merz
DENTAL

mµ ILLUSION

Color and Micro-Layering Technique

TESTIMONIALS ...

"Finally, we are able to achieve the highest level of esthetics even with monolithic restorations, both in the posterior and anterior regions, and with much less work and time.

ᵐᵘ*ILLUSION* assortment, with its colors and pastes, leave nothing to be desired. There are no limits to creativity.

*With* ᵐᵘ*ILLUSION* you have the future of monolithic restoration in your hands."

Peter Kraemer (ZT / CDT)

· Successful completed training to become a certified dental technician in Germany 1984-1987
· 1987-1995 employments at commercial denta laboratories in Germany
· Since 1995 self-employed laboratory owner with branch in Portugal
· CAD/CAM expert and specialist for ceramic work such as crowns, bridges, veneers, implant-supported restorations
· International course and trainer activities for exocad and dental ceramics such a ᵐᵘ*ILLUSION*

COLOR AND MICRO-LAYERING TECHNIQUE

WHEN YOU CAN NO LONGER DISTINCT
THE ARTIFICIAL FROM THE NATURAL
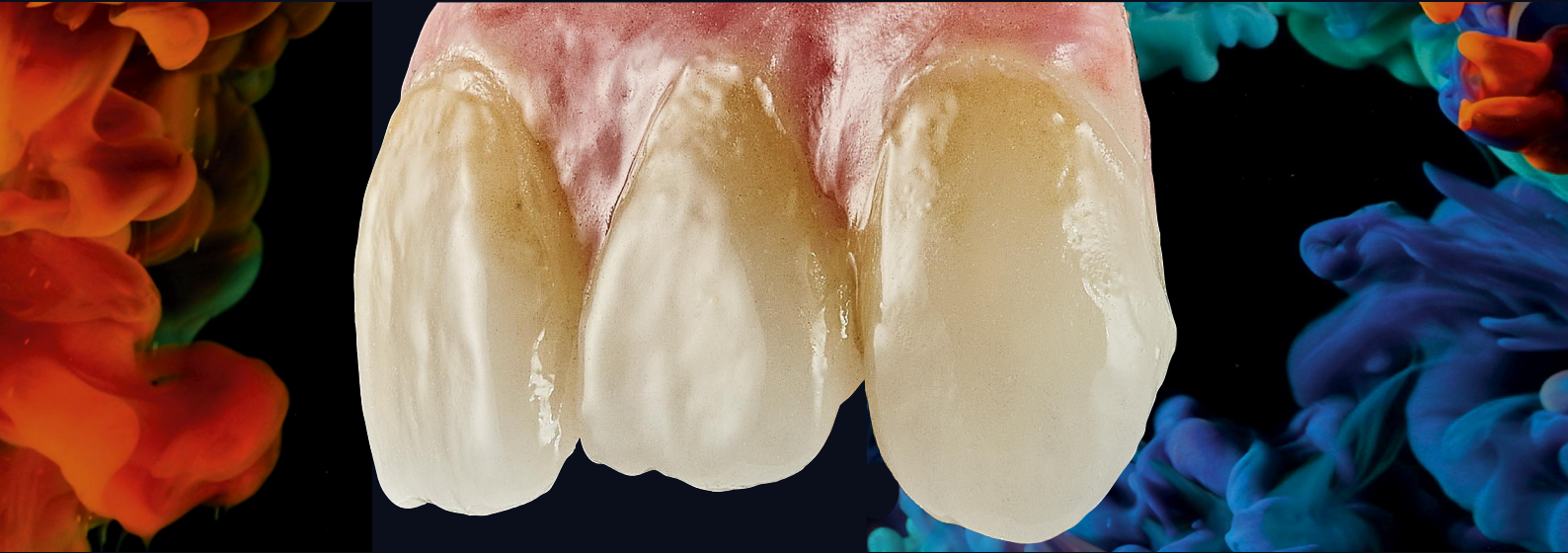
WE HAVE ACHIEVED OUR GOAL

THE PHILOSOPHY

ᵐᵘILLUSION fulfils the demand to meet the changed requirements for the production of monolithic and ceramic restorations. With an exclusive *ᵐᵘILLUSION* range of stains and pastes that are perfectly coordinated in terms of color, it is possible to create perfect restorations with just one firing. The potential of *ᵐᵘILLUSION Pastes* is particularly evident in high-end anterior tooth reconstruction. In the cut-back technique, supplemented by micro-layering, the works convince with optimal light dynamics, of course while guaranteeing translucency, opalescence and fluorescence. Even with a small layer thickness of 0.2 mm to 0.8 mm, *ᵐᵘILLUSION Pastes* create works with a sculptural depth effect like natural teeth.

LIGHT AND SHADE

The three-dimensional *ᵐᵘILLUSION Pastes* can be applied to the tooth surfaces with minimal effort.

Light and shadow reinforce the textures on the tooth surface in different light conditions.

The desired result is already visible when applying the colors and pastes and thus enables optimal control of the firing result. Due to the special property of plasticity, minimally invasive layering can be carried out to adjust the subtleties in shape and morphology.

ᵐᵘILLUSION *FROM PASSION TO PERFECTION*

NATURAL FLUORESCENCES · AESTHETIC COLOR PLAY · SCULPTURAL DEPTH EFFECT

AREAS OF APPLICATION

ᵐᵘILLUSION Color and **Paste**

for the production and characterisation of crowns & bridges made of:

- ✔ Monolithic zirconium dioxide (Y-TZP)

- ✔ Metal ceramic

- ✔ Pressed ceramic

- ✔ Lithium disilicate (monolithic)

- ✔ Lithium disilicate (veneered)

- ✔ Zirconium dioxide (Y-TZP), veneered

VIDEO
Characterisation
of an anterior crown

VIDEO
Characterisation
of a posterior crown

Particularly suitable for the characterisation of monolithic anterior crowns and bridges using the

- ✔ Cut-back / Color and Micro-Layering Technique

THE ᵐᵘILLUSION - REALITY

- ✔ The ᵐᵘILLUSION range with its sophisticated system of stains and pastes is suitable for covering the entire color spectrum of teeth and gingiva.

- ✔ Amazingly simple for reliable, natural results with high flexibility

- ✔ Fast with the 1-firing technique and individual with the 2-firing technique

- ✔ High colour stability for maximum aesthetics

- ✔ Controlled, targeted working before firing, thanks to low shrinkage and color stability, achieving the same result after firing.

- ✔ Natural translucency, opalescence and fluorescence

- ✔ Nature-identical appearance of the tooth surfaces due to natural light refraction index

- ✔ Three-dimensionality and light dynamics through layer thicknesses of 0.8 mm cut-back technique

- ✔ Unique range of gingiva colors and pastes

LAYER THICKNESSES
0.02 - 0.8 MM

LITTLE CHARACTERISATION EFFORTS IN 4 STEPS

1 Firing, amazingly simple, little effort

smoke fluor
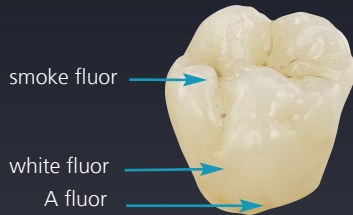
white fluor
A fluor

1. Apply the glaze over the entire surface
2. Paint incisal or cusp tips with white fluor
3. More details such as effect colors also possible
4. Firing

transpa orange

1 Firing, with high characterisation

dark brown fluor

transpa fosse

orange fluor

1. Apply the glaze over the entire surface
2. Adjust the base color with corresponding body colors
3. Apply effect colors to the cervical and proximal areas
4. Paint incisal or cusp tips with incisal or effect colors
5. Use paste to accentuate or to model the surface
6. Characterise occlusal surface with transpa fosse or effect colors
7. Firing

opal

khaki fluor

B fluor
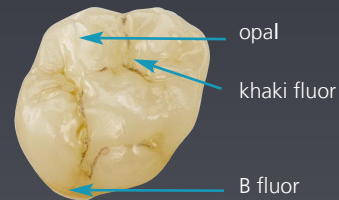
UNLIMITED INDIVIDUALITY

™µ **ILLUSION** supports economical storage of CAD/CAM blanks. It is also possible to adjust the original color by up to three shades lighter or darker.
This means that different colors and thus different characteristics of teeth of all ages can be created from the same framework material.

Whether youthful or age-appropriate, usually the color design of the gingiva represents a major challenge. However, unlimited design options are possible with *™µ* **ILLUSION** *Gingiva Color* and *Paste*. Whether marginal or attached gingiva, *™µ* **ILLUSION** has the properties to imitate the individuality of a natural gingiva aesthetic with little effort.

THE ILLUSION OF A NATURAL TOOTH

MONOLITHIC CROWNS AND BRIDGES

Monolithic crowns and bridges made of multilayer zirconium dioxide ceramics show a static incisal-dentine gradient due to the product-specific vertical color layers. To this day, individual features are created, especially in the anterior region, using additional ceramic veneers or imitated by using stains, whereby aesthetic compromises have to be made with the pure staining. Thanks to the unique consistency of the *ᵐᵘILLUSION* **Color** and **Paste** ceramics, individual micro-layers are now also possible in the anterior region. There is no need for layering with zirconium veneering ceramics.

The unique consistency and particle distribution of the *ᵐᵘILLUSION* **Paste** ceramic enables its spatially stable and precise application. The high three-dimensional stability and the color-fast ceramic structure of the pastes make work easier and enable visual checks at all times.

The special manufacturing process and the complex quality assurance measures in the production of *ᵐᵘILLUSION* **Color** and **Paste** guarantee a dense, homogeneous surface and all the advantages of a modern dental ceramic in terms of biocompatibility, physical and chemical properties and wear performance.

1 FIRING, AMAZINGLY SIMPLE!

prepared,
sanded crown

applied
glaze

little
characterisation

finished

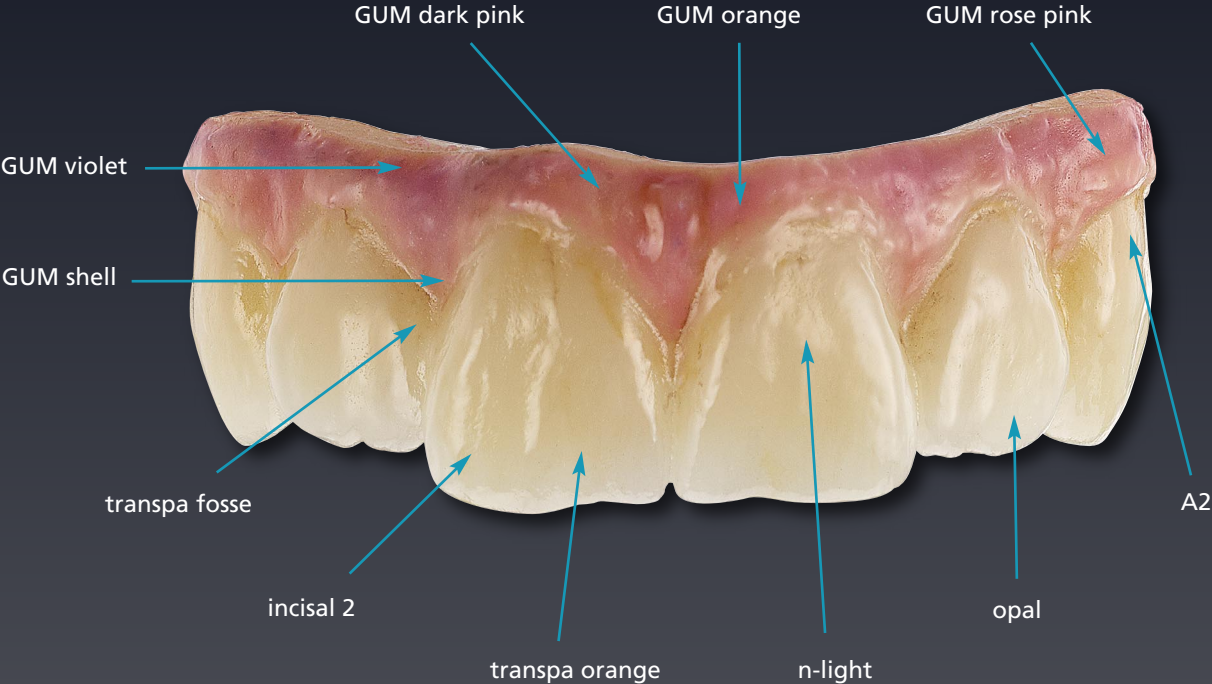# *CUT-BACK TECHNIQUE*

reduced
zirconia crown

applied
mamelons

after the 1st firing

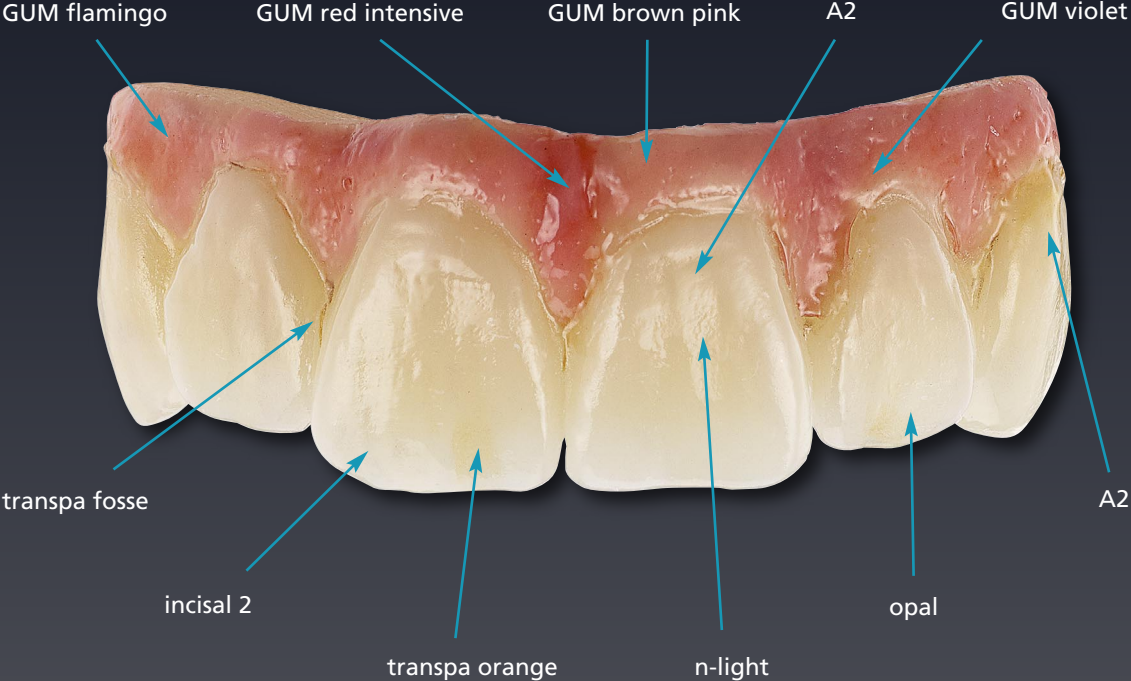**after glaze firing**

^{mµ}ILLUSION - *UNLIMITED INDIVIDUALITY*

GUM dark pink

GUM orange

GUM rose pink

GUM violet

GUM shell

transpa fosse

incisal 2

transpa orange

n-light

opal

A2

BASED ON THE SAME CONDITIONS

GUM flamingo

GUM red intensive

GUM brown pink

A2

GUM violet

transpa fosse

incisal 2

transpa orange

n-light

opal

A2

^{mµ}ILLUSION *APPLICATION EXAMPLES*

sanded zirconia frame

1st washbake
GUM rose pink

2nd washbake
GUM coral red intensive

applied GUM shell

applied GUM C34

1st firing

GUM red intensive

transpa amber

A2

transpa orange

applied before the 2nd firing

after the 2nd firing

after the glaze firing
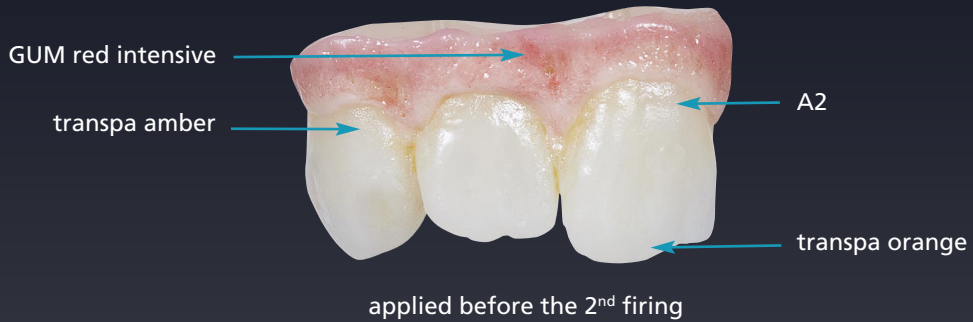
ᵐᵘILLUSION *Color*

Body	Quantity	REF	Application
A fluor	4 g	1019910	
B fluor	4 g	1019911	
C fluor	4 g	1019912	Characterisation of A-D base colors
D fluor	4 g	1019913	

Gingiva	Quantity	REF	Application
GUM red purple	3 g	1019926	
GUM rose	3 g	1019927	
GUM rose pink	3 g	1019928	Imitation of gingiva parts
GUM coral red intensive	3 g	1019930	
GUM red intensive	3 g	1019931	

Effect

	Quantity	REF	Application
orange fluor	3 g	1019915	Characterisation of labial and occlusal surfaces
smoke fluor	3 g	1019916	Reducing the brightness value, achieving depth effects
red brown fluor	3 g	1019918	Imitation of depth effects
light orange fluor	3 g	1019919	Characterisation of labial and occlusal surfaces
khaki fluor	3 g	1019920	Characterisation of labial and occlusal surfaces
olive fluor	3 g	1019921	Characterisation, especially with the shades A1, A2, A3
grey fluor	3 g	1019922	Reducing the brightness value, intensification of horizontal flanges
dark brown fluor	3 g	1019924	Imitation of depth effects
yellow fluor	3 g	1019925	Imitation of depth effects

Enamel

	Quantity	REF	Application
white fluor	3 g	1019914	Enamel spots, hyperplasia, calcium spots
pigeon blue fluor	3 g	1019917	Enhancement of blue translucencies
blue fluor	3 g	1019923	Enhancement of blue translucencies

ᵐᵘILLUSION *Paste*

Enamel

		Quantity	REF	Application
●	incisal 2	4 g	1019932	Characterisation in the incisal area
●	n-light	4 g	1019935	Characterisation in the incisal area neutral, brighten
●	transpa blue	4 g	1019936	Characterisation in the incisal area, intensive
●	clear	4 g	1019941	Characterisation in the incisal area
●	bleach 1	4 g	1019942	Brighten, very intensive (pearl incisal edge)
●	glaze	4 g	1019943	Design of the surface texture

Transpa

		Quantity	REF	Application
●	transpa orange	4 g	1019937	
●	transpa pink	4 g	1019938	Characterisation of transparency effects in the incisal area
●	transpa amber	4 g	1019939	
●	opal	4 g	1019940	

Gingiva

		Quantity	REF	Application
	GUM violet	4 g	1019944	
	GUM brown pink	4 g	1019945	
	GUM orange	4 g	1019946	
	GUM flamingo	4 g	1019947	
	GUM shell	4 g	1019948	Imitation of gingiva parts
	GUM dark pink	4 g	1019949	
	GUM dark brown	4 g	1019950	
	GUM neutral	4 g	1019951	
	GUM C34	4 g	1019952	

Dentine

		Quantity	REF	Application
	A2	4 g	1019933	Characterisation of the A2 base shade

Character

		Quantity	REF	Application
	transpa fosse	4 g	1019934	Insertion of individual characteristics

ᵐᵘILLUSION *Glaze*

	Quantity	REF	Application
glaze fluor	5 g	1019953	Fluorescent glaze
	7 g	1019959	
glaze	5 g	1019954	Non-fluorescent glaze

ᵐᵘILLUSION *Fluid*

	Quantity	REF	Application
glaze liquid	25 ml	1019955	For processing ᵐᵘILLUSION Color and Glaze
paste liquid	25 ml	1019956	For processing ᵐᵘILLUSION Color and Paste

ᵐᵘILLUSION *Brushes*

	Quantity	REF	Ø	
Brush no. 2	1 pc.	1019957	2.2 mm	8 mm
Professional coloring brush made of synthetic hair, made in Germany				
Brush no. 4	1 pc.	1019958	5.4 mm	9 mm
Very precise opaquer brush made of synthetic hair, made in Germany				

LAYER THICKNESSES FOR THE MICRO-LAYERING TECHNIQUE

DEPTH EFFECT WITH 3D EFFECT
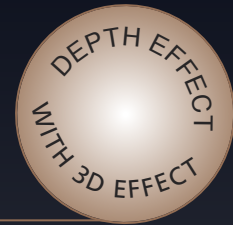
0.02 mm ▬▬▬

■ ᵐᵘ**ILLUSION Color** with excellent color coverage from 0.02 mm.

0.8 mm

0.2 mm

ᵐᵘ**ILLUSION Paste**

other manufacturer

0.1 mm   0.2 mm

Product 1

other manufacturer

0.5 mm

0.1 mm
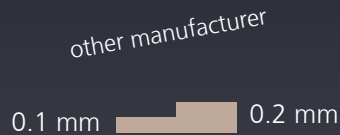
Product 2

■ ᵐᵘ**ILLUSION** dental ceramic pastes present monolithic crowns from 0.2 mm a three-dimensional structure with lifelike translucency, natural fluorescence and opalescence. The unique paste consistency and particle distribution ensures mouldability during layering and stability during firing with layers up to 0.8 mm.

3 SETS FOR ALL APPLICATIONS

- **Basic Set**
  an impressive large variety

- **Professional Set**
  a well-thought-out system of stains and pastes for the full range of all types of monolithic or ceramic restorations

- **Gingiva Set**
  for imitating the natural gingiva

^{mμ}**ILLUSION** *Color* and *Paste* gingiva shades are unique as they enable the design of the gingiva parts of monolithic or ceramic restorations whenever soft tissue is missing, for example when working on implant-supported restorations or bridges.

The new ^{mμ}**ILLUSION** *Paste* gingiva shades in combination with the ^{mμ}**ILLUSION** *Color* gingiva shades cover the entire shade spectrum of the marginal gingiva, the attached gingiva, up to the alveolar mucosa in the fold area.

DELIVERY FORMS

ᵐᵘILLUSION *Basic Set*   *REF 1019965*

Color A fluor 4 g	Color white fluor 3 g	Color red brown fluor 3 g	Glasur glaze fluor 5 g
Color B fluor 4 g	Color orange fluor 3 g	Color light orange fluor 3 g	Fluid glaze liquid 25 ml
Color C fluor 4 g	Color smoke fluor 3 g	Color dark brown fluor 3 g	Fluid paste liquid 25 ml
Color D fluor 4 g	Color pigeon blue fluor 3 g	Paste incisal 2 4 g	Brushes no. 2 / no. 4
		Paste A2 4 g	

ᵐᵘILLUSION *Professional Set*   *REF 1019967*

Color khaki fluor 3 g	Color yellow fluor 3 g	Paste transpa orange 4 g	Paste bleach 1 4 g
Color olive fluor 3 g	Paste transpa fosse 4 g	Paste transpa pink 4 g	Paste glaze 4 g
Color grey fluor 3 g	Paste n-light 4 g	Paste transpa amber 4 g	Fluid glaze liquid 25 ml
Color blue fluor 3 g	Paste transpa blue 4 g	Paste opal 4 g	Fluid paste liquid 25 ml
		Paste clear 4 g	Brushes no. 2 / no. 4

ᵐᵘILLUSION *Gingiva Set*   *REF 1019966*

Paste GUM violet 4 g	Paste GUM shell 4 g	Paste GUM brown pink 4 g	Color GUM red intensive 3 g
Paste GUM dark pink 4 g	Paste GUM dark brown 4 g	Color GUM red purple 3 g	Glasur glaze 5 g
Paste GUM orange 4 g	Paste GUM neutral 4 g	Color GUM rose 3 g	Fluid glaze liquid 25 ml
Paste GUM flamingo 4 g	Paste GUM C34 4 g	Color GUM rose pink 3 g	Fluid paste liquid 25 ml
		Color GUM coral red intensive 3 g	Brushes no. 2 / no. 4

CHARACTERISTICS

ᵐᵘ*ILLUSION Color*

- ✔ characterises the horizontal color and transparency gradations of multilayer blanks.

- ✔ provides lithium disilicates with shades like natural teeth.

- ✔ creates light dynamics that can otherwise only be achieved with layered crowns and bridges.

ᵐᵘ*ILLUSION Paste*

- ✔ for homogeneous surfaces and sculptural depth effect.

- ✔ for controlled, targeted work, thanks to low shrinkage and color stability before and after firing.

- ✔ for micro-layering in the cut-back technique, structures from 0.2 mm to 0.8 mm are possible with one firing.

ᵐᵘ*ILLUSION Gingiva Color* und *Paste*

- ✔ are an exclusive range.

- ✔ for the natural appearance of gums through individual design.

MATERIAL FEATURES

ᵐᵘILLUSION Color and **Paste**

✔ have very low shrinkage and high color stability, with the same results before and after firing.

✔ for precise and stable application with very good moulding properties.

✔ reduce the storage of CAD/CAM blanks. The original color can be corrected by up to three shades lighter or darker.

CHEMICAL COMPOSITION

$^{m\mu}$ILLUSION Paste:

SiO_2, Al_2O_3, K_2O, Na_2O, Li_2O, SrO, B_2O_3, CeO_2, ZnO + pigments

$^{m\mu}$ILLUSION Color:

SiO_2, Al_2O_3, K_2O, Na_2O, Li_2O, CaO, SrO, B_2O_3, ZnO, F + pigments

Pigments:

Inorganic color pigments with ceramic host lattices

Main components of the paste base

1.3-butanediol, purified water

TECHNICAL DATA

ᵐᵘILLUSION *Paste* physico-chemical properties according to DIN EN ISO 6872

Property	Specification	Measurement values
Coefficient of thermal expansion (25 - 475 °C) [$\cdot 10^{-6} \cdot K^{-1} \pm 0.5$]	2 ×: 9.5 4 ×: 9.5	2 ×: 9.5 4 ×: 9.5
Glass transition temperature Tg [°C ± 20]	2 ×: 495 4 ×: 495	2 ×: 495 4 ×: 495
Flexural strength [MPa]	≥ 50	130 - 150
Solubility [µg/cm²]	< 100	19 - 35

ᵐᵘILLUSION *Color* physico-chemical properties according to DIN EN ISO 6872

Property	Specification	Measurement values
Coefficient of thermal expansion (25 - 450 °C) [$\cdot 10^{-6} \cdot K^{-1} \pm 0.5$]	2 ×: 10.0 4 ×: 10.0	2 ×: 9.8* 4 ×: 9.5*
Glass transition temperature Tg [°C ± 20]	2 ×: 460 4 ×: 460	2 ×: 455* 4 ×: 455*
Flexural strength [MPa]	≥ 50	> 130*
Solubility [µg/cm²]	< 100	complies with*

*) Data for base material

FIRING PARAMETERS

Firing parameters	Start temperature	Pre-Dry	Closing time	Heat rate	Vacuum start	Final temperature	Holding time
	(°C)	(min)	(min)	(°C/min)	(°C)	(°C)	(min)
Monolithic zirconium dioxide (Y-TZP)	400	3	4	45	670	770	1
Metal-ceramic	400	3	4	45	670	770	1
Pressed ceramic	400	3	4	45	670	770	1
Lithium-Disilicate (monolithic)	400	3	4	45	670	720	2
Lithium-Disilicate (veneering ceramic)	400	3	4	45	670	720	2
Zirconium dioxide (Y-TZP), veneered	400	3	4	45	670	720	2

Note: The above firing temperatures were determined in the Zubler Vario 300 and are recommended values. Adjustments to the firing program may be necessary for other furnace types.

Please note: For voluminous restorations, open the furnace with an opening time of 2 minutes!
**Note:** With multiple firings, the final temperature can be reduced by 10 - 20 °C depending on the degree of gloss!

FRAMEWORK AND VENEERING MATERIALS

^{mμ}**ILLUSION** *Color* and *Paste* are intended exclusively for use on framework and veneering materials listed below:

- Fully anatomical crowns and bridges made of stabilised tetragonal zirconium dioxide (Y-TZP) with a thermal expansion of approx. $10.6 \cdot 10^{-6} \cdot K^{-1}$ (25 - 500 °C). Zirconia veneered crowns and bridges made of stabilised tetragonal zirconium dioxide (Y-TZP) with a thermal expansion of approx. $10.6 \cdot 10^{-6} \cdot K^{-1}$ (25 - 500 °C).

- Veneered lithium silicate glass ceramic, with a thermal expansion of approx. $10.0 \cdot 10^{-6} \cdot K^{-1}$ (25 - 500 °C).

- Frameworks made of pressed ceramic with a CTE value of approx. $9.5 \times 10^{-6} \times K^{-1}$

- Metal-ceramic with a CTE value of approx. 13.0 ± 0.5 (25 - 500 °C) [$\cdot 10^{-6} \cdot K^{-1}$]

Further processing instructions and MSDS are available online at www.merz-dental.de/mμillusion.
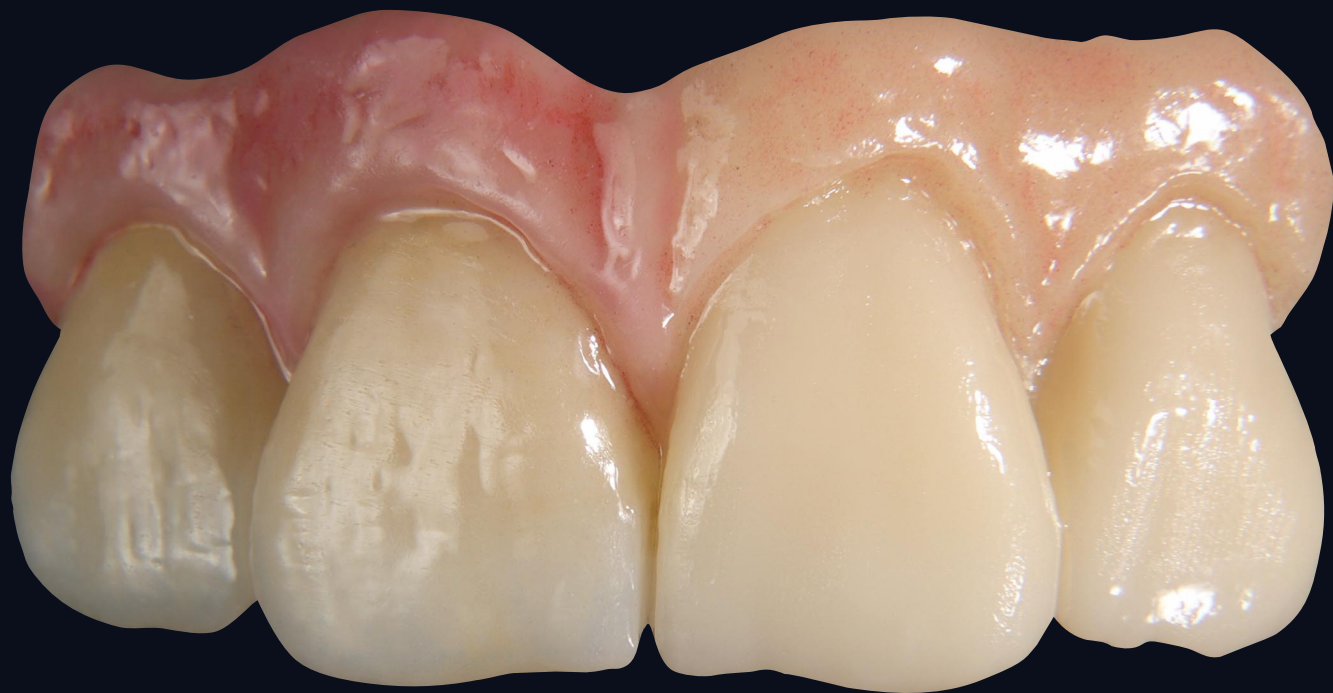
PERFECT MATCH OF EFFICIENCY AND NATURAL AESTHETICS USING
^{mμ}ILLUSION COLOR FOR A CHROMATIC AESTHETIC DESIGN AND
^{mμ}ILLUSION PASTE FOR THE SCULPTURAL EFFECT OF DEPTH

mµ ILLUSION

Color and Micro-Layering Technique

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