

Layering Concept with



irris direct

Swiss haute couture in direct esthetic restorations



1a



1b



1c



1d



1e



1f



1g



1h



1i

1j

Fig 1a: The preoperative view shows the poor adaptation of the previous direct composite veneers on teeth 11 and 21, as well as the resulting inflammation of the gums; the interdental papilla is flattened

Fig 1b: Preparations: the left incisor is not vital

Fig 1c: Placement of a rubber dam is essential in this case in order to maintain a dry and clean operative field. Ligatures made with dental floss secure the dam in the correct position, thanks also to the bonding agent which the floss has been impregnated with

Fig 1d: A silicone key was fabricated prior to beginning treatment and is used as a reference for the build-up of the incisal edges

Fig 1e: Polymerization of the dentin layer (*inspiro* Body i2); the view of the profile corresponds exactly to the visual perspective of the practitioner, allowing the profile of this restoration to be verified during build-up/layering

Fig 1f: This view shows the incisal cut-back of the dentin layer, which is necessary to obtain a natural appearance of the new incisal edge

Fig1g: The incisal view provides the third dimension; this "3D" approach allows to better evaluate shape and volumes during the layering and finishing phases of direct composite restorations

Fig 1h: Here, the finished veneer is shown on the left incisor, following application of the enamel layer (*inspiro* Skin White); on the left incisor, only the dentin layer is visible

Fig 1i: View of both veneers following finishing of the primary and secondary anatomy, prior to polishing

Fig 1j: Post-operative view, 3 days after restoration of both veneers; note the excellent recovery of the soft tissue. This case was treated without using any opaque base

SUMMARY of *inspiro*® SHADES

- Body i2
- Skin White



2a



2b



2c



2d



2e



2f



2g



2h

Fig 2a: Preoperative view showing a large composite restoration on tooth 21, whose shade is no longer satisfactory

Fig 2b: A silicone key is prepared prior to removal of the restoration; as no major modifications of the shape are planned, fabrication of a wax-up or mock-up is not required

Fig 2c: The previous composite has been removed and the extent of the preparation is clearly visible; the need of a silicone key becomes obvious

Fig 2d: Palatal application of the first enamel layer (*inspiro* Skin White), facilitated by the silicone key

Fig 2e: The dentin layer (*inspiro* Body i5) can now be applied, taking advantage of the anatomic reference provided by the palatal enamel layer

Fig 2f: The incisal view allows three-dimensional check of the anatomic layers of the restoration

Fig 2g: A second dentin layer (*inspiro* Body i4) was applied; a combination of Ice & Opaque Effect Shades is also applied in thin lines on the dentin, in order to simulate the fluorosis visible on the adjacent dentition (this step is not documented)

Fig 2h: The check of the buccal enamel layer thickness can be performed at this stage, thanks to the incisal perspective

Fig 2i-j-k: The application of the last enamel layer is complete and followed by another check in the three spatial dimensions (buccal/incisal/lateral)

Fig 2l: Finishing and polishing are complete

Fig 2m-n: Post-treatment view showing good anatomic, function and aesthetic adaptation



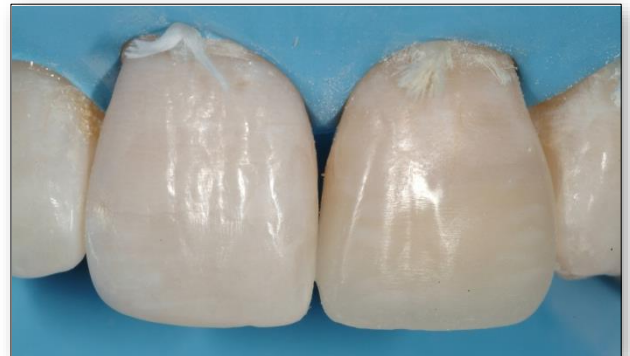
2i



2j



2k



2l



2m



2n

SUMMARY of *inspiro*® SHADES

- Body i4 & 5
- Ice & Opaque Effect Shades (mix approx. 50/50)
- Skin White



3a



3b



3c



3d



3e



3f



3g



3h

Fig 3a-b: Preoperative views (full smile and profile) of a young patient who presents a hypoplasia of upper anterior dentition, resulting in large diastemas (canine-canine)

Fig 3c: Given the complexity of the case, a wax-up and a silicone key (partial and complete) were prepared to guide the clinician as part of the function and aesthetic treatment approach

Fig 3d-e: A diagnostic mock-up is fabricated using acrylic resin (Protemp Garant® from 3M), which allows the expected treatment result to be assessed under realistic conditions, in accordance to the wax-up (guided mock-up)

Fig 3f: The color is selected using the special bilaminar shade guide from the *inspiro* system (Edelweiss DR)

Fig 3g: A proper isolation of the operative field using a rubber dam ensures optimal working conditions, particularly with regard to modification of the interdental shape that will extend up to the gum line

Fig 3h: Preference is given to the use of preformed matrixes (e.g. Adapt® or Lucifix® 775/776 from KerrHawe); they allow a more natural proximal profile and a better contact surface

Fig 3i: The use of a caliper allows the clinician to ensure that the dimensions of the restored teeth are symmetric

Fig 3j: The incisal edges are built up using a “freehand” technique with a thin layer of dentin (*inspiro* Body i2) and an enamel mass (*inspiro* Skin White), underneath which a fine layer of *inspiro* “Azur” effect shade is applied incisally to complete aesthetically the build-up

Fig 3k-l: Modifications of the shape and reconstruction of the lateral incisors follow the same layering principle; as far as possible, treatment begins with the two central incisors, followed by the lateral incisors, and ultimately by the canines (in this particular case, these are treated in a second session)

Fig 3m-n: View of the four incisors restored using the direct bonding technique “without preparation”. Here, the finishing performed on the primary and secondary anatomy is shown



3i



3j



3k



3l



3m



3n



3o



3p

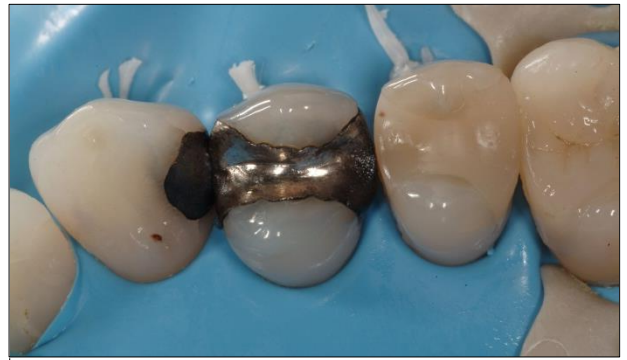
Fig 3o-p: Intraoral and extraoral views showing the treatment outcome, which takes into consideration the biology and the biomechanics of dental tissues; this case clearly highlights the fundamental changes in restorative dental medicine brought about by adhesive techniques and the quality of modern composite materials

SUMMARY of *inspiro*® SHADES

- Body i2
- Azur Effect Shade (incisal edge only)
- Skin White



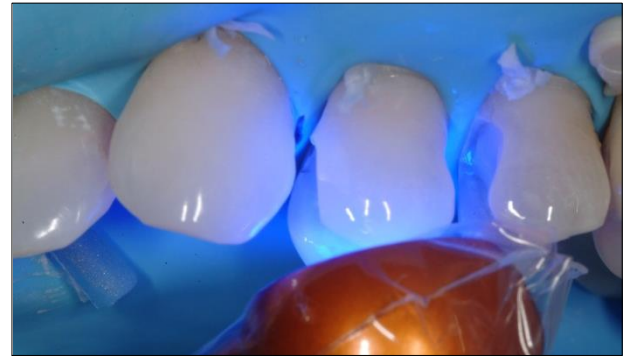
4a



4b



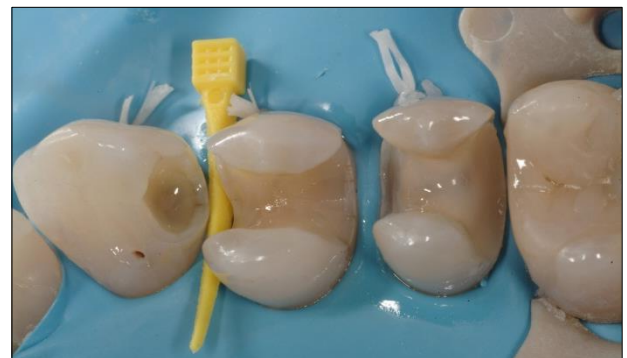
4c



4d



4e



4f



4g



4h

Fig 4a-b: Preoperative views (before and after rubber dam placement); an optimal isolation of the operative field is required for this type of treatment; these amalgams are to be replaced as they disturb aesthetically

Fig 4c: Preparation has been completed and reveals an average cavity size, suitable for a direct technique (layering)

Fig 4d: A total etch dental adhesive (e.g. OptiBond FL from Kerr) is applied and then polymerized

Fig 4e-f: A layer of flowable composite (*inspiro* flow Body i3 or i4) is applied on all dentinal surfaces; this cavity liner of flowable material, more flexible, contributes to better manage the stress caused by polymerization

Fig 4g-h: The use of a sectional matrix system (e.g. Composi-Tight from Garisson Dental Solutions or V-Ring from Triodent) facilitates the creation of an appropriate morphology and proximal adaptation as well as a tight contact points. An enamel mass (*inspiro* Skin Neutral or White) is applied in layers (3 sites, horizontal or oblique) in the proximal areas

Fig 4i: The proximal surfaces are built-up individually to ensure a very tight contact point

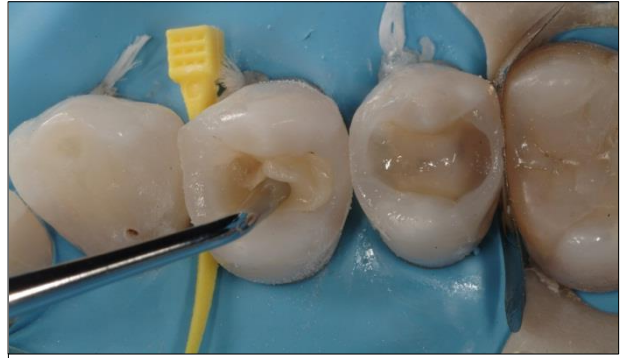
Fig 4j-k: A dentin mass (*inspiro* Body i3 or i4) is applied to cavity floor and sculpted (Composculp Set® from Hu-Friedy), creating natural-looking dental anatomy; this modelling technique reduces the stress caused by polymerization (central groove) and ensures the necessary space for the enamel layer

Fig 4l-m: A final enamel layer as occlusal surface (*inspiro* Skin Neutral or White) is applied taking in to consideration anatomical and functional aspects (Composculp DD1/DD2)

Fig 4n: A fine layer of "Fissure" Effect Shade is applied to the base of the groove; this is the final touch by the dental surgeon "artist"



4i



4j



4k



4l



4m



4n

SUMMARY of *inspiro*® SHADES

- Body i4
- Skin Neutral
- "Fissure" Effect Shade for characterization of the grooves

MODELLING INSTRUMENTS :

Composculp Set ® (Hu-Friedy)

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