Indications and design parameters

**Indicated for**
- Crowns
- Bridges with a maximum of one pontic that must be supported on each side by a crown (prosthesis not to exceed three units)
- Inlays/onlays, veneers

The following design specifications must be fulfilled for the finished restorations:

<table>
<thead>
<tr>
<th>Wall thickness</th>
<th>Bridge connector cross section</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 0.8 mm</td>
<td>≥ 12 mm²</td>
</tr>
<tr>
<td>≥ 0.8 mm</td>
<td>≥ 14 mm²</td>
</tr>
</tbody>
</table>

Layer concept and scaling

The two upper zones are always 3 mm thick. The thickness of the body zone (8, 12 or 16 mm) varies with the disc height.

**Scale factor**

3 heights:
- 14 mm
- 18 mm
- 22 mm

Reprogramming of sintering furnace

Sintering parameters listed in the table must be set for sintering Lava Esthetic zirconia. Any other sintering profile will lead to inferior esthetic results.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Start Temp.</th>
<th>End Temp.</th>
<th>Heating Rate</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Heating ramp</td>
<td>25°C</td>
<td>800°C</td>
<td>20°C/min (1200°C/hour)</td>
<td>39 min</td>
</tr>
<tr>
<td>2. Heating ramp</td>
<td>800°C</td>
<td>1500°C</td>
<td>10°C/min (600°C/hour)</td>
<td>70 min</td>
</tr>
<tr>
<td>3. Holding time</td>
<td>1500°C</td>
<td>1500°C</td>
<td>–</td>
<td>120 min</td>
</tr>
<tr>
<td>4. Cooling ramp</td>
<td>1500°C</td>
<td>800°C</td>
<td>15°C/min (900°C/hour)</td>
<td>47 min</td>
</tr>
<tr>
<td>5. Cooling ramp</td>
<td>800°C</td>
<td>250°C</td>
<td>20°C/min (1200°C/hour)</td>
<td>27 min</td>
</tr>
</tbody>
</table>

* 3-point bending strength according to ISO 6872:2015; qualified for Type II, class 4; indications: crowns, bridges with a maximum of one pontic that must be supported on each side by a crown (prosthesis not to exceed three units), inlays, onlays and veneers.

Before using the products described, please refer to the instructions for use provided with the product packages.
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**Finishing in pre-sintered state**
- Remove the sprues with a handpiece and a fine, cross-meshed hard metal milling tool
- Adjust and smoothen the surface with white universal polishers
- 3M™ Lava™ Esthetic Zirconia must not be used in combination with dyeing liquids

**Sintering**
- Position on an approx. 3 mm layer of sintering beads, e.g. 3M™ Lava™ Sintering Beads (Item No. 68594).
- Position posterior restorations with occlusal facing down and anterior with labial facing up on top of the bead layer. Do not put the restorations deep into the beads.
- Air circulation required, do not use closed trays
- Sinter only with the Lava Esthetic zirconia sinter program shown on front page
- Sintering longer or at higher temperatures will decrease translucency and bleach the shades
- Calibration of the sintering furnace should be checked at regular intervals

**Finishing after sintering**
- Use a turbine at 30k–120k RPM or a fast-running handpiece at up to 30k RPM
- Water cooling is recommended
- Use only fine-grain diamonds ≤ 30 µm
- Smoothen ground areas with rubber polishers
- Make sure to maintain a minimum wall thickness of 0.8 mm

**Stain and glaze**
- Glazing is recommended to achieve the best shade match
- Use low-temperature (< 900 °C) glazes and stains for zirconia
- Vacuum during holding time is not recommended

**Sandblasting**
- Before sending to dentist:
  - Sandblast bonding surfaces with alumina, grain size 30–50 µm at 2 bars (30 PSI)
  - Clean with alcohol and dry with oil-free air
  - For crown and bridge cementation, 3M™ RelyX™ Unicem 2 Self-Adhesive Resin Cement is recommended