

# MASTERING COMPOSITES – Hand-out

*Newton Fahl, Jr., DDS, MS*

## Selecting the Restorative Composites

**Physical Properties:**

- Sculptability
- Fracture toughness
- Wear resistance
- Polishability
- Color stability

**Color/Optical Properties:**

- Opacity (dentin: 50 % opaque)
- Translucency (enamel: 70 % translucent)
- Fluorescence
- Opalescence

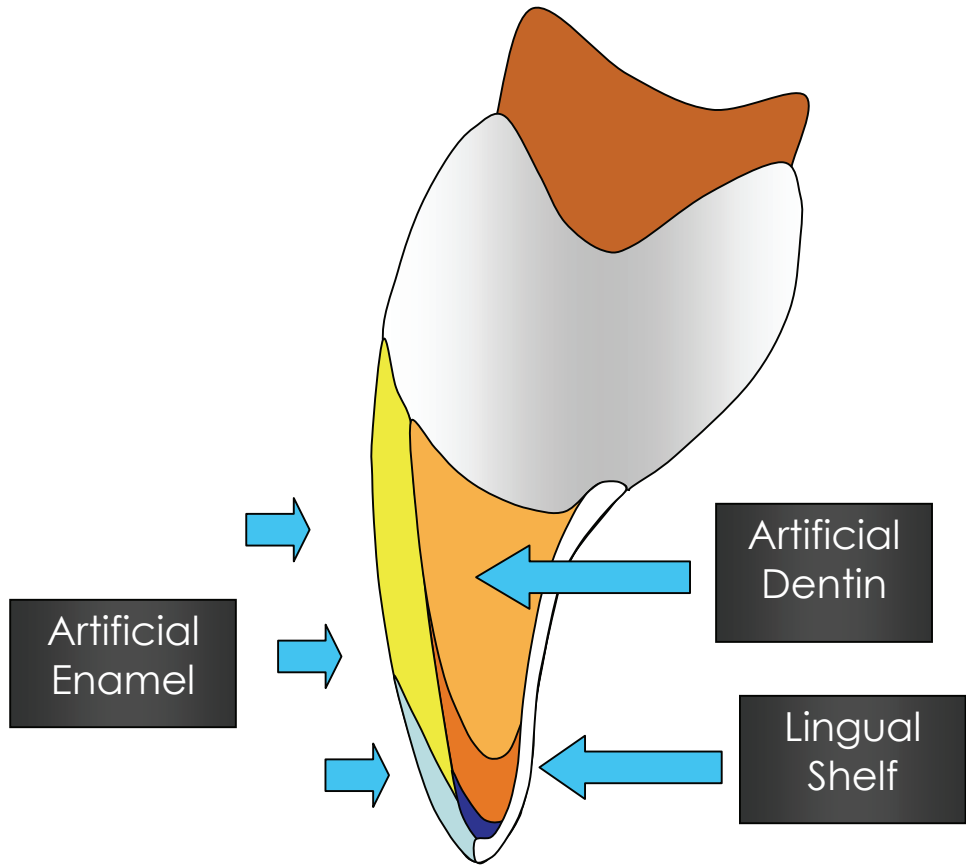
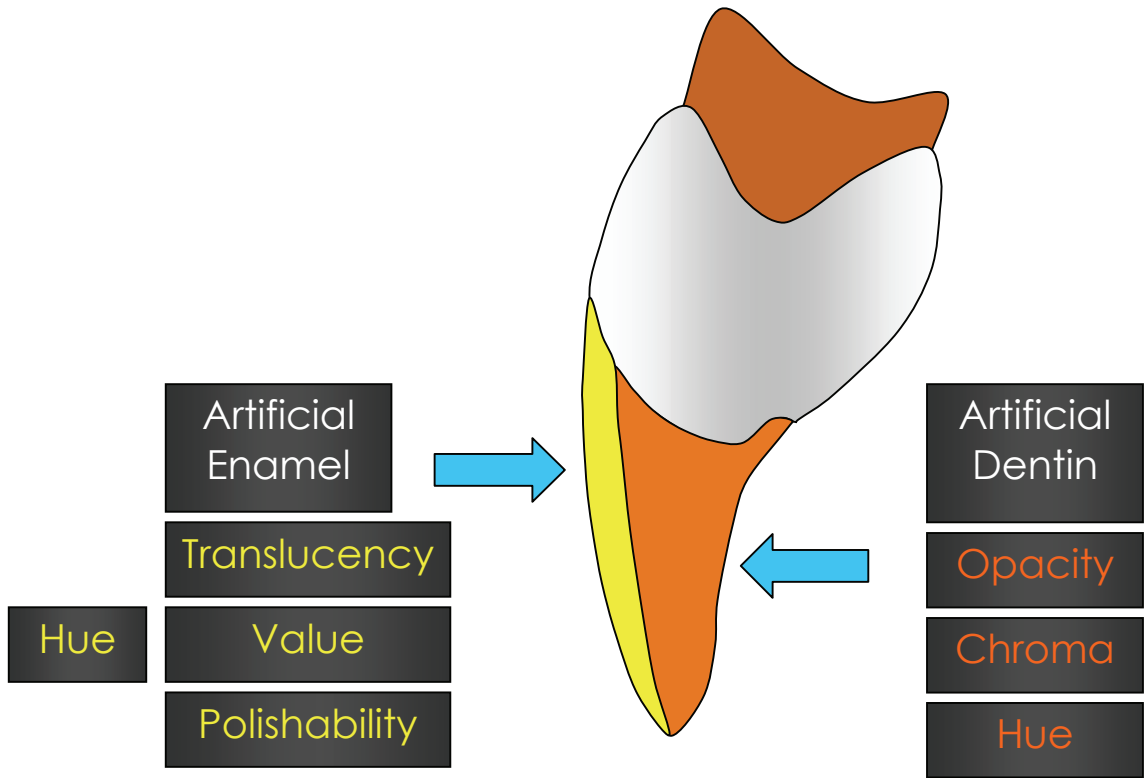
### Terminology:

Artificial Dentin – Every composite that is used to replace the missing natural dentin according to its physical, optical, and color properties.

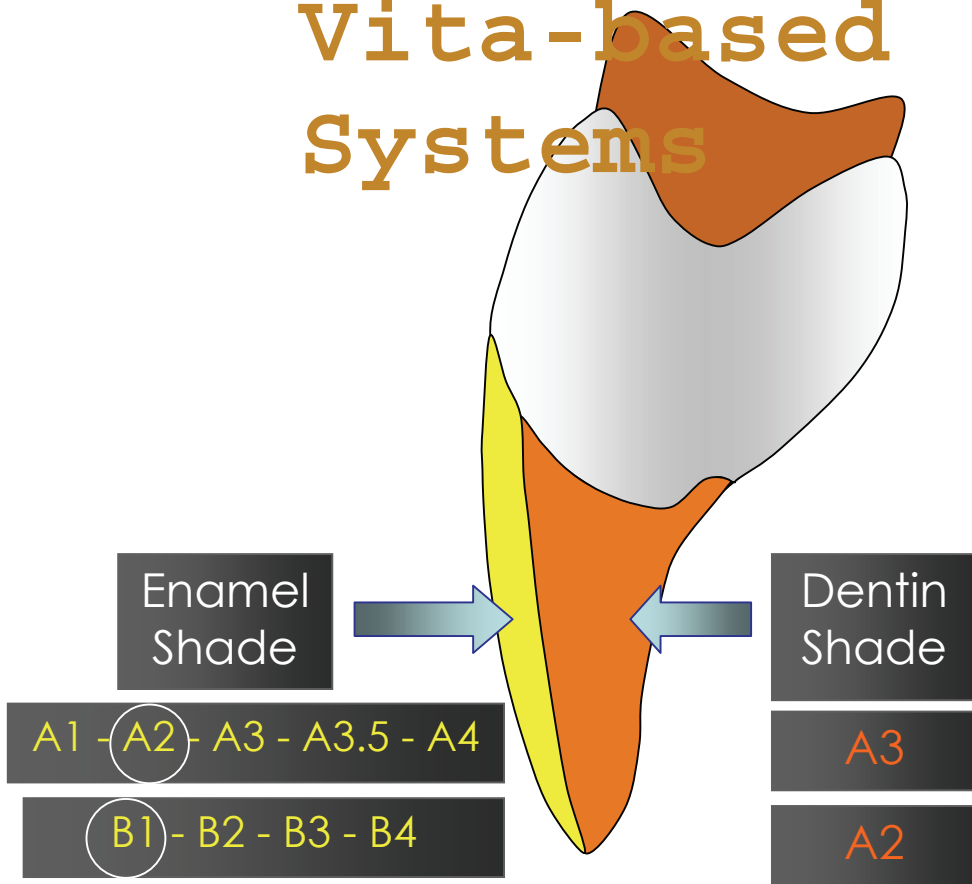
Artificial Enamel – Every composite that is used to replace the missing natural enamel according to its physical, optical, and color properties.

Most restorations can be performed with only four shade categories:

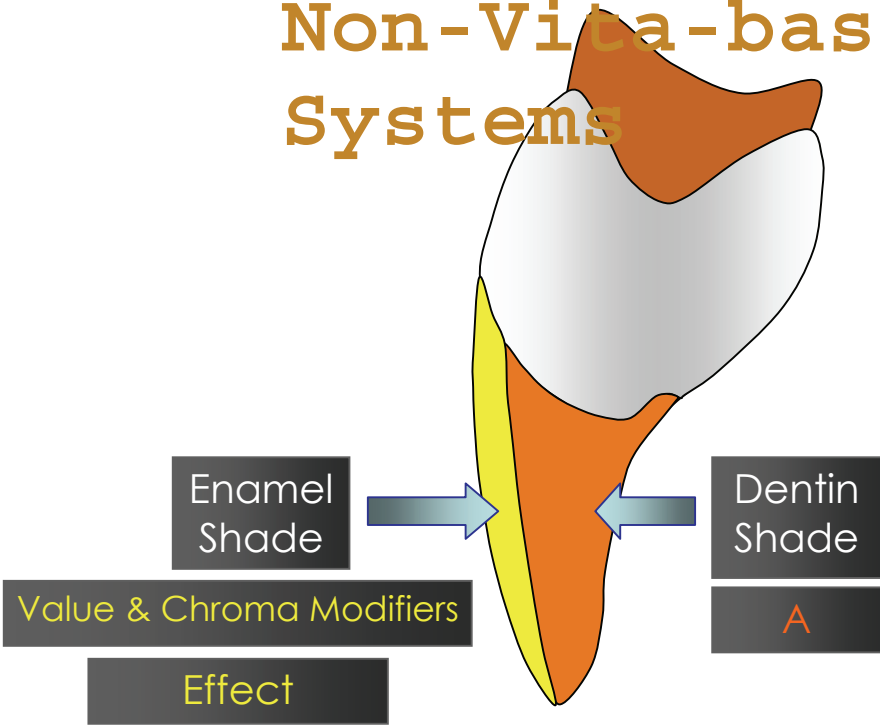
- **Artificial Dentin**
- **Artificial Enamel**
  - **Body Enamel** – based on the vita shade guide, it bears value, chroma, and especially HUE to the restoration.
  - **Effect Enamels**
    - Translucent Enamel – for creating deep translucency
    - Milky-White Semi-Translucent Enamel – for creating halos, higher value areas, and whitish effects.
    - Value Enamel – for elevating, decreasing, or corroborating the final tooth value. It can be either a translucent enamel or a milky-white semi-translucent enamel.



# Vita-based Systems



# Non-Vita-based Systems



## Grouping of Composite Systems According to Particle Size

Dentin			Enamel		
Hybrid	Microfill	Nano	Hybrid	Microfill	Nano
Venus	Heliomolar RO	Supreme	Renamel Hybrid	Durafill VS	Supreme
Renamel Hybrid	Micronew	Premise	Point 4	Renamel Microfill	Premise
Point 4 Opaque	Palfique	Aelite	Herculite XRV Enamel	Matrixx A M	Aelite
Herculite XRV D	Virtuoso	Ceram-X	Charisma	Amelogen M	Ceram-X
Charisma		Grandio	Venus	Micronew	Grandio
Filtek Z250		Filtek Z350	Filtek Z250	Palfique	Filtek Z350
Matrixx A H			Matrixx A H	Virtuoso	Artiste
Tetric Ceram			Tetric Ceram		Tetric EvoCeram
Tetric EvoCeram			Amelogen Plus		
Amelogen Plus			Renew		
Esthet-X Improved			Esthet-X Improved		
Renew			Gradia Direct		
Gradia Direct			4 Seasons		
4 Seasons			Vitalescence		
Simile			Miris		
Miris			Palfique Sigma		
Vitalescence			Majesty		

## Suggested Ultra-Basic Kit (by brand names)

- **ARTIFICIAL DENTIN**
  - Hybrid - Venus, Point 4, Supreme Plus, or 4 Seasons – B1, A1, A2, A3, A3.5, A4, A5
  - Nanofill – Supreme XT A1, A2, A3, A4, A6 (for more opacious teeth)
- **BODY ENAMEL**
  - (Microfill) - Durafill VS – A1, A2, A3, B1 (diastema closure, veneering teeth w/out need for change in value).
  - (Microfill) - Renamel Microfill – A1, A2, A3, B1, SB kit (veneering teeth with need for change in value, class V's)
  - (Hybrid) - Esthet-X, Supreme Body, Venus, Point 4 or 4 Seasons-A1, A2, A3, B1 (Body Enamel – Class III and teeth with enamel of medium opacity)
- **EFFECT MILKY-WHITE SEMI-TRANSLUCENT ENAMEL**
  - Supreme – WE (lingual shelf, halo)
- **EFFECT TRANSLUCENT ENAMEL**
  - Supreme GT, Vitaescence Iridescent Blue, HFO Enamel Plus OBN (inner translucency)
- **EFFECT VALUE ENAMEL**
  - Microfill – Renamel Microfill Incisal Light (IL) and Incisal Medium (IM)
  - Hybrid - Vitaescence – PS, PF, PA
- **TINTS** - Kolor + Plus Tints – complete kit
- **OPAQUER** - Creative Color Opaquer – A1-B1-LO, A2-A2.5, Pink

\* These are only examples of shades that can be used as representatives of each category. Other products of similar properties might also be used to substitute the materials specified herein.

## **MASTERING COMPOSITES – Material List**

*Newton Fahl, Jr., DDS, MS*

### **1. Cavity Disinfectants**

- Consepsis (Ultradent)
- 3% H<sub>2</sub> O<sub>2</sub> (Generic)
- 2% Chlorhexidine (Generic)

### **2. Desensitizers**

- BisBlock (Bisco) – Potassium Oxalate
- Super Seal (Phoenix) – Potassium Oxalate
- Gluma Desensitizer (Heraeus/Kulzer)
- 5% Glutaraldehyde aqueous solution (Generic)

### **3. Sandblaster**

- Microetcher II (Danville Engineering)

### **4. Acid Etchants (Enamel and Dentin)**

- Ultra-Etch 35% (Ultradent)
- Gel Etchant 37,5% (SDS Kerr)
- Enamel-Etch 37,5% (Cosmedent)
- Etch 37 (Bisco)

### **5. Hemostatic**

- Viscostat Clear (Ultradent)
- Astringident (Ultradent)
- Hemodent (Premier)

### **6. Adhesive Systems**

- One Step Plus - (Bisco)
- Adper Single Bond Plus (3M ESPE) – filled - light cure
- Adper Scotch Bond MP Plus (3M ESPE) – unfilled – light, dual, and self-cure
- Optibond FL (SDS Kerr) – filled - light, dual, and self-cure
- All Bond 2 and All Bond 3 (Bisco) – unfilled – light, dual, and self-cure
- PQ Clear (Ultradent) – Filled – light cure
- Clearfill SE Bond – (Kuraray)

### **7. Low Viscosity Composites (Flowable)**

- Point 4 Flow
- Matrixx Flow (Discus Dental)
- Tetric Flow (Ivoclar – Vivadent)
- PermaFlo (Ultradent)
- Filtek Flow (3M ESPE)
- Filtek Supreme Plus flowable (3M ESPE)
- Heliomolar Flow (Ivoclar – Vivadent)
- Esthet-X Flow (Dentsply)
- Aeliteflo LV (Bisco)

### **8. Surface Sealants**

- BisCover LV (Bisco)

## **9. Tints**

- Kolor + Plus (SDS Kerr)
- Creative Color Tints (Cosmedent)

## **10. Opaquers**

- Creative Color Opaquers (Cosmedent)

## **11. Retraction Cord**

- Ultrapack 000, 00, 0, 1 (Ultradent)

## **12. Posterior Composite Matrices**

- Composi – Tight Gold (Garrison Dental Solutions)
- Palodent Matrix System (Darway)
- Microbands - Microstrips (Dental Innovations)
- Omni – Matrix (Ultradent)
- Matrix Bands – Tofflemire type – (Cosmedent)

## **13. Fast Setting Material (Silicone Matrix for Composite Build-ups)**

- Mock-up Kit - (Bisco)
- Template – (Clinician's Choice)
- Peppermint Snap Clear Bite Registration - (Discus Dental)
- Memoreg 2 - (Hereaus Kulzer)

## **14. Finishing and Polishing**

### **Diamond Strips**

- Jiffy Diamond Strip (Ultradent)
- Visionflex (Brasseler)
- Flexidiamond Strips (Cosmedent)
- Compo Strips (Premier)
- NTI Serrated Diamond Finishing Strips (Axis)

### **Plastic Strips**

- Epitex (GC)

### **Serrated Metal Strips**

- Cerisaw (Dent Mat)
- NTI Serrated Diamond Finishing Strips (Axis)

### **Discs (Finishing)**

- Sof-Lex Pop-on XT (3M ESPE)
- Flexi-Disc (Cosmedent)
- Finishing Discs (Bisco)
- OptiDisc (KerrHawe)

### **Discs (Polishing)**

- Flexi-Buff (Cosmedent)
- Shammy (Axis)
- Chamois Mounted Polishing Buff – 1-800-535-4535 - [www.pearsondental.com](http://www.pearsondental.com)



### **Rubber Rotaries**

- Flexipoints, Flexicups e Flexiwheels (Cosmedent)
- Jiffy System (Ultradent)
- D Fine Diamond Polishing, Points for hybrids (Clinician's Choice)
- PoGo (Caulk/Dentsply)

### **Polishing Brushes (silicone carbide)**

- Silicon Carbide (Premier)
- Jiffy Brush (Ultradent)
- Occlubrush (SDS Kerr)
- PDQ Brush (Axis)

### **Pastes**

- Enamelize (Cosmedent)
- Ultradent Diamond Polish (Ultradent)
- Prisma Gloss (Caulk/Dentsply)

### **15. Hydro-soluble Gel (Oxygen Barrier)**

- Oxalate (Generic)
- Glycerin (Generic)
- KY Jelly (Generic)
- Oxigone (Cosmedent)

### **16. Contouring Instruments**

- FCI Composite Artistry Instruments by Newton Fahl, Jr., DDS, MS
- Microfill Instruments – Gold (Almore)
- Hollemback # 6 (SS White)
- IPC – Long & Short (Cosmedent)
- SP – SMTN (Cosmedent)
- Goldstein Flexi Thin Composite Instruments – kit - (Hu-Friedy)

### **17. Artist Brushes (Flat, Fine, and Extra-Fine Tipped) #0, 1, 3**

- Exact-O-Brush
- Windsor-Newton
- Cosmedent
- Takanishi # 2/0 - 1-800-472-4296 –

### **18. Curing Lights**

- Optilux 501 – (Demetron/SDS Kerr)
- VIP – (Bisco)
- XL 3000 – (3M ESPE)
- LED Demetron II – (SDS Kerr)
- Blue Phase 1 6i (Ivoclar/Vivadent)
- Ultralume 5 LED (Ultradent)

### **19. Aesthetic Posts**

- Unicore – (Ultradent)
- DT Light-Post – (Bisco)
- FRC Postec – (Ivoclar Vivadent)

### **20. Composite Preparation and Finishing Diamonds (1-888-654-2947)**

[www.axisdental.net](http://www.axisdental.net)

- **Axis** Anterior Preparation Set by Newton Fahl, DDS, MS

- **Axis** Posterior Preparation Set by Newton Fahl, DDS, MS
- **Axis** Composite Finishing Set by Newton Fahl, DDS, MS

**21. Composite Sculpturing Instruments (soon to be launched)**

- **FCI – Fahl Composite Instruments (set with 8 instruments)**

**22. Recommended reading**

- REALITY (+1 – 281-493-1558)
- PPA&D (Practical Procedures & Aesthetic Dentistry)
- Journal of Esthetic and Restorative Dentistry
- The European Journal of Esthetic Dentistry
- Porcelain Bonded Restorations – by Pascal Magne – Quintessence Publishing Co.

- **ARTIFICIAL DENTIN**
  - Hybrid - Venus, Point 4, Supreme Plus, or 4 Seasons – B1, A1, A2, A3, A3.5, A4, A5
  - Nanofill – Supreme XT A1, A2, A3, A4, A6 (for highly opacious teeth)
  
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