Gingiva Solution
SR Phonares® II, IvoBase®, SR Nexco®
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Gingiva Solution –
Prosthetic gingival reconstruction manual
Natural-looking restorations

High-quality lab-fabricated dental restorations are characterized by a natural appearance as well as high biocompatibility and hygiene capability. Special emphasis is placed on achieving "white esthetics" because this is decisive for the patient's positive perception of the prosthetic restoration and the overall treatment success.

As the number of large restorations is increasing, the reconstruction of missing gingiva in a natural-looking manner based on the principles of "pink esthetics" is becoming more and more important. The colour, shape and texture of the patient's gumline need to be faithfully reproduced and individual requirements taken into account.

This manual illustrates how to successfully fabricate prosthetic gingival restorations. The creation of a metal-supported restoration for a middle-aged patient is shown in detail using SR Nexco®, the light-curing lab composite. Special focus is placed on showing how to reconstruct the different gingival areas.

Further publications provide practical guidance on the fabrication of prosthetic gingiva, taking age-related and ethnic aspects into account, and they describe the use of a variety of products and materials. Ivoclar Vivadent’s well-coordinated range of products affords a suitable solution for every case.
Framework design

Verification of the position of the primary structure

Completed primary structure
Galvano-formed caps with acrylic resin secondary structure

Completed metal framework showing passive fit

Framework design

The fabrication process of any high-quality implant restoration begins with a functional set-up. This provides a functional and esthetic basis for the creation of further structures.
Framework preparation

Clean metal framework after blasting with aluminium oxide

Application of SR Link to establish a bond with metal
The metal components are blasted with 80 to 100 μm aluminium oxide (2–3 bar) and wetted with SR Link bonding agent. In a first step, Gingiva Opaquer is applied as a thin wash layer. After the first layer has been polymerized, a second covering layer of opaquer is applied and polymerized. Next, the inhibition layer is removed for further processing.
Finishing of the denture base

The teeth reduced on the palatal and occlusal surface are set up in wax.

Restoration in the flask, ready for the injection of denture base material
The shade can be adjusted slightly without having to change the fine labial structure. The tooth which has been ground on the palatal side is carefully blasted with aluminium oxide. Next, a thin layer of SR Connect is applied. This bonding agent is allowed to react for three minutes. Subsequently, the shape is built up with SR Nexco materials. The same procedure is used for the occlusal modifications. Detailed information concerning the minimal thickness of the material and the polymerization procedure is provided in the Instructions for Use.
Gingival modification

Completed denture – ready for gingival modification
The denture base material is blasted with aluminium oxide (80–100 μm) at 2 to 3 bar pressure and then wetted with SR Connect bonding agent. After a reaction time of three minutes, the bonding agent is polymerized with light.
Gingival modification

Modification of the colour of the mobile mucosa
Mobile mucosa

The transition between the immobile and the mobile mucosa is simulated by applying different Intensive Gingiva materials. As the vessels and muscles are well supplied with blood in this area, the tissue appears darker.
Gingival modification
The alveolar parts of the immobile mucosa and the cervical structures can be imitated with lighter, translucent materials. The colour of the alveolar mucosa in particular can be effectively adjusted with the newly formulated IG5 “vanilla” shades to achieve a natural-looking appearance.

**Immobile mucosa**

The alveolar parts of the immobile mucosa and the cervical structures can be imitated with lighter, translucent materials. The colour of the alveolar mucosa in particular can be effectively adjusted with the newly formulated IG5 "vanilla" shades to achieve a natural-looking appearance.
Gingival modification

The characteristic lip frenulum is imitated.
In the case presented, the lip frenulum was created with a mixture of G1 and IG3 in a ratio of 2:1. It goes without saying that other materials can also be used to produce this feature, depending on the situation.
Gingival modification
Various stains are available for fine characterization purposes. They can either be mixed with an existing material or applied in pure form before polishing.
Gingival modification
Final polymerization

Before final polymerization, a covering layer of SR Gel is applied. This layer, which should not be too thick, will prevent the formation of an inhibition layer.
Finishing and polishing
Completion

Finishing is done with fine cross-cut burs. The final polish is given with goat’s hair brushes and a cotton buffing wheel. The restorations are finished and polished without applying any pressure. The aim is to imitate the natural "dimpled" surface texture of the gingiva. A very natural-looking gloss is achieved with the Universal Polishing Paste.
Final results
Final results
The dental lab work presented was accomplished by Thorsten Michel, MDT, from Schorndorf / Germany.
Product information

SR Phonares® II – Natural-looking tooth moulds for sophisticated needs

The SR Phonares II tooth moulds have been designed for maximum beauty and vitality in the anterior region. These teeth look as vibrant as their natural counterparts, and they open up exceptional possibilities in the creation of true-to-nature restorations.
**SR Phonares® II Typ**
A classic denture tooth for partial and complete dentures

**SR Phonares® II Lingual**
This posterior tooth for the lingualized occlusion scheme is predominantly used in hybrid and implant prosthetics.

The tooth shades are precisely matched to the lab composite SR Nexco to facilitate the restorative procedures in combined prosthetics.
Product information

**SR IvoBase® System – The innovative denture base**

The denture base system which offers fully automatic, precision polymerization. All the components of the IvoBase System are completely compatible. As a result, denture bases show outstanding accuracy of fit and precision. The low standard residual monomer content of IvoBase is at the level of heat-curing materials. When the RMR function is activated the residual monomer content clearly falls below this critical value to less than one percent.
**IvoBase® Material – One system, two types of material**

*IvoBase Hybrid* is a good all-rounder characterized by short processing times. The salient feature of *IvoBase High Impact* is its high fracture toughness. Therefore, this material is suitable for the fabrication of structures that are exposed to heavy loading. The colouring of *IvoBase High Impact Shade 34V* corresponds to that of SR Nexco Basic Gingiva BG34.

**IvoBase® Injector – Fully automatic and without steam**

PMMA resins are injected and polymerized automatically in the *IvoBase Injector*. The chemical polymerization shrinkage of the resins is entirely compensated during the polymerization process.
Product information

**SR Nexco® Paste** is a purely light-curing lab composite containing micro-opal fillers. It is suitable for framework-supported and framework-free dentures. As the desired shades can be faithfully reproduced regardless of the layer thickness, a true-to-nature appearance can be achieved in fixed and removable dental restorations, even with artificial gingiva.
## Polymerization table

<table>
<thead>
<tr>
<th>Appliance</th>
<th>Manufacturer</th>
<th>Opaquer*</th>
<th>Dentin**</th>
<th>Liner, Incisal, Effect**, Margin**</th>
<th>Gingiva**</th>
<th>Stains***</th>
<th>SR Connect</th>
<th>Final polymerization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quick Lumamat 100</td>
<td>Ivoclar Vivadent AG</td>
<td>20 s Quick</td>
<td>20 s Quick</td>
<td>20 s Quick</td>
<td>20 s Quick</td>
<td>20 s Quick</td>
<td>P2 / 11 min</td>
<td>P2 / 11 min</td>
</tr>
<tr>
<td>Spectramat</td>
<td>Ivoclar Vivadent AG</td>
<td>5 min</td>
<td>5 min</td>
<td>2 min</td>
<td>5 min</td>
<td>2 min</td>
<td>2 min</td>
<td>5 min</td>
</tr>
<tr>
<td>Labolight LV-III</td>
<td>GC</td>
<td>5 min</td>
<td>2 min</td>
<td>2 min</td>
<td>5 min</td>
<td>2 min</td>
<td>3 min</td>
<td>5 min</td>
</tr>
<tr>
<td>Solidilite V</td>
<td>Shofu</td>
<td>3 min</td>
<td>1 min</td>
<td>1 min</td>
<td>3 min</td>
<td>1 min</td>
<td>3 min</td>
<td>5 min</td>
</tr>
<tr>
<td>Visio Beta Vario</td>
<td>3M Espe</td>
<td>7 min</td>
<td>4 x 20 s</td>
<td>4 x 20 s</td>
<td>4 x 20 s</td>
<td>4 x 20 s</td>
<td>4 x 20 s</td>
<td>2 x 7 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>no vacuum</td>
<td>Visio Alfa</td>
<td>Visio Alfa</td>
<td>Visio Alfa</td>
<td>Visio Alfa</td>
<td>Visio Alfa</td>
<td>no vacuum</td>
</tr>
<tr>
<td>HiLite</td>
<td>Heraeus</td>
<td>180 s</td>
<td>90 s</td>
<td>90 s</td>
<td>90 s</td>
<td>90 s</td>
<td>90 s</td>
<td>180 s</td>
</tr>
</tbody>
</table>

**Important information:**
Indications based on tests conducted by R&D, Ivoclar Vivadent Schaan, Liechtenstein. The indications are without obligation and do not exempt the user from observing the recommended polymerization times for the different polymerization units according to the respective manufacturer’s directions. Regular maintenance and functional checks of the polymerization units are also required.

**Note:**
Polymerization units suitable for pre-curing: Quick (Ivoclar Vivadent AG), HiLite pre (Heraeus), Visio Alfa (3M), Sublite V (Shofu), Steplight SL-I (GC)

* The first opaquer layer is applied thinly and pre-cured. Then a second, covering layer is applied and cured according to the polymerization table.

** The maximum layer thickness must be observed! If necessary, pre-curing must be performed.

*** Stains should only be applied in very thin layers – only a shallow depth of cure is achieved in conjunction with dark shades.

Please observe the corresponding Instructions for Use.
Gingival modification

- **SR Link**
- **2 x Opaquer**
- **Removal of the inhibition layer**
- **Gingiva & Intensive Gingiva**
- **SR Gel**
- **Finishing**
- **Polishing**
## Gingival veneering

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SR Link</strong></td>
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<td><img src="image" alt="SR Link" /></td>
</tr>
<tr>
<td><strong>2x Opaquer</strong></td>
<td></td>
<td><img src="image" alt="2x Opaquer" /></td>
</tr>
<tr>
<td><strong>Removal of the inhibition layer</strong></td>
<td></td>
<td><img src="image" alt="Removal" /></td>
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<tr>
<td><strong>Basic Gingiva</strong></td>
<td></td>
<td><img src="image" alt="Basic Gingiva" /></td>
</tr>
<tr>
<td><strong>Gingiva &amp; Intensive Gingiva</strong></td>
<td></td>
<td><img src="image" alt="Gingiva &amp; Intensive" /></td>
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<tr>
<td><strong>SR Gel</strong></td>
<td></td>
<td><img src="image" alt="SR Gel" /></td>
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<tr>
<td><strong>Finishing</strong></td>
<td></td>
<td><img src="image" alt="Finishing" /></td>
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<tr>
<td><strong>Polishing</strong></td>
<td></td>
<td><img src="image" alt="Polishing" /></td>
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