

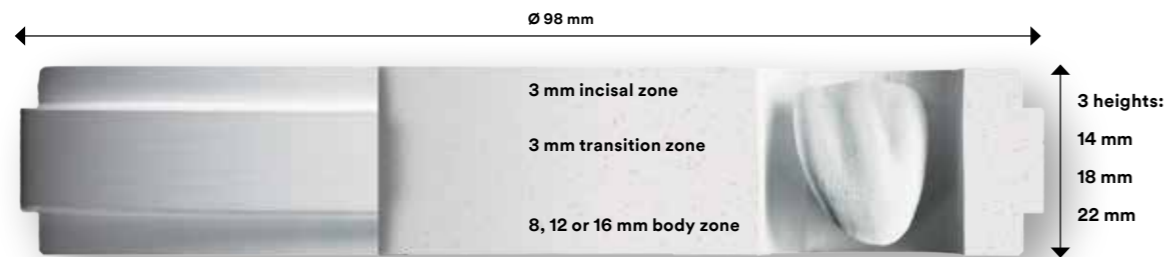
3M Science.
Applied to Life.™



**Aesthetics simplified.
Just glaze and go.**

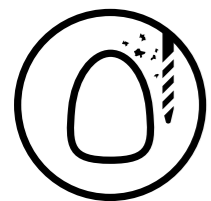
Productivity and high aesthetics. Now one disc has it all.

3M™ Lava™ Esthetic Fluorescent Full-Contour Zirconia is a gradient pre-shaded cubic zirconia disc featuring a new shading technology. With the innovative four shading elements formulation, it is the first pre-shaded zirconia offering inherent fluorescence for all shades. The colour gradients built into Lava Esthetic zirconia truly match the VITA classical shades enabling you to produce highly aesthetic full-contour restorations in a simple mill-sinter-glaze process.



Available in Bleach, A1, A2, A3, A3.5, B1, C1, D2 with easy positioning of the restoration in the disc due to its simple layer concept: The two upper zones are always 3 mm thick, regardless of the disc height. Only the thickness of the body zone varies.

Get on the fast track to enhanced productivity.



Mill

98 mm disc format with step fitting open systems for dry milling of zirconia.



No shading liquids.



No drying time.



Sinter at 1500°C

Total sinter cycle time: 5.2 hours.



Glaze

Inherent fluorescence:
No special fluorescent glaze needed.

* Compared with 3M™ Lava™ Plus

aesthetics.

True colour match to VITA classical shades.



3M™ Lava™ Esthetic Zirconia A2 crown – sintered and glazed.



Sintered 3M™ Lava™ Esthetic Zirconia A2 crown under UV light.

First zirconia with inherent toothlike fluorescence.

- Gradient pre-shaded with true colour match to VITA classical shades
- First zirconia with inherent toothlike fluorescence
- Optimised translucency for high aesthetic full-contour restorations
- Cubic zirconia with high strength of 800 MPa*
- Enhanced productivity: Streamlined mill-sinter-glaze process

* 3-point bending strength according to ISO 6872:2015; qualified for Type II, class 4; indications: crowns, bridges with one pontic between two crowns, inlays, onlays and veneers.

Natural aesthetics. Now built in.

True shade gradient for an excellent shade match.

Pre-shaded 3M™ Lava™ Esthetic Zirconia discs have an integral colour gradient to deliver natural-looking shading from enamel to dentine. There is no need to apply extra shading liquids or colour corrections after sintering. What you get are aesthetic full-contour restorations that truly match the VITA classical shades.



Initial situation with prepared teeth.



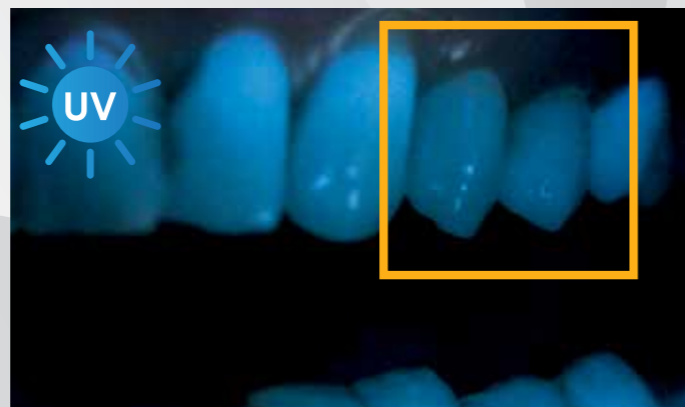
Preparations buccal.



A3 VITA classical shade selection.



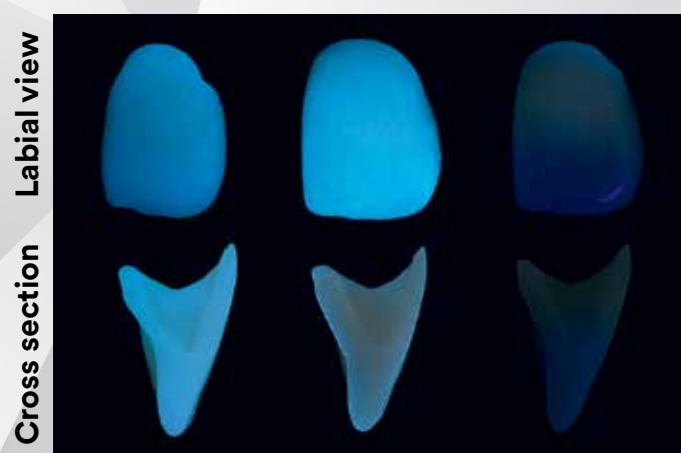
Two glazed 3M™ Lava™ Esthetic Zirconia A3 shaded crowns in situ.



Clinical situation under UV light. 3M™ Lava™ Esthetic Zirconia crowns exhibit toothlike fluorescence.

First zirconia with inherent toothlike fluorescence.

Natural teeth absorb the invisible UV light present in sunlight and artificial light and emit a visible bluish light. This is fluorescence. Due to its unique shading formulation, Lava Esthetic zirconia is the first inherently fluorescing pre-shaded zirconia, allowing for a lifelike appearance in any light. Whether in daylight, sunshine or black light – restorations made of Lava Esthetic zirconia always look natural.



A2 anterior crown made of 3M™ Lava™ Esthetic Zirconia. Other pre-shaded cubic zirconia A2 crown with fluorescent glaze. Other pre-shaded cubic zirconia A2 crown.

Source: 3M Oral Care internal data.

Why inherent fluorescence matters.

- Natural, toothlike appearance – even for unglazed, polished restorations – as fluorescence comes from the inside
- No special fluorescent glaze needed
- Fluorescence from glazes can be non-uniform or speckled
- Inherent fluorescence is maintained during restoration adjustments, while fluorescent glazes would be removed

Ideal for aesthetic full-contour crowns and bridges.

With 800 MPa* strength and high translucency optimised for aesthetic full-contour crowns and bridges, Lava Esthetic zirconia can be used as an alternative to typical glass ceramic cases with confidence. With minimum 0.8 mm, it allows for reduced wall thickness compared with lithium disilicate glass ceramic and also thinner connectors (12 mm² anterior and 14 mm² posterior) for bridges.**

For cases with very limited space or parafunctional patients requiring ultimate strength, choose 3M™ Lava™ Plus Zirconia.

Indications:

- Anterior and posterior crowns
- Bridges with maximum one pontic between two crowns
- Inlays/onlays, veneers



Cementation simplified.

The high strength of Lava Esthetic zirconia allows for conventional, self-adhesive or adhesive cementation. We recommend 3M™ RelyX™ Unicem 2 Self-Adhesive Resin Cement – a clinically proven self-adhesive resin cement, combining high bond strength and simple handling without compromising reliability and aesthetics.



Lab: Sandblast the bonding surface with alumina, 50 µm grain size at 2 bars (30 PSI).



Dentist: Clean bonding surface after try-in and before final seating with NaOCl. Rinse and dry.



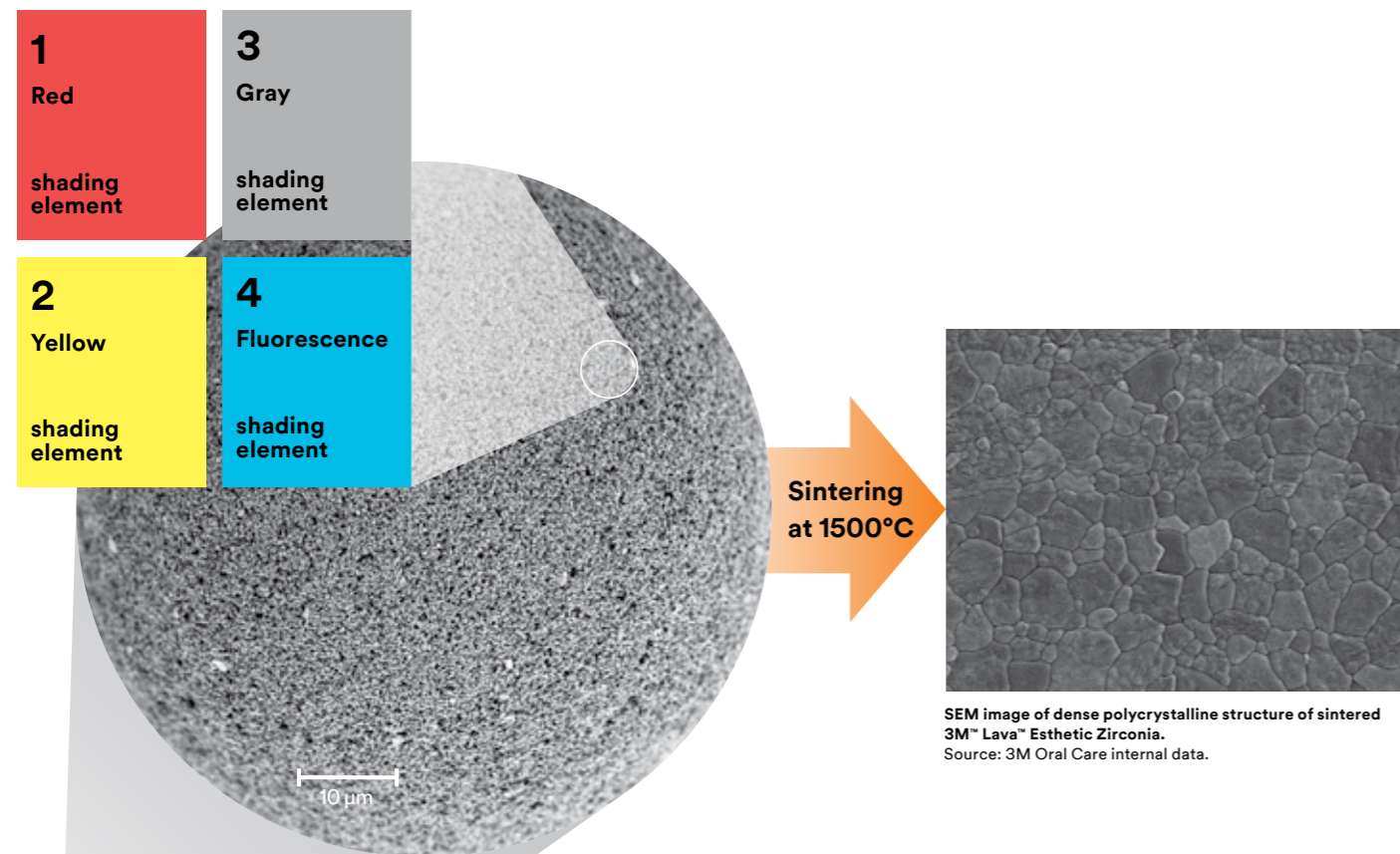
Apply 3M™ RelyX™ Unicem 2 Cement and seat restoration.

*3-point bending strength according to ISO 6872:2015; qualified for Type II, class 4; indications: crowns, bridges with one pontic between two crowns, inlays, onlays and veneers.
**Based on manufacturer instructions for use.

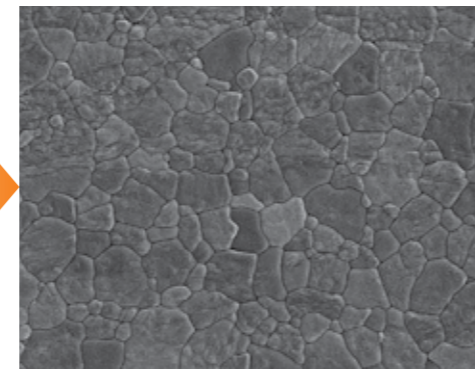
What's the secret? Discover the reinvention of pre-shaded zirconia.

3M™ Lava™ Esthetic Zirconia discs are based on high purity zirconium dioxide stabilized with 5 mol% yttria. For shading, a newly developed four shading elements formula is utilised. Shading elements are carried by spherical microcrystalline clusters. These are visible as small dots in the disc and indicate the unique shading chemistry.

True shade match is achieved by fine-tuning the ratio of the red, gray and yellow shading elements. Shade gradient is produced by varying the cluster concentration. Sintering at 1500°C produces a dense polycrystalline microstructure. Shading elements are uniformly distributed and built into the crystals to provide the desired colour gradient and fluorescence.



SEM image of zirconia cluster of submicron crystals. Source: 3M Oral Care internal data.



SEM image of dense polycrystalline structure of sintered 3M™ Lava™ Esthetic Zirconia. Source: 3M Oral Care internal data.

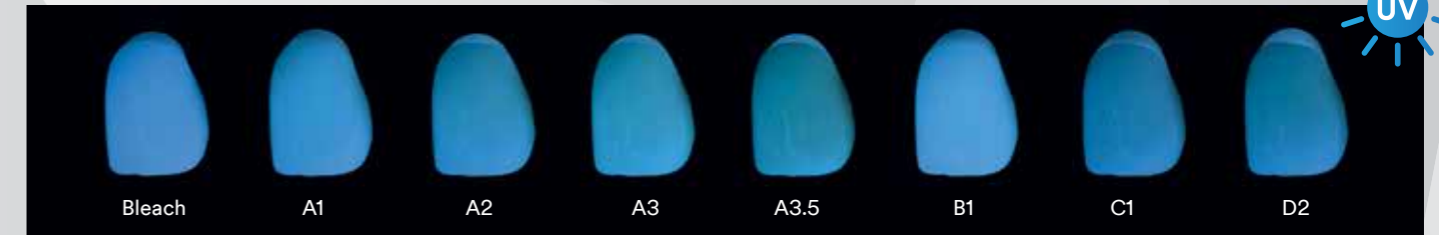
Incisal zone
Transition zone
Body zone

Cluster concentration increases from incisal to body zone. Element ratios are fine-tuned to match enamel and dentine shades.

Cross section image of a 3M™ Lava™ Esthetic Zirconia disc.

Fluorescence.

With the addition of a fourth fluorescing element, Lava Esthetic zirconia's unique shading formula delivers for the first time inherent fluorescence for all shades.



UV light image of sintered 3M™ Lava™ Esthetic Zirconia crowns, shades Bleach, A1, A2, A3, A3.5, B1, C1 and D2. Source: 3M Oral Care internal data.

Translucency.

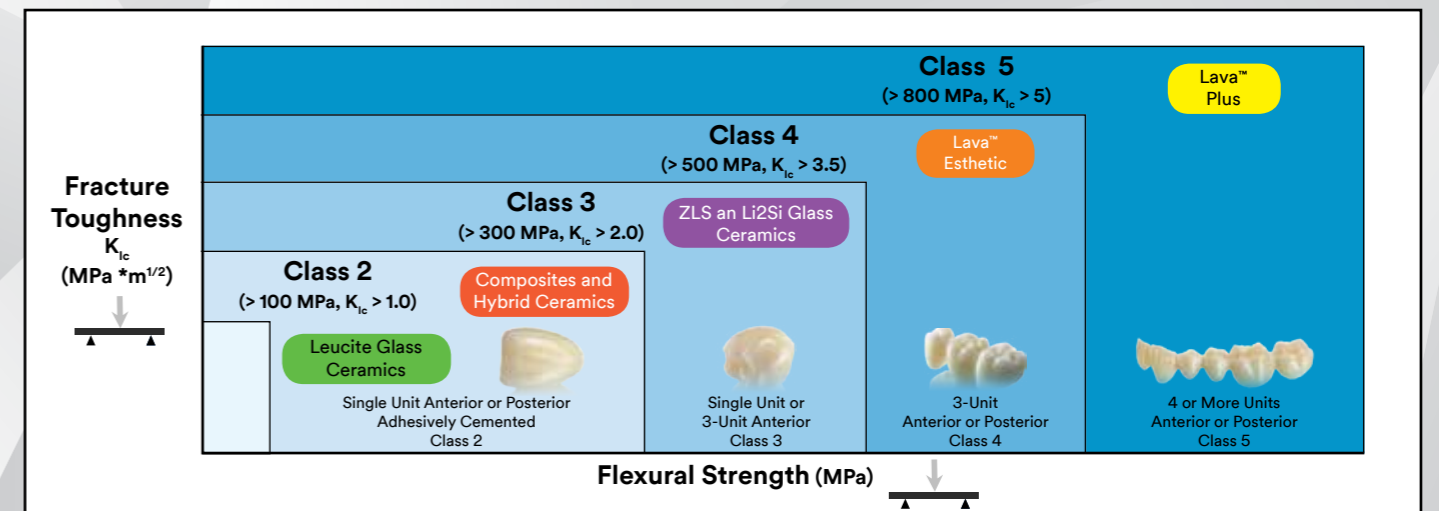
The crystal phase of sintered Lava Esthetic zirconia is predominantly cubic. Conventional zirconia stabilised with 3 mol% yttria is mostly tetragonal. The cubic crystals reduce light scattering thus providing a higher translucency level.



Backlight image of molar crown made of 3M™ Lava™ Esthetic Zirconia (left) compared to conventional high translucency zirconia (right). Source: 3M Oral Care internal data.

Strength and fracture toughness.

Lava Esthetic zirconia meets the requirements of a Class 4 ceramic*. Fracture toughness is a measurement of the damage tolerance of a material. As an example, materials such as glass, which break easily when scratched, have a relatively low fracture toughness which can be undesirable when used in many dental applications. The higher fracture toughness of Lava Esthetic zirconia, as compared to glass-ceramic materials, enables it to be indicated for 3-unit anterior and posterior bridges.



Ordering Information

3M™ Lava™ Esthetic Fluorescent Full-Contour Zirconia

1 disc per pack	Disc height 14 mm	Disc height 18 mm	Disc height 22 mm
Shade	Item No.	Item No.	Item No.
Bleach	69319	69327	69335
A1	69320	69328	69336
A2	69321	69329	69337
A3	69322	69330	69338
A3.5	69323	69331	69339
B1	69324	69332	69340
C1	69325	69333	69341
D2	69326	69334	69342



3M Oral Care

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