

Wolfgang UECKER W PROCEDURES FOR
**ANTERIOR FREE-HAND
COMPOSITE RESTORATIONS**



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For

DENTSPLY ¹
DETREY Products

Free-hand Anterior Composite Restorations with



Free-hand composite restorations are indicated for class III, IV, V, veneers as well as corrections of shape & dimension and cosmetic enhancements. According to cavity or decay configuration, a centrifugal technique (dentin build-up and then enamel build-up) or linguo-buccal technique (first lingual increment, usually against a silicone index, then dentin increment and finally, buccal enamel build-up) are applied. The number of increments depends on the cavity size.

NB: Manufacturer names are provided only for non-DeTrey Dentsply products & instruments

Restorative steps	materials, instruments, timing
Shade selection for: - Dentin - Enamel - Effect materials	(Ceram-X duo shade guide) - chroma selected in the cervical area using dentin shade guides - visual determination of appropriate tint & translucency; control with enamel shade guide - chromatic map for white, opalescent & high chroma spots/areas
Diagnostic mock-up or wax-up Silicone index	- on study casts, laboratory generated <i>or</i> - free hand, in mouth, with composite (any shade) <i>(Any putty C Silicone for the fabrication of indexes in prosthodontics)</i>

<p><i>Tooth preparation:</i></p> <ul style="list-style-type: none"> -removal of existing metallic restoration -removal of existing tooth-coloured restoration -internal cavity shape -cavity limits & margins 	<p>carbide bur: cylindrical round or round</p> <p>regular diamond* bur: cylindrical round or round</p> <p>regular diamond* bur: round</p> <p>fine diamond** pear or flame shape</p>
<p>Field isolation & tooth-cavity cleaning</p>	<p>rubber dam (Latex: i.e.: Hygenic or Non-latex: i.e.: Hygenic/Roeko, Flexidam or Silicone Dam)</p> <p>Non-fluoridated cleaning paste or air-abrasive device (<i>Prohy-jet.</i>)</p>
<p>Biological protection: only for direct pulp capping in case of “bleeding” pulp</p>	<p>Calcium-hydroxide application (i.e.: <i>Pulpdent paste</i>)</p> <p>Calcium-hydroxide hard cement (i.e.: <i>Dycal, DeTrey-Dentsply; Life, Kerr</i>): punctual application</p>
<p>Adhesive procedures I: “total etch technique”</p> <p>Conditioning</p> <p>Adhesive application</p> <p>!!! Avoid using thick layers of adhesive at the margins as it could result in a “window” effect, visible as grey shadow around the restoration</p>	<p>Enamel: H₃PO₄ 36% (<i>Conditioner 36%</i>) for 15-30s <i>prior to, and then together with:</i></p> <p>Dentin: H₃PO₄ 36% (<i>Conditioner 36%</i>) 5 to 15s</p> <ul style="list-style-type: none"> - rinsing: water stream, without excessive pressure, ≥15s - "blot drying": remove water in excess with suction, dentin remains moist (shiny but no water film on the surface), enamel got dryer <p>Prime & Bond system (<i>XP Bond</i>)</p> <ul style="list-style-type: none"> - brushing on dentin surfaces, 2 x 15s - removal of solvent & water excesses : suction, light air-spray - bonding resin: cover all surfaces (thick layer, except on margins), wait 30s - light activation: min 20s, direct irradiation (<i>Smartlite PS</i>)
<p>Adhesive procedures II: “self etch adhesive - single bottle system”</p> <p>Conditioning</p>	<p>Enamel: H₃PO₄ 36% (<i>Conditioner 36%</i>) for 15 to 30s</p> <ul style="list-style-type: none"> - rinsing: water stream, ≥15s - drying with air spray
<p>Adhesive application</p> <p>!!! Avoid using thick layers of adhesive at the margins as it could result in a “window” effect, visible as grey shadow around the restoration</p>	<p>One step adhesive system (<i>Xeno V</i>)</p> <ul style="list-style-type: none"> - deposit adhesive over all surfaces and wait for 20s - dry adhesive layer for ≥ 2s with light air spray - light activation for ≥ 10s (<i>Smartlite PS</i>)

<p><i>Filling technique following the “Natural Layering Concept” :I linguo-buccal technique</i></p> <ul style="list-style-type: none"> - 1st enamel lingual layer against silicone index - Dentin build-up - Proximal enamel build-up - Buccal enamel build-up 	<p>Enamel (<i>E1 to E3</i>). Composculp kit (<i>DD3 to DD6; Suter Dental</i>), light irradiation (20 s/1mm layer) (<i>Smartlite PS</i>)</p> <p>Dentin choice, as defined by initial shade selection (<i>DB or D1 to D4</i>). Composculp kit (<i>DD3 to DD6; Suter dental</i>), light irradiation (20s/1mm layer)</p> <p>Enamel choice (<i>E1 to E3</i>), as defined by initial shade selection, light irradiation (10s/1mm layer).</p>
<p><i>Filling technique following the “Natural Layering Concept” :II centrifugal technique</i></p> <ul style="list-style-type: none"> - Dentin build-up - Enamel build-up 	<p>Dentin choice, as defined by initial shade selection (<i>DB or D1 to D4</i>). Composculp kit (<i>DD3 to DD6; Suter dental</i>), light irradiation (20s/1mm layer) (<i>Smartlite PS</i>)</p> <p>Enamel choice (<i>E1 to E3</i>), as defined by initial shade selection, light irradiation (10s/1mm layer).</p>
<p><i>Matrix placement:</i></p> <ul style="list-style-type: none"> - flat surfaces - convexe surfaces 	<ul style="list-style-type: none"> - regular Mylar strip - Precontoured matrixes with plastic wedges (<i>i.e.: Lucifix 575 & 576, Hawe Neos-Kerr</i>)
<p>Finishing:</p> <ul style="list-style-type: none"> - shape & contours flat surfaces - shape & contours concave surfaces - micromorphology - proximal margins 	<ul style="list-style-type: none"> -Finishing discs (<i>i.e.: Softlex, Pop-on, 3M</i>): crests, proximal areas (no water spray) -Fine diamond** burs – bud shape: (light pressure, low speed and no water spray) - Fine diamond** burs –flame or conical shapes: (light pressure, low speed and no water spray) - finishing strips (<i>i.e.: 3M</i>)
<p>Rebonding (when necessary = microporosities)</p>	<p>Sealing resin (<i>XP Bond or Fortify, Biscover, Bisco; Permaseal, Ultradent, etc...</i>). 20s irradiation on each surface</p>
<p>Polishing</p>	<p>Silicone points (<i>Enhance Polishing Kit</i>) (with air or water spray)</p> <p>Soft wheels with polishing pastes (<i>Enhance Polishing Kit</i>) (dry) or Polishing points (<i>PoGo</i>)</p>

* medium or coarse grit: 85-100 mm or 125-150 mm

** fine grit: 45-50 mm