

PALFIQUE ASTERIA

CLINICAL GUIDE

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INTRODUCTION

PALFIQUE ASTERIA is developed to realize simplified 2 step layering composite restorations as well as outstanding esthetic results. With only 5 Body shades and 2 Enamel shades, PALFIQUE ASTERIA Essential Kit will complement a wide-range of natural dentition.

The Body shades have excellent blending ability with less width of margin bevel thanks to their state-of-the-art optical properties.

The Body shades provide some translucency with sufficient opacity to avoid shining through without the use of opaque or dentin shades. A1-A4 Body shades blend with most natural dentition. Supplemental Body shades are available; BL is designed for high value bleached teeth and B3B for yellowish teeth.

The Enamel shades have compatible translucency as a substitute for natural enamel. The primary use of the NE shade is for anterior teeth and the OcE is for the posterior occlusal area. The 3 supplemental Enamel shades (substitutes for NE) may be used for the following applications: TE is for high translucent anterior teeth, WE is for whitish enamel and YE is for discolored or orangish enamel.

Layering concept and shading system of PALFIQUE ASTERIA are designed by Dr. Noboru Takahashi.

PALFIQUE ASTERIA

	Essential Kit	Supplement
Body	A1B, A2B, A3B, A3.5B, A4B	BL, B3B
Enamel	NE, OcE	TE, WE, YE

MATERIAL

PALFIQUE ASTERIA contains various optical properties to achieve an esthetic restoration while inheriting Tokuyama's patented filler and polymerization initiator technologies.

PALFIQUE ASTERIA contains 82% by weight / 71% by volume of silica-zirconia filler and composite filler. Every inorganic filler contained in PALFIQUE ASTERIA is spherically shaped (mean particle size 200nm). This Supra-Nano spherical filler facilitates a very smooth surface with superior gloss that is easily obtained with polishing and is sustained long-term. A high filler load offers decreased polymerization shrinkage and competitive wear resistance.

PALFIQUE ASTERIA offers a quick (reduced) curing time and an extended working time under the operator light by "Radical Amplified Photopolymerization (RAP) Technology".

PALFIQUE ASTERIA has excellent handling properties; it is not sticky and easy to sculpt.

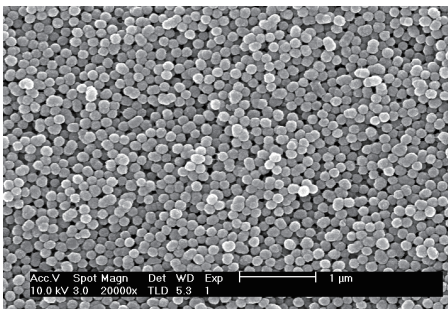


Fig.1 - SEM image of spherical filler

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SHADE DETERMINATION

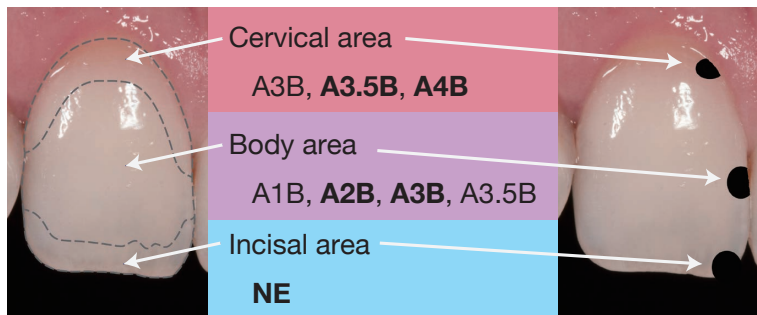


Fig.2 - Suggested shade selections (Essential Kit). The shades listed in **bold** are highly recommended.

A single shade restoration is recommended with PALFIQUE ASTERIA in cases of small cavities for the anterior and the buccal portion of the posterior. Shade selection can be determined by the anatomic location of lesions or defective restorations to be restored. A Body shade is preferable in both the cervical and body area, while NE is suitable for incisal translucent area. Better esthetic results can be brought to cases of extensive cavities with the 2-shade restoration approach. The 2-shade restoration consists of a Body shade and NE. NE is suitable for most cases. The WE, YE and TE Enamel shades are utilized in place of NE for particular cases (WE-whitish, YE-discolored or orangish and TE-high translucency). Shade determination for occlusal portions of the posterior will be discussed in the posterior restoration section.

SHADE DETERMINATION

Shade determination is obtained by either Vita® shade guide, placement of the material on the tooth, or the PALFIQUE ASTERIA CUSTOM SHADE GUIDE.



Fig.3 - Vita® shade guide

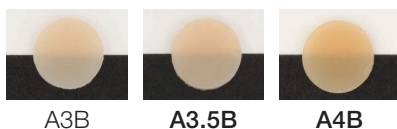


Fig.4 - Placement of the material

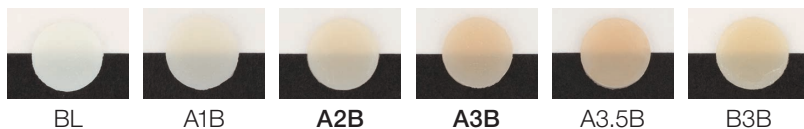


Fig.5 - Custom shade guide

Cervical area



Body area



Incisal area

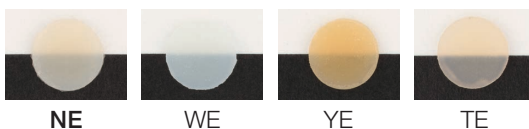


Fig.6 - Suggested shade selections. The shades listed in **bold** are highly recommended.

*Vita is not registered trademarks of Tokuyama Dental Corporation.

FINISHING AND POLISHING PROCEDURES

PALFIQUE ASTERIA has magnificent polishability and superior luster retention. High surface reflectivity can be acquired easily and quickly. A 3-step technique to finish restorations is introduced here, but other convenient items, such as a 1-step technique using rubber points, are also effective.

Reshaping and recontouring

1



Fig.7



Fig.8

Fig.7 - Excess composite can be removed with scalpels.

Fig.8 - Fine diamond burs are utilized to reshape and recontour restorations.

Initial polishing

2



Fig.9



Fig.10

Fig.9 - The initial polishing is carried out with rubber points.

Fig.10 - Proximal finish can be performed with finishing strips.

Final polishing

Final polishing is achieved with various polishing items. Below are some examples, each work well alone or may be combined.



Fig.11



Fig.12



Fig.13

Fig.11 - A silicon carbide brush.

Fig.12 - An extra-fine finishing disk.

Fig.13 - A felt wheel with diamond polishing paste or a felt disk with aluminum oxide paste.



Fig.14



Fig.15

Fig.14 - After cavity preparation.

Fig.15 - After polishing.

POSTERIOR RESTORATIONS

Using PALFIQUE ASTERIA, exquisite direct composite posterior restoration can be accomplished in a very simple manner.

OcE is designed to replicate occlusal color and morphology.

It has nice sculptability and **OcE** blends with most occlusal shades.

Then shade taking is not necessary in occlusal restoration.

There are 2 layering guidelines depending on cavity depth.

Restorations can be carried out with **OcE** in shallow cavities, and **A3.5B** &

OcE in deep cavities.

CLASS I SHALLOW CAVITY RESTORATION

ONE-LAYER TECHNIQUE

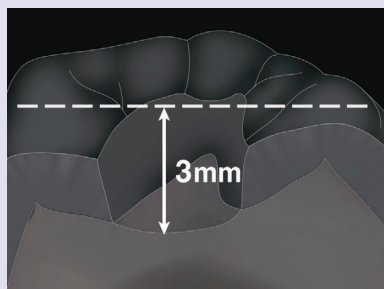


Fig.16 - After cavity preparation, draw an auxiliary line between cusp tips. In shallow cavity, the distance between cavity floor and the auxiliary line is about 3.0-3.5 mm. Enamel etching and bonding procedure are performed.

1

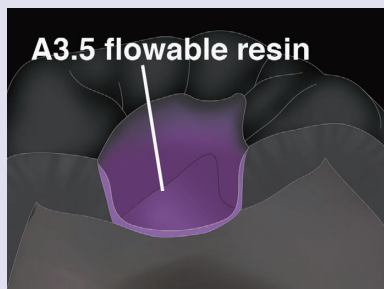


Fig.17 - An A3.5 flowable composite resin is applied as a cavity liner. Select A3.5 in any case. The flowable composite resin is thinly distributed. The ideal thickness of the lining resin is 0.2-0.3mm. Light cure according to manufacturer's instruction.

2

POSTERIOR RESTORATIONS

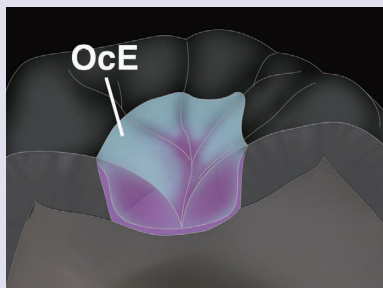


Fig.18 - An increment of **OcE** is applied and sculpted to replicate natural occlusal anatomy.

Note: The deep groove area is not covered by OcE to show high chroma A3.5 flowable composite resin color. Light cure for 10 seconds and proceed to finishing and polishing procedure.

3

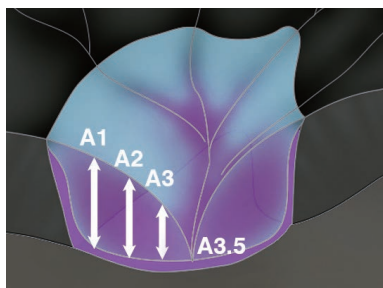


Fig.19 - OcE is partially translucent. Value of restoration goes up according to growing thickness of OcE. Polychromatic restorations can be acquired by 3D gradation effect without utilizing tints or staining resins.



Fig.20 - A clinical case of class I shallow cavity. After cavity preparation, enamel etching is performed with phosphoric acid. Water rinse and air dry. Bonding procedure is going to be carried out with a bonding system according to its manufacturer's instructions.

1

POSTERIOR RESTORATIONS



Fig.21 - An auxiliary line between cusp tips is marked by an explorer. Distance between cavity floor and the explorer is measured with a periodontal probe. The distance is 3mm in this case.

2

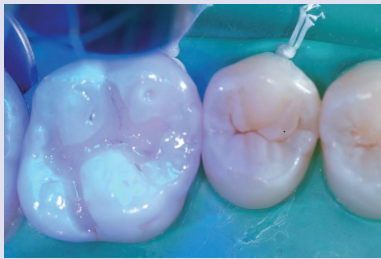


Fig.22 - An increment of A3.5 flowable resin is applied as a cavity liner, and light cured.

3



Fig.23 - An increment of **Océ** is applied and sculpted to replicate natural occlusal anatomy. A fine explorer is utilized to shape grooves. Light cure for 10 seconds.

4



Fig.24 - Postoperative occlusal view. This simplified one layered restoration produces a polychromatic natural appearance and blends in.

5

POSTERIOR RESTORATIONS

CLASS I DEEP CAVITY RESTORATION TWO-LAYERS TECHNIQUE

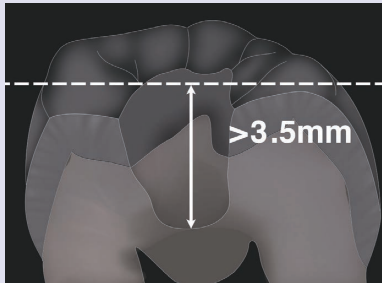


Fig.25 - After cavity preparation, draw an auxiliary line between cusp tips. In deep cavity, the distance between cavity floor and the auxiliary line is more than 3.5 mm. Enamel etching and bonding procedure are performed.

1

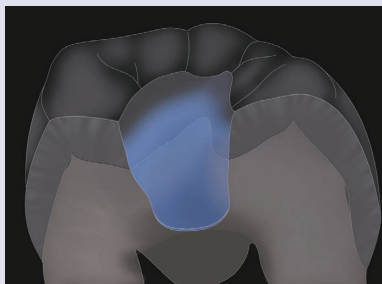


Fig.26 - A flowable composite resin is applied as a cavity liner. The flowable composite resin is thinly distributed. The ideal thickness of the lining resin is 0.2-0.3mm. Light cure according to manufacturer's instruction.

2

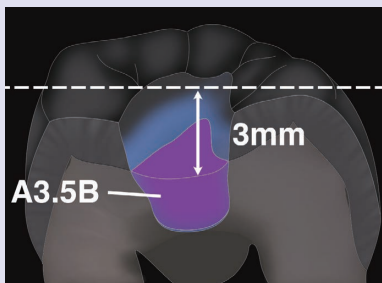


Fig.27 - An increment of **A3.5B** is applied and manipulated until roughly flat. It doesn't have to be sculpted as natural dentin shape. Level of A3.5B is just 3.0mm from the auxiliary line between cusp tips. Light cure for 10 or more seconds.

3

POSTERIOR RESTORATIONS

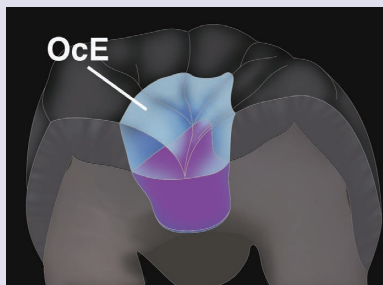


Fig.28 - An increment of **OcE** is applied and sculpted to replicate natural occlusal anatomy.

Note: The deep groove area is not covered by OcE to show high chroma A3.5B color. Light cure for 10 seconds and proceed to finishing and polishing procedure.

4



Fig.29 - A case with partly deep cavity. After lining of flowable resin is performed, **A3.5B** is applied and manipulated until roughly flat with a flat end instrument.

1



Fig.30 - The level of A3.5B is just 3mm from the auxiliary line between cusp tips. Light cure for 10 or more seconds. Now the cavity can be treated just like shallow cavities.

2



Fig.31, 32 - **OcE** is applied and sculpted with instruments, brushes, and fine explorers. Polychromatic appearance is represented automatically without utilizing tints or staining resins.

3

POSTERIOR RESTORATIONS

CLASS II RESTORATION FOR MODERATE & EXTENSIVE CAVITY

It is beneficial to alter cavities from class II to class I by building the proximal anatomy first.

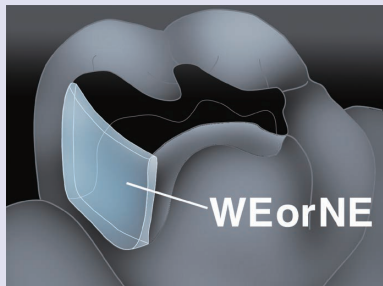


Fig.33 - The enamel etching and bonding procedure have performed. After placement of the lining with a flowable composite, an increment of **WE** or **NE** is applied to establish the proximal wall. Light cure for 10 seconds.

1

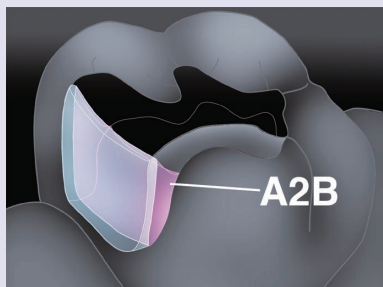


Fig.34 - The proximal interspace is filled with a Body shade; A2B is recommend. Light cure for 10 or more seconds.

2

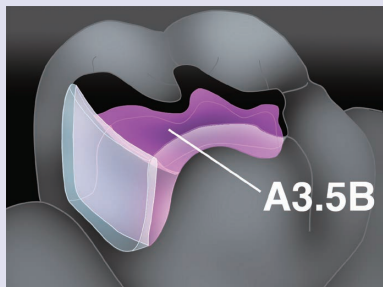


Fig.35 - Once the proximal wall is completed the remaining cavity is restored as a class I cavity.

See class I protocol.

3

POSTERIOR RESTORATIONS

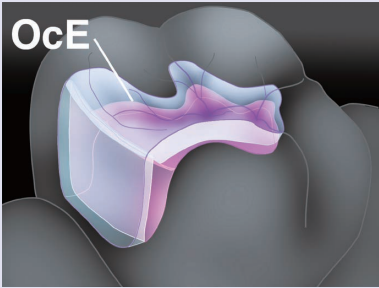


Fig.36 - An increment of **OcE** is applied and sculpted to replicate natural occlusal anatomy.

Note: The deep groove area is not covered by OcE to show high chroma A3.5B color. Light cure for 10 seconds and proceed to finishing and polishing procedure.

4



Fig.37 - Preoperative occlusal view of upper 1st molar demonstrates the presence of a defective restoration and an interproximal carious lesion.

1



Fig.38 - After a conservative preparation is made, enamel etching and bonding procedure are performed.

2

POSTERIOR RESTORATIONS



Fig.39 - After placement of the lining with a flowable composite is completed, a proximal matrix, a wedge, and a retainer ring are placed. An increment of **WE** is applied to make a proximal wall. **NE** may be used in place of WE.

3



Fig.40 - Proximal interspace is completed with a Body shade; A2B is recommended. Light cure for 10 or more seconds. Once the proximal wall is completed the remaining cavity is restored as a class I cavity.

See class I protocol.

4



Fig.41 - An increment of **OcE** is applied and sculpted. After 10 or more seconds of light curing, proceed to finishing and polishing procedures.

5

POSTERIOR RESTORATIONS

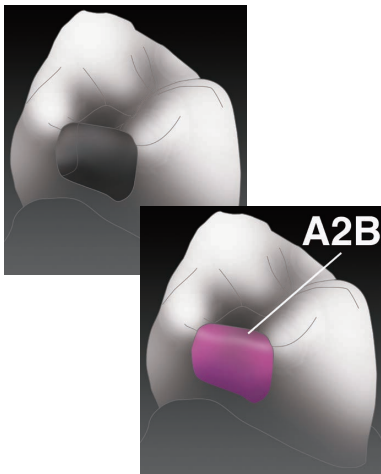


Fig.42 - Postoperative occlusal view of the definitive restoration. The functional and esthetic finish has been achieved in a very simple and efficient method.

6

CLASS II RESTORATION FOR SMALL CAVITY

Bulk filling technique is effective for proximal small cavities, a body shade is recommended for this procedure.



For proximal small cavities (within 2 mm depth), it is advisable to fill cavities with one increment of Body shade of composite. A2B or A1B is recommended (**Fig.43**).

Fig.43

ANTERIOR RESTORATIONS DIASTEMA CLOSURE

A diastema closure is accomplished with 2-layers, a Body shade and NE are utilized in a simplified technique (Fig.44).

In a narrower diastema the procedure may be finished using NE in 1-layer (Fig.45).

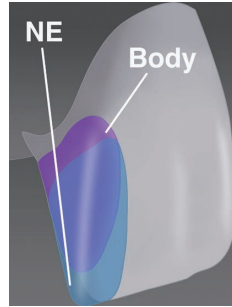


Fig.44

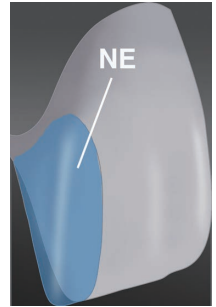


Fig.45

1



Fig.46- Preoperative view of facial aspect demonstrates the presence of a diastema with a defective restoration. After removal of the old restoration and rubbing enamel with abrasive paste or sandblasting, enamel is etched by the following manner.



Fig.47 - Enamel etching is performed with phosphoric acid. Water rinse and air dry.



Fig.48 - Bonding procedure is performed.

DIASTEMA CLOSURE

2

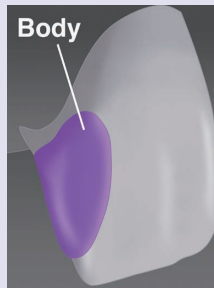


Fig.49, 50 - Appropriate Body shade is applied, and sculpted. Leave room for the next layer in incisal translucent area.

3

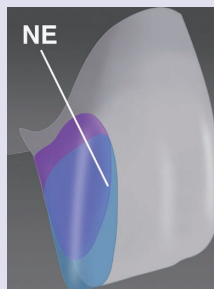
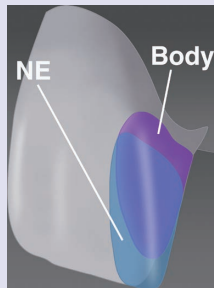


Fig.51, 52 - After light curing for 10 seconds (A4B; 20 sec.), NE is applied, and sculpted. NE is not required to cover cervical third of Body layer. Light cure for 10 seconds.



4

Fig.53, 54 - Following the same application protocol, restoration is proceeded on the other tooth. TOKUYAMA DENTAL BRUSH No.24 is utilized to smooth the final increment of **NE**.



5

Fig.55 - Postoperative appearance following finishing and polishing.

Note: The invisible margin and natural translucency in incisal area.

The completed restoration by means of a minimally invasive approach delivered esthetic enhancement and healthy function.

CLASS IV RESTORATION

A class IV restoration is also accomplished with 1 or 2-layers in a simplified technique. Prior to definitive restoration, bevel preparation on facial enamel should be performed (**Fig.56**).

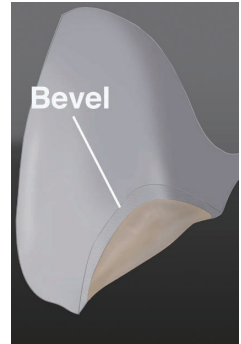


Fig.56

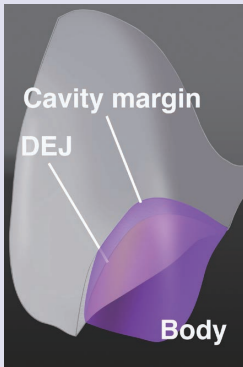


Fig.57 - A class IV is usually started with an increment of a Body shade. Beveled preparation should be covered with appropriate Body shade. It has great ability to blend into the marginal enamel. Leave room for **NE** in the translucent incisal area.

1

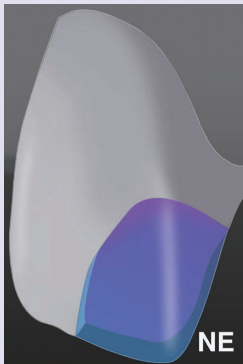


Fig.58, 59 - After light curing, a final increment of **NE** is placed in the incisal translucent area, and contoured to the final anatomical form.

2

CLASS IV RESTORATION

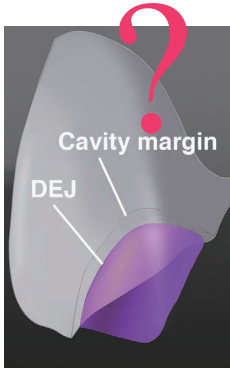


Fig.60

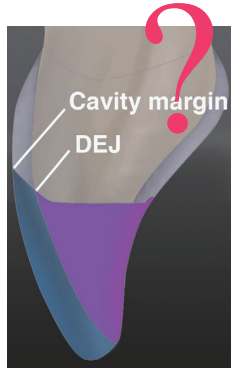


Fig.61

If Body increment reaches up only to dentino-enamel junction, the esthetic result could be compromised. PALFIQUE ASTERIA's layering strategy differs from other composite layering systems (Fig.60, 61).

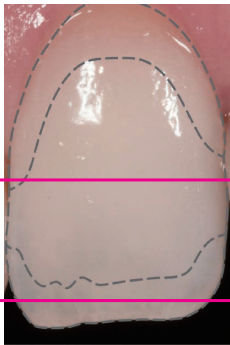


Fig.62

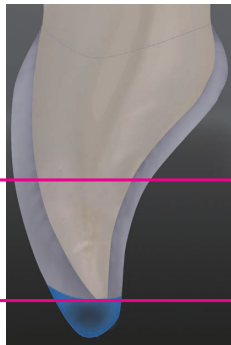


Fig.63

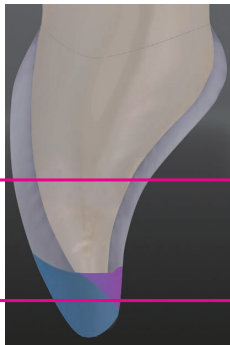


Fig.64

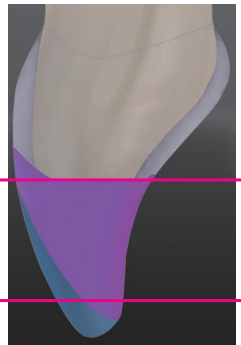


Fig.65

In cases where defects are localized in the incisal translucent area, the restoration should be achieved with NE alone (Fig.62 & 63).

If defects are not extensive, the amount of Body shade should be limited to represent proper incisal translucency (Fig.62 & 64).

CLASS IV RESTORATION

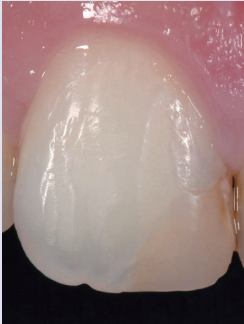


Fig.66 - Preoperative view of facial aspect of right upper central incisor demonstrates the presence of a discolored defective class IV direct composite restoration.

1

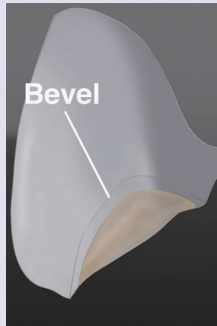


Fig.67, 68 - After removal of the defective restoration and carious tissue, a beveled preparation is performed. After enamel is etched with phosphoric acid, the bonding procedure is performed.

2

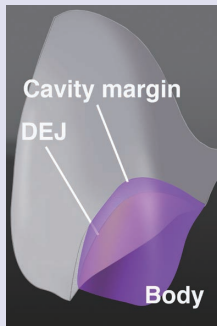


Fig.71 - Lingual shelf can be developed in advance by utilizing a silicon matrix technique with NE optionally.

Fig.69, 70 - An increment of Body is placed and sculpted.

Note: The Body should cover enamel margin. Leave room for the next increment in incisal translucent area. Dentin mamelons are created in this case, which can be omitted. Light cure for 10 seconds (A4B; 20sec.).

3

CLASS IV RESTORATION

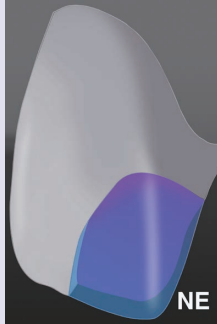


Fig.72, 73 - An increment of **NE** is placed in incisal area and contoured to the final anatomical form. The surface is smooched with a brush. Light cure for 10 seconds.

4



Fig.74 - Postoperative appearance following finishing and polishing.

Note: The invisible margin and natural translucency in incisal area. The completed restoration by means of minimal invasive approach demonstrates harmonious integration of function and esthetics.

5

CLASS III RESTORATION

A class III restoration is also accomplished with 1 or 2 layers in a simplified technique. It should be restored with a Body shade for the most part, regardless of cavity size. A thin layer of NE is applied on the Body layer in cases that high surface translucency is necessary.

1-layer restoration

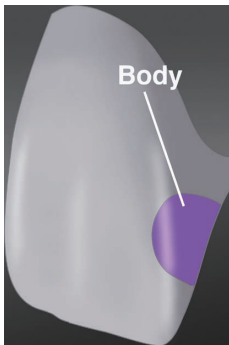


Fig.75

One Body layer is adequate to restore class III defects for the most cases. Body shades have enough opacity to prevent shine through as well as a certain amount of translucency to mimic natural enamel appearance (**Fig.75**).

2-layers restoration

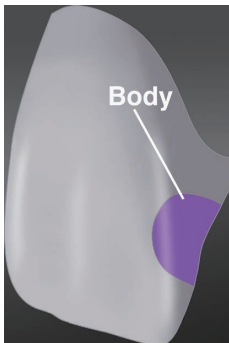


Fig.76

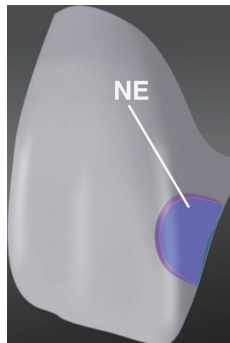


Fig.77

In cases that high surface translucency is necessary, thin layer of **NE** is applied on the Body layer. It is important that the Body shades cover entire enamel margin in the first layer (**Fig.76, 77**).

CLASS III RESTORATION



Fig.78 - Preoperative view of facial aspect of tooth central incisors demonstrates the presence of discolored defective composite restorations.

1



Fig.79 - After removal of the defective restorations and carious tissue, the enamel is etched with phosphoric acid, and the bonding procedure is performed.

This patient received a whitening treatment, then BL Body was selected for the first layer.

2



Fig.80 - BL Body is placed and light cured. Then a thin layer of NE is applied. After light curing, finishing and polishing procedure are performed. Final result demonstrates proper value and surface smoothness of the restoration.

3

CLASS V RESTORATION

A class V restoration is accomplished with 1 or 2 layers in a simplified technique. It should be restored with a Body shade for the most part, regardless of cavity size. A thin layer of NE or YE is applied on the Body layer in cases that high surface translucency is necessary.

2-layers restoration



Fig.81 - Preoperative view of the facial aspect of an upper canine demonstrates the presence of a complex situation of non-carious cervical lesion and caries.

1



Fig.82, 83 - After rubber dam isolation and retraction cord placement, a cavity preparation is performed. A 1.5mm bevel is placed along the occlusal margin for an extensive cavity. A bevel is not necessary for normal class V cases due to the high color blending ability of PALFIQUE ASTERIA.

2

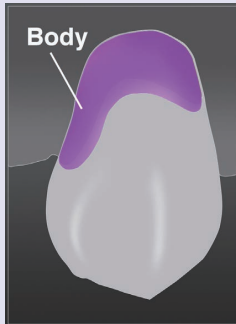


Fig.84, 85 - A chlorhexidine application is performed optionally, enamel etching and bonding procedure are completed. Lining of flowable resin is performed. Then a high chromatic Body shade (**A3B, A3.5B, A4B**) is selected and placed.

Note: that an increment of Body shade covers entire cavity margin. Light cure for 10 seconds (A4B; 20 sec).

3

CLASS V RESTORATION

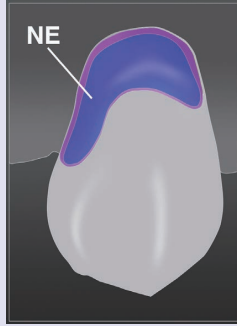


Fig.86-87 - An increment of NE is placed and formed to thin layer. Light cure for 10 seconds. Finishing and polishing procedures are performed.

4

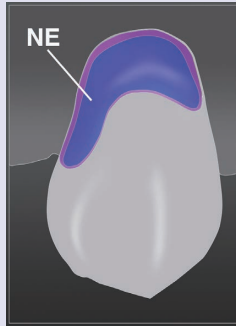


Fig.88, 89 - Postoperative appearance demonstrates harmonious integration of function and esthetics.

5

1-layer restoration

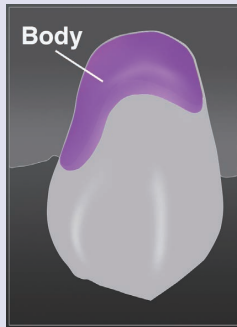


Fig.90, 91 - Postoperative facial view of a case restored with only one Body layer (A3.5B). Esthetic result with satisfaction can be delivered in most cases with a simplified one layer restoration.

1



PALFIQUE ASTERIA SYRINGE ESSENTIAL KIT

7 Syringes (4g each)

Body: A1B, A2B, A3B, A3.5B, A4B

Enamel: NE, OcE

Clinical Guide



PALFIQUE ASTERIA SYRINGE Refill

1 Syringe (4g)

Available shades:

Body: A1B, A2B, A3B, A3.5B, A4B, B3B, BL

Enamel: NE, OcE, WE, YE, TE



PALFIQUE ASTERIA CUSTOM SHADE GUIDE

15 Shade Guide Handles, Mold, Holder

Custom Shade Guide allows you to build and personalize according to your own preferences. Customize your palette and create the exact shade of your composite.



ESTELITE COLOR KIT

(Light-cured characterizing Material)

13 Syringes (0.9g each)

ESTELITE COLOR Refill

1 Syringe (0.9g)

Available shades:

Clear, White, Blue, Yellow, Gray, Ochre, Dark Brown, Red, Lavender, Pink Opaque, High Chroma Opaque, Medium Chroma Opaque, Low Chroma Opaque



Brush No.24

5 Double-Ended Brushes



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