %		50 %
C2			75 %		25 %
C3			85 %		15 %
C4			100 %		
D2				60 %	40 %
D3	60 %			30 %	10 %
D4				100 %	

Notes

Shoulder



Fig. 7: first shoulder material build-up



Fig. 8: results after the first shoulder firing

	Start temp. (°C / °F)	Drying time (min)	Heat rate (°C / °F/min)	Vacuum start (°C / °F)	Vacuum end (°C / °F)	Firing temp. (°C / °F)	Holding time (min)	Long time cooling
Shoulder firing 1 + 2	500 / 932	6	55 / 131	500 / 932	900 / 1652	900 / 1652	1	–



Fig. 9: second shoulder material build-up



Fig. 10: fired shoulder

Build-up

Building-up the complete anatomical tooth shape in Dentin.



Fig. 11: complete anatomical tooth shape



Fig. 12: cutting back the Dentin in the incisal third



Fig. 13: applying a seam of Transpa



Fig. 14: applying Dentin Modifier Fluo

Note: The individual build-up shown is a suggestion and should be adjusted according to the desired effect.

Build-up



Fig. 15: inlaid white band, orange effect in the cervical area



Fig. 16: alternate layering with I 2 and IO 2



Fig. 17: cutback, application of Dentin Modifier Fluoro orange, delicately spread up to the incisal edge

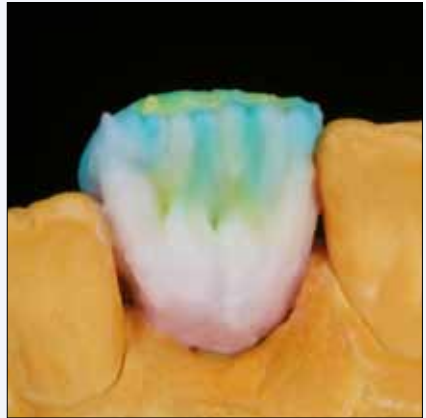


Fig. 18: addition of Dentin and Incisal Opal

Build-up



Fig. 19: results after the first dentin firing



Fig. 20: results after the first dentin firing

Correction technique and finishing



Fig. 21: build-up with Dentin, Incisal and Transpa 1/1



Fig. 22: grinding and finishing the surface

Finishing



Fig. 23: individual Stains/Glaze application



Fig. 24: finished piece of work



Fig. 25: finished piece of work



Fig. 26: finished piece of work

Creative firing / Additional firing

a) Creative firing

- very natural marginal and incisal ridges
- customised degrees of glaze on a single restoration
- adjustment and glaze firing in one



Fig. 27: application of Touch Up material Dentir/
Incisal, mixed with Modelling Liquid



Fig. 28: finished restoration

Note: Adjustments can be made with or without glaze material. When using glaze material, first cover the entire surface with glaze material, stain the restoration and then apply Touch Up material over the glaze material and staining.

	Start temp. (°C / °F)	Drying time (min)	Heat rate (°C / °F/min)	Vacuum start (°C / °F)	Vacuum end (°C / °F)	Final temp. (°C / °F)	Holding time	Long time cooling
Glaze and adjustment <u>with</u> glaze material	500 / 932	6	75 / 167	500 / 932	860 / 1580	860 / 1580	20 s	–
Glaze and adjustment <u>without</u> glaze material	500 / 932	6	75 / 167	500 / 932	860 / 1580	860 / 1580	20 s	–

b) Additional firing

- adding occlusal contact points at a later stage
- adding to the basal underlaying



Fig. 29: application of Touch Up for missing occlusion



Fig. 30: adding to the basal underlaying

Note: Adjustments can be made with or without glaze material. When using glaze material, first cover the entire surface with glaze material, stain the restoration and then apply Touch Up material over the glaze material and staining.

Repair

- repair of a restoration worn by a patient



Fig. 31: prepare the framework



Fig. 32: finished restoration after the glaze firing

Note: Restorations that have been worn intraorally must be dried out in the preheat furnace. Clean the restoration, the surface must be roughened or sandblasted. Heat up the restoration in the preheating furnace from room temperature to 600 °C / 1112 °F at a rate of 5 °C / 41 °F/min. After a holding time of 2-4 hours, remove the object immediately from the furnace.

Apply the Opaque medium and bake according to the specified firing chart.

In case of repairs, please do mix 50 % Touch Up with 50 % Base Dentin, Dentin or Incisal.

Repair

	Start temp. (°C / °F)	Drying time (min)	Heat rate (°C / °F/min)	Vacuum start (°C / °F)	Vacuum end (°C / °F)	Final temp. (°C / °F)	Holding time	Long time cooling
Touch Up Opaque	500 / 932	8	75 / 167	500 / 932	860 / 1580	860 / 1580	20 s	–
Dentin firing during repair	500 / 932	6	75 / 167	500 / 932	860 / 1580	860 / 1580	20 s	–
Glaze firing during repair <u>without</u> glaze material	500 / 932	4	75 / 167	500 / 932	860 / 1580	860 / 1580	20 s	–
Glaze firing during repair <u>with</u> glaze material	500 / 932	6	75 / 167	500 / 932	860 / 1580	860 / 1580	20 s	–

Firing table (universal)

	Start temp. (°C / °F)	Drying time (min)	Heat rate (°C / °F/min)	Vacuum start (°C / °F)	Vacuum end (°C / °F)	Firing temp. (°C / °F)	Holding time	Long time cooling
Paste Opaque 1 + 2	500 / 932	8	75 / 167	500 / 932	950 / 1742	950 / 1742	1 min (with vacuum)	–
Powder Opaque 1 + 2	500 / 932	6	75 / 167	500 / 932	930 / 1706	930 / 1706	1 min (with vacuum)	–
Shoulder firing 1 + 2	500 / 932	6	55 / 131	500 / 932	900 / 1652	900 / 1652	1 min	–
Dentin firing 1	500 / 932	6	55 / 131	500 / 932	870 / 1598	870 / 1598	2 min	–
Dentin firing 2	500 / 932	4	55 / 131	500 / 932	870 / 1598	870 / 1598	1 min	–
Correction firing*	500 / 932	4	75 / 167	500 / 932	860 / 1560	860 / 1560	20 s	–
Stains fixation bake	500 / 932	4	75 / 167	500 / 932	860 / 1560	860 / 1560	20 s	–
Glaze firing	500 / 932	4	75 / 167	500 / 932	870 / 1598	870 / 1598	1 min	–
Glaze firing with glaze liquid	500 / 932	6	75 / 167	500 / 932	860 / 1560	860 / 1560	1 min	–
Touch Up glaze and correction	500 / 932	6	75 / 167	500 / 932	860 / 1560	860 / 1560	20 s	–

* The correction material has to be mixed 1 : 1 with Base Dentin, Dentin or Incisal.

Firing guide line

ceraMotion® Me has been developed specially for rapid cooling, this also concerns the use of non-precious alloys.

The surface of the ceramic should show a shiny appearance after baking.

For long-span bridges with massive pontics we are recommending the use of pins in every crown to support the construction.

Physical-chemical information (according to DIN EN ISO 6872) ceraMotion® Me

	Coefficient of thermal expansion/CTE (25-500 °C / 77-932 °F)	Transformation temperature/Tg (°C / °F)	Chemical solubility (µg/cm ²)	Flexural strength (Mpa)
Opaque	12.7	600 / 1112	25	120
Dentin	12.3	560 / 1040	35	95
Incisal	12.3	560 / 1040	35	95
Modifier	12.3	560 / 1040	35	95
Glaze, Stains	8.4	530 / 986	30	-
Touch Up	12.3	510 / 950	40	90

Product overview

Paste Opaque	PO	A-D
Paste Opaque Modifier	POM	gingival, orange
Opaque	O	A-D
Opaque Modifier	OM	gingival, orange
Shoulder	SM	A, B, C, D, white, transpa
Gingival	G	1, 2, 3, 4
Base Dentin	BD	A-D
Base Dentin Modifier	BDM	salmon, caramel, ochre, ivory, lemon, vanilla, brown
Dentin	D	A-D
Dentin Modifier Chroma	DM C	A, B, C, orange
Dentin Modifier Fluo	DM F	cream, yellow, orange
Incisal	I	1, 2, 3
Incisal Opal	IO	1, 2, 3
Incisal Transpa	IT	1, 2, 3
Transpa	T	transpa
Incisal Modifier	IM	opal honey, opal white, opal blue, grey, opal grey
Chroma Concept Paste Opaque	CC PO	1 (bleach), 2, 3, 4
Chroma Concept Opaque	CC O	1 (bleach), 2, 3, 4
Chroma Concept Dentin	CC D	1 (bleach), 2 (bleach), 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Chroma Concept Incisal	CC I	1 (bleach)
Touch Up Paste Opaque	TU PO	Repair 860 °C / 1580 °F
Touch Up Base Dentin	TU BD	light, medium, dark
Touch Up Dentin	TU D	light, medium, dark
Touch Up Incisal	TU I	medium, opal, transpa
Correction	C	transpa
Glaze	GL	transpa
Body Stains	B ST	A, B, C
Stains	ST	1 white, 2 vanilla, 3 yellow, 4 orange, 5 pink, 6 purple, 7 blue, 8 grey, 9 olive green, 10 olive yellow, 11 medium brown, 12 red brown, 13 black
Liquids		Me Standard Modelling Liquid, Modelling Liquid, Modelling Liquid +, Paste Liquid, Powder BOL Liquid, Shoulder Liquid, Stains Liquid, Contrast Marker

Notes

➔ For more information on our products and services, please visit www.dentaurum.de

Date of information: 01/14

Subject to modifications



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