# Metal Free Restoration Chart

## Materials & Properties

<table>
<thead>
<tr>
<th>Material Country Of Origin</th>
<th>CALYPSO™ Full Milled Zirconia</th>
<th>FMZ™ High Translucent Zirconia</th>
<th>Lava™ Plus High Translucent Zirconia</th>
<th>Lithium Disilicate</th>
<th>Hybrid-Ceramic-Polymer</th>
<th>Resin Nano Ceramic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>Germany</td>
<td>Germany</td>
<td>Central Europe</td>
<td>Germany</td>
<td>Germany</td>
<td>Germany</td>
</tr>
<tr>
<td><strong>Flexural Strength</strong></td>
<td>1200 MPa</td>
<td>1100 MPa</td>
<td>1200 MPa</td>
<td>360-400 MPa</td>
<td>150-160 MPa</td>
<td>200 MPa</td>
</tr>
</tbody>
</table>

## Prothesis Indications

| Crown / Inlay / Onlay       | ✔                             | ✔∗                             | ✔∗                                 | ✔                 | ✔                   | Inlay / Onlay     |
| Bridge (Max. Units)         | 14                            | 14                             | Up to 48 mm                         | 3**               | -                   | -                |
| Veneer                      | -                             | -                              | -                                   | -                 | -                   | -                |
| Screw Retained (Crown)      | ✔                             | ✔                              | ✔                                   | ✔                 | ✔                   | -                |
| Screw Retained (Crown & Bridge) | ✔ | ✔ | ✔ | ✔ | ✔ | - |

## Recommended Cementation Materials

| Resin Modified Glass Ionomer | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| Self-adhesive Resin          | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| Adhesive Resin               | - | - | - | ✔ | ✔ | ✔ |

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* Labial porcelain recommended for anterior dentition.
** Up to 2nd premolar only. Pontic width maximum 9mm and 11mm for anteriors and premolars respectively.
Preparation Guide & Contraindications

Conventional preparation
— For full ceramic restorations in general

- The ideal preparation should be smooth and have a chamfer or slight shoulder margin, with no sharp edges or irregular grooves. Retentive elements, if required, should have a minimum radius of 0.5mm.

Minimally invasive preparation
— For full contour zirconia restorations (without porcelain)

- For all types of full ceramic restorations
  - "J" Shaped Margin
  - Square Shoulder
  - Undercuts
  - Sharp Edge
  - Knife Edge
  - Rough Margin
  - Irregular Grooves
  - Parallel Sides
  - Height Difference (Anterior)

Veneer preparation
- ≥0.6mm labial and cervical reduction
- ≥0.7mm incisal reduction
- Incisal preparation margins must avoid areas of static or dynamic contact

Maryland Bridge preparation
- 0.5 to 0.7mm lingual reduction
- Preparation should be in enamel instead of dentine
- Use of a retentive element is recommended — either a groove, a ridge or a pinhole
- Retentive element must have a minimum radius of 0.5mm
- Circular / Island preparation of wings is not possible

Inlay / Onlay preparation
- ≥1.5mm preparation depth
- ≥1.5mm isthmus width
- Ideally 6° sidewall taper
- Proximal box should have diverging walls