

Protetikk: Nye materialer og metoder

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Universitetet i Oslo



Tannstøttet



Fast Slimhinnestøttet

Avtagbart

Implantatstøttet





Realistic white shades for special cosmetic needs



SYNERGY® Super White shades are ideal for restoring whitened teeth and deciduous teeth.

Only SYNERGY® offers three different bright white shades – selected by dentists.

- Super White N (neutral)
- Super White O (opaque)
- Super White P (pearl)



...e shades, tooth
...shed with one-
...duced veneers

Let SYNERGY® Super White assist you with your cosmetic needs.



Before veneer



After SYNERGY® Super White veneer

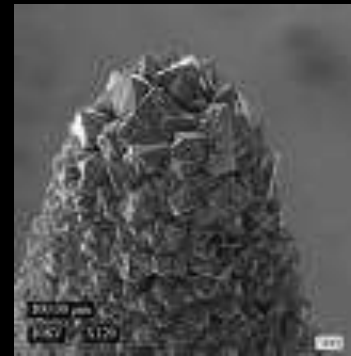
...også nye pasienter?



Style "M"

Nye materialer & metoder –Fast protetikk

Roterende instrument



Nye materialer & metoder –Fast protetikk

Roterende instrument



Rotstift



Nye materialer & metoder –Fast protetik

Roterende instrument

Rotstift



Gingival frilegging



Nye materialer & metoder –Fast protetikk

Roterende instrument

Rotstift

Gingival frilegging

Avtrykk & Avtrykkskje



Nye materialer & metoder –Fast protetik

Roterende instrument

Rotstift

Gingival frilegging



Avtrykk & Avtrykkskje

Bitt & kjeveregistrering



Nye materialer & metoder –Fast protetikk

Roterende instrument

Rotstift

Gingival frilegging

Avtrykk & Avtrykkskje

Bitt & kjeveregistrering



Fargebestemmelse



Nye materialer & metoder –Fast protetik

Roterende instrument

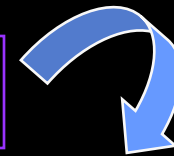
Rotstift

Gingival frilegging

Avtrykk & Avtrykkskje

Bitt & kjeveregistrering

Fargebestemmelse



Temporær konstruksjon



Nye materialer & metoder –Fast protetik

Roterende instrument

Rotstift

Gingival frilegging

Avtrykk & Avtrykkskje

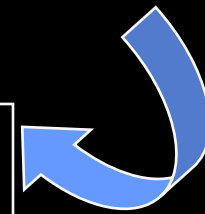
Bitt & kjeveregistrering

Fargebestemmelse

Temporær konstruksjon



Restaureringsmaterialer



Nye materialer & metoder –Fast protetikk

Roterende instrument

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Avtrykk & Avtrykkskje

Bitt & kjeveregistrering



Fargebestemmelse

Temporær konstruksjon

Restaureringsmaterialer

Fremstillingsteknikker

Nye materialer & metoder –Fast protetik

Roterende instrument

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Avtrykk & Avtrykkskje

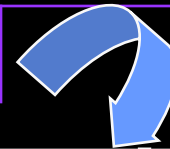
Bitt & kjeveregistrering

Fargebestemmelse

Temporær konstruksjon

Restaureringsmaterialer

Fremstillingsteknikker



Sementerings



Nye materialer & metoder –annet

- Reparasjoner (keramfraktur, kronedefjerning, stiftfraktur, etc.)
- Implantater
- Artikulatorer
- Attachments
- Protoser: fremstilling, materialer, foring & reparasjon
- Laboratorier: fremstilling, materialer

Nye materialer & metoder –Fast protetikk

Roterende instrument

Rotstift

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Avtrykk & Avtrykkskje

Bitt & kjeveregistrering

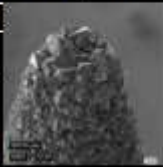
Fargebestemmelse

Temporær konstruksjon

Restaureringsmaterialer

Fremstillingsteknikker

Sementering



Preparation and Finishing Kits

1. Laminate Veneer System
Brasseler
 - 2a. Acrylic Adjustment Kit
Axis
 - 2b. Acrylic Temporization Kit
Brasseler
 - 2c. Esthetic Inlay/Onlay
Brasseler
 - 3a. R.A.P.T.O.R. Resin Sculpting Set
Axis
 - 3b. Nixon Inlay/Onlay II
Brasseler
 - 3c. Ultra Denture Adjustment &
Polishing Kit
Brasseler
 - 4a. Anterior Bur Box
Brasseler
 - 4b. Nixon Porcelain Veneer II
Brasseler
 - 4c. R.A.P.T.O.R.
ADI/Bisco
 - 5a. Enhance Composite
Finishing and
Polishing System
Dentsply/Caulk
 - 5b. Top Finisher System
Cosmedent
- +
- Nobel Biocare: Procera
Preparation Kit**

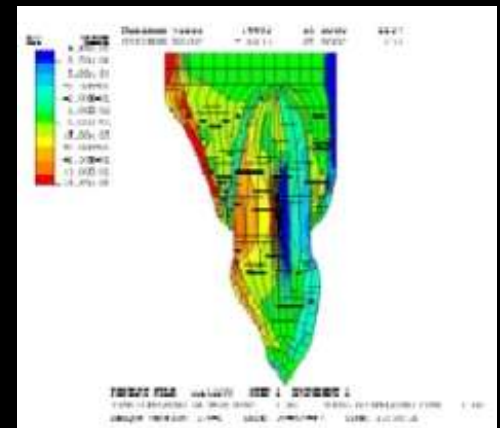


Rotstift



Ålesund April 2003

Rotstifter



Roterende instrument

Rotstift



Gingival frilegging



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Ålesund April 2003

Gingival frilegging

1. Tråd
 - Impregnert
 - Uimpregnert
2. Gel/pasta
3. Bomull
4. Elektrokirurgi
5. (Kobbertube-avtrykk)

Retraksjonstråd, impregnerte

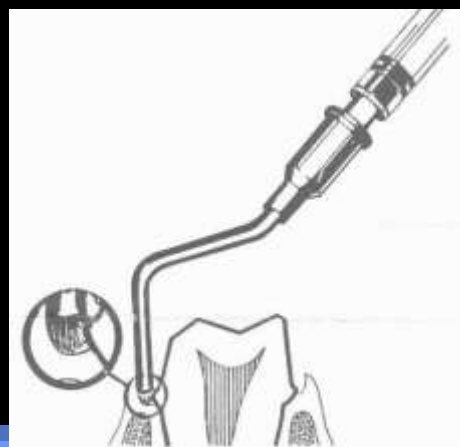
<u>Produkt</u>	<u>Produsent</u>	<u>Aktiv substans</u>	<u>Type</u>
Altrac	VOCO	AlCl ₃	
Biopak	SDI	AlCl ₃	tvunnet
Crown-Pak	Gingi-Pak	dl-Adrenalin (4-ply)	tvunnet
Gingi-Aid	Gingi-Pak	Fe ₂ (SO ₄) ₃	vevet
Gingi-Pak	Gingi-Pak	dl-Adrenalin (2ply- Soft-twist)	tvunnet
Gingi-Tract	Den-Mat	AlSO ₄ , 0.5 mg/i	tvunnet
Gingibraid	VanR	AlKSO ₄ /adrenalin + Aluminium	flettet
Hemalin	VOCO	Adrenalin	
Hemodent	HAWE Premier	AlCl ₃ 21%	tvunnet
Pascord	Pascal	AlSO ₄	tvunnet
Racestyptin	Septodont	AlCl ₃ +lignocain	flettet
Racord	Pascal	dl-Adren HCl +Znfenolsulfonat 0.3%	tvunnet
Retracto	Roeko	AlCl ₃	
Sil-Trax	Pascal	AlSO ₄ /dl-adrHCl/dl-adr+Znfenolsulfonat	flettet
Retreat/II	Henry Schein	AlSO ₄ /adrenalin	tvinn/flett
Sulpak	Sultan	AlK N.F/adrenalin HCl 4%	tvinn/flett
Traco	VOCO	AlCl ₃ 6%	
Ultrax	Sultan	AlK N.F/adrenalinHCl 4% /AlK+adr	flettet
Unibraid	VanR	Adrenalin-alum	flettet
Z-twist	Gingi-Pak	dl-Adrenalin/ AlCl ₃	vevet 19



Retraksjonstråd, uimpregnert



Astringedent (Ultradent), Astringedent X (Ultradent), First Stop (Stevenson), Gingi-Aid (Gingi-Pak), Gingiva liquid (Roeko), Hemodent (HAWE Premier), Hemo-gin-L (Van R Dent Prod.), Hemo-stat (Henry Schein), Ocu Clear (Health Care Prod), Orostat (Gingi-Pak), Rastringent (Pascal Comp), Racemistat (Pascal Comp), Stasis (Gingi-Pak), Styptin (Van R Dent. Prod), Ultradent Alum Chlor. (Ultradent), ViscoStat (Ultradent), Visine (Pfizer Inc), Wet Pack (Van R Dent. Prod.)



Expasyl (Kerr / Pierre Roland)



白水貿易株式会社

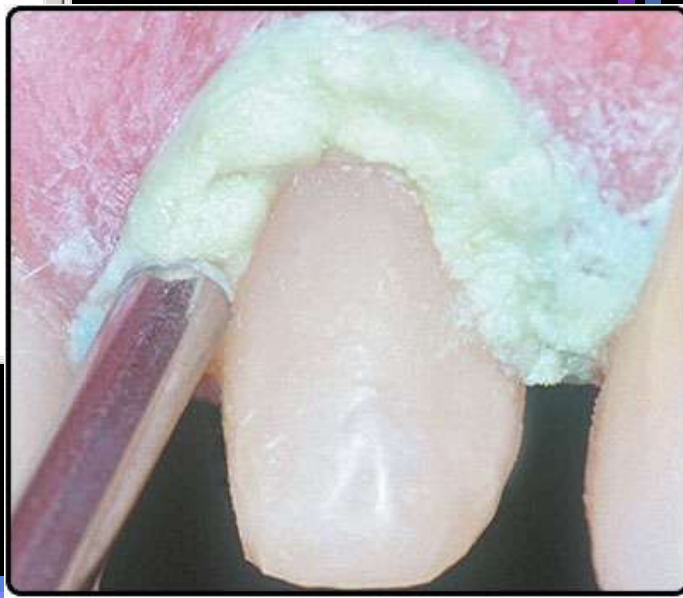
fGfLXfpfWf<[]fsfG[]f<[]f%>f"fhZD[]j



Expasyl™



0f"Á0@%0,,
0j,Ü,Ä,jZ*~"r0"u,jü~@,l0A,Ç,é,áZ*~+δ0N0P,;0A00CE,áZzSÖ,*0,0,é-É"j,È0"u,Ä,μ,%0B+~...08"q,δ,È,Ç,-
"00";*,é,ÉZ*~+~P0k,á000czZá,δ"0,«N,±,ŠeCE"0«,á0l,l,é,Ü,0B
>,±,Ä0l,l,é,é,%j,00yG7LyXfpfWf<[]v,Ä,0B
-É"j,ÉZ*~+~"r0"u,*d,0,Q,* ,Ü,è,Ä,n,j00



15% Al-klorid + Kaolin

Ålesund April 2003

Gel-Cord (Pascal)



Retrac



Comprecap (Roeko)

Nye materialer & metoder –Fast protetikk

Roterende instrument

Rotstift

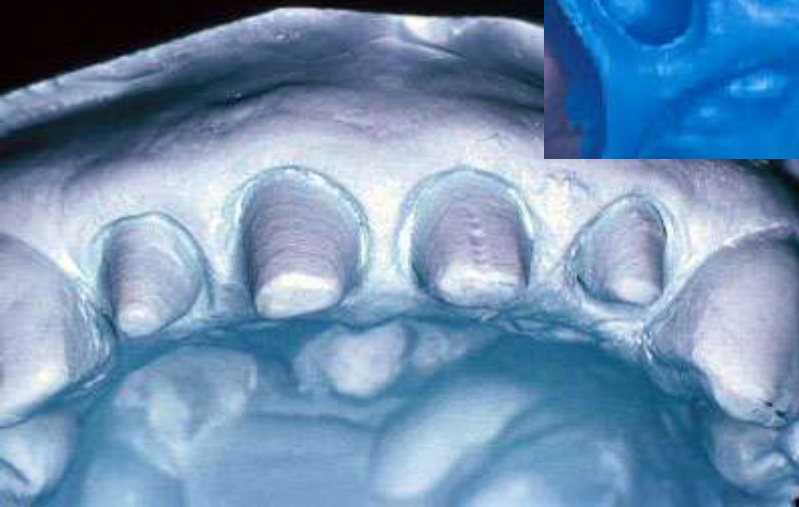
Gingival frilegging

Avtrykk & Avtrykkskje



Ålesund April 20...

Det perfekte avtrykk



Ålesund April 20...

Nye materialer & metoder –Fast protetikk

Roterende instrument

Rotstift

Gingival frilegging

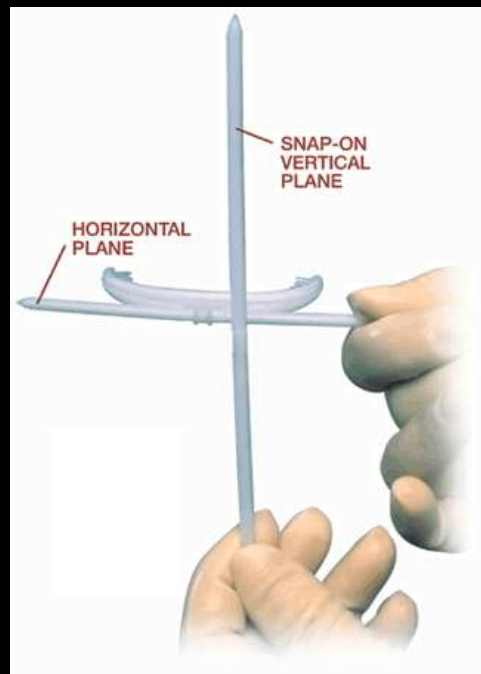


Avtrykk & Avtrykkskje

Bitt & kjeveregistrering



Bitt- og kjeveregistrering



Symmetry Facial Plane Relator

ows 3.0 Serial number: 3333
System configuration | Information | Exit

File | Adjust | Hinge axis | Registration | Position analysis | Occlusal distance | Articulator

Section
Technician page

Print

Calculate
 Joints
 Front table

Show
 Image
 Grid
 Radius

SAGITTAL RIGHT

SAGITTAL LEFT

Section 1 ... 247 of 264
Stuart

Condylar insert
36 ° Inclusion
1/2" Curvature
TP-selection TB-Record

Condylar insert
31 ° Inclusion
3/4" Curvature
TP-selection TB-Record

HOR RIGHT HOR LEFT

Radius
14 mm

Radius
20 mm

Grid raster 1 mm

000000 DEMO Record 1 / 7

Protrusion Teeth contact Unguided Zur Artikulatorprogrammierung (Kondylarbehneigung, Frontzahnführung) 13-09-93

Bite Registration Materials

- 1a. Exabite II NDS
GC
- 1b. Jet Bite
Coltene/Whaledent
- 1c. Peppermint Snap
Discus
- 2a. Blu-Mousse
Parkell
- 2b. Vanilla
Discus
- 3a. Milk Chocolate
Discus
- 3b. Regisil Rigid
Dentsply/Caulk
- 3c. Take 1 Bite
sds/Kerr
- 4a. LuxaBite
DMG/Zenith
- 4b. Virtual Bite
Ivoclar Vivadent
- 5. Affinity Quick Bite
Clinician's Choice

Nye materialer & metoder –Fast protetikk

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Rotstift

Gingival frilegging

Avtrykk & Avtrykkskje

Bitt & kjeveregistrering

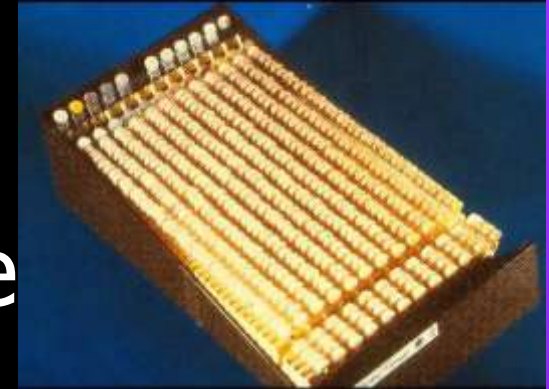


Fargebestemmelse

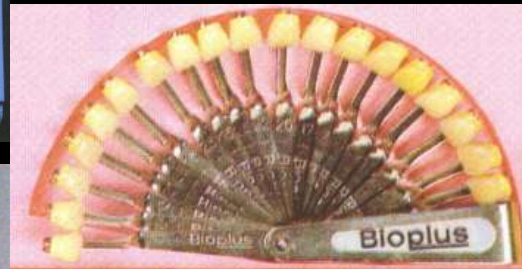


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Farge- bestemmelse



703 Fargeprøver
(Clark 1933)



Reddish-
brown

Reddish-
Yellow

Grey
shades

Reddish
-Grey

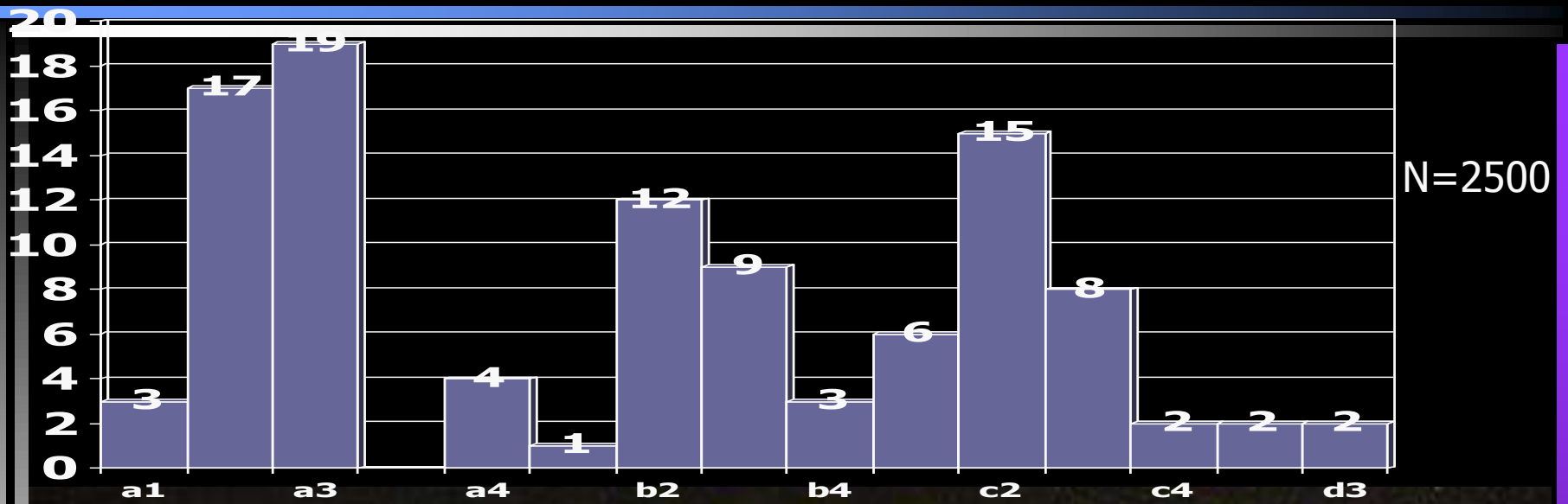


+/- hals?

Endret i midten av 70-årene

A3.5 & D4 kom i 1980

B1 & D1 noen ganger borte



B1
Nur für Keramik
Ceramic only
Céramique seulement
Solamente cerámica

Lumin-VACUUM

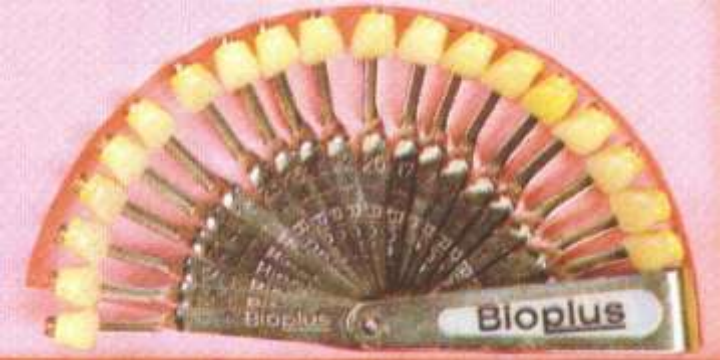
VITAPAN
Zahn-Teeth-Dent
K. B.

Reddish-brown

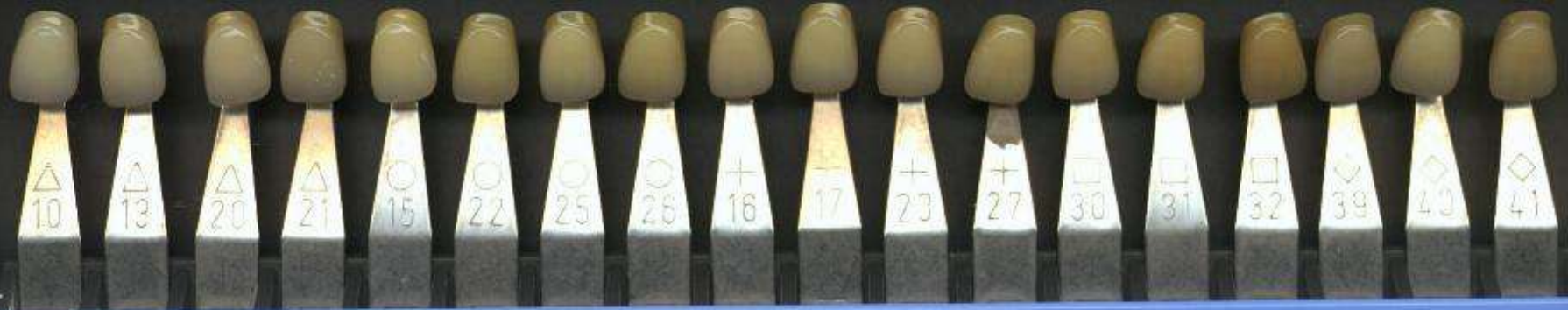
Reddish-Yellow

Grey shades

Reddish-Grey



Bioform -> Biotone -> Trubyte
Bioblend -> Portrait IPN



White-red

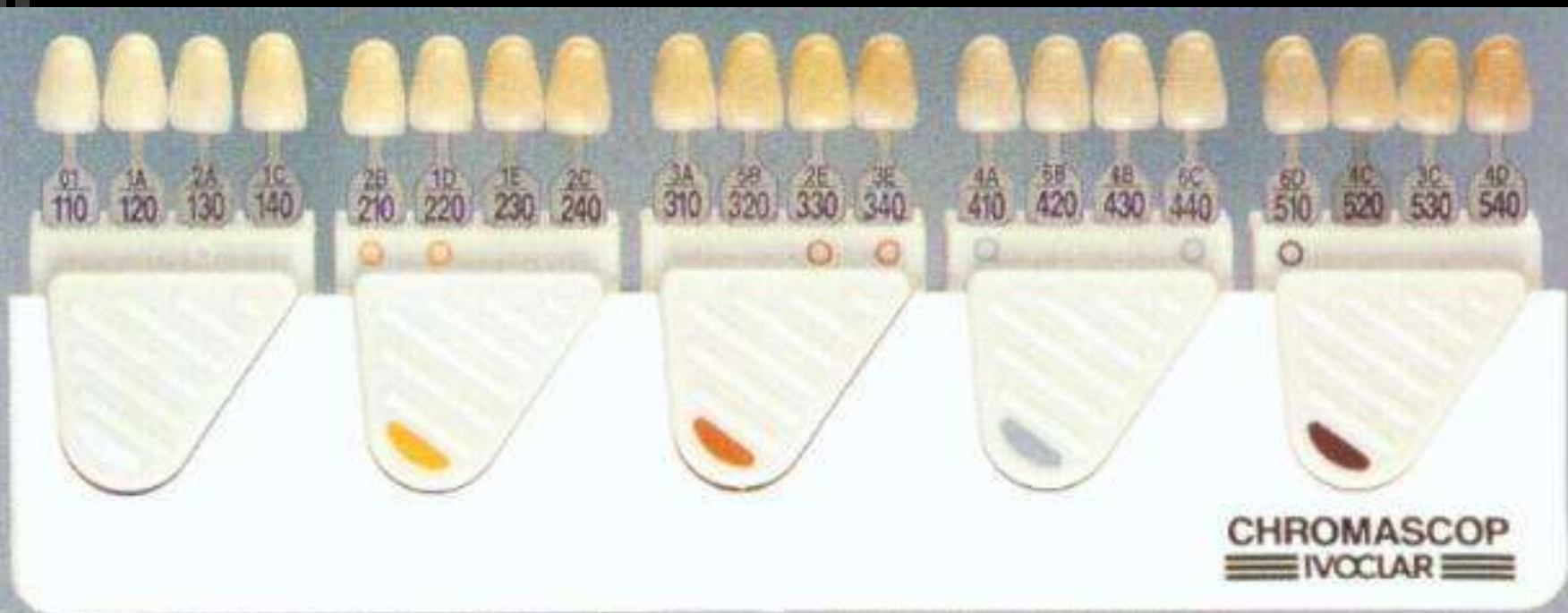
Yellow

Orange

Brown-Red

Brown-Grey

DeTrey
Dentsply



Vivadent 1990-> Kerascop 1990-> Chromascop



VITA 3D-
MASTER

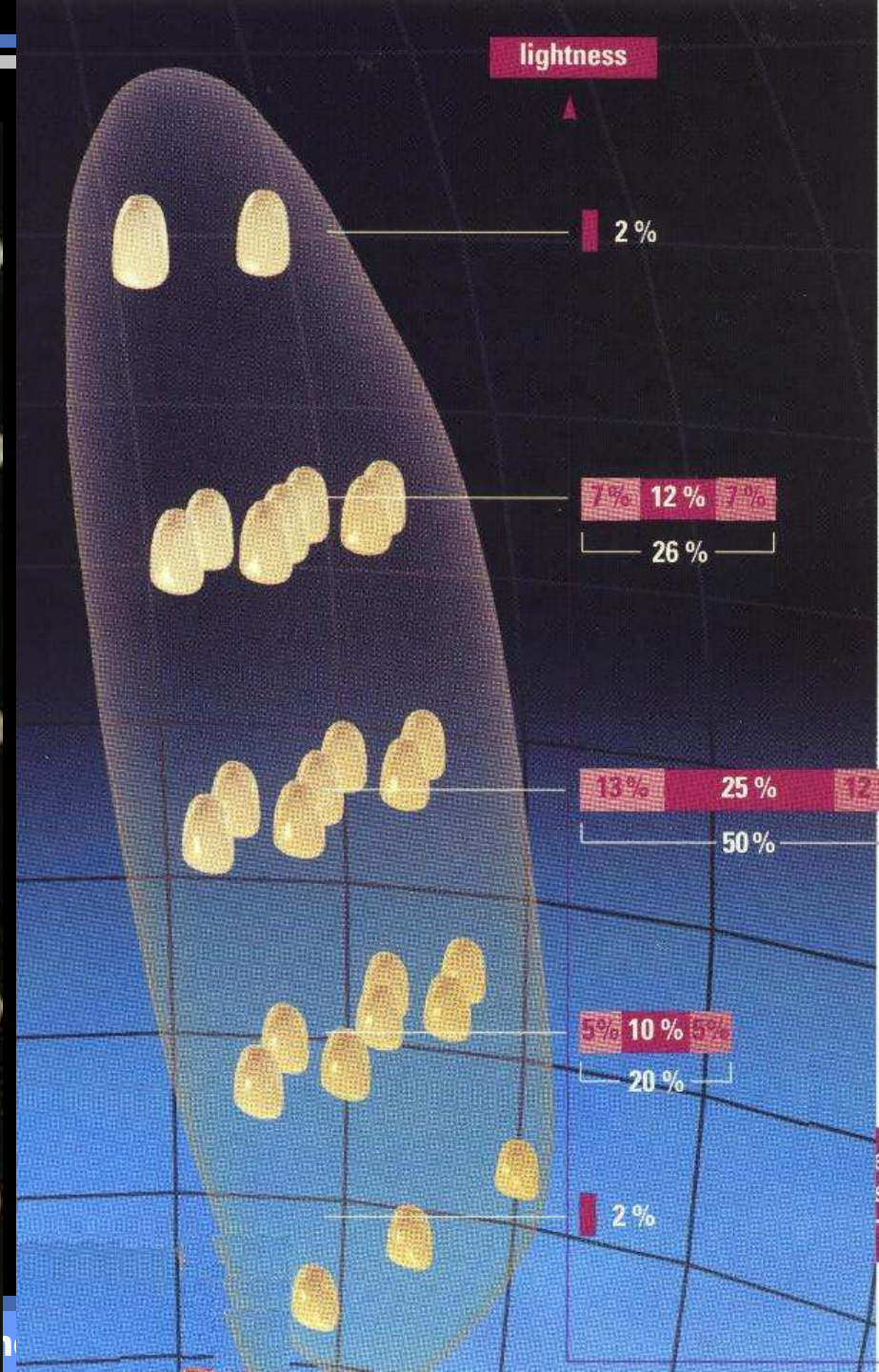
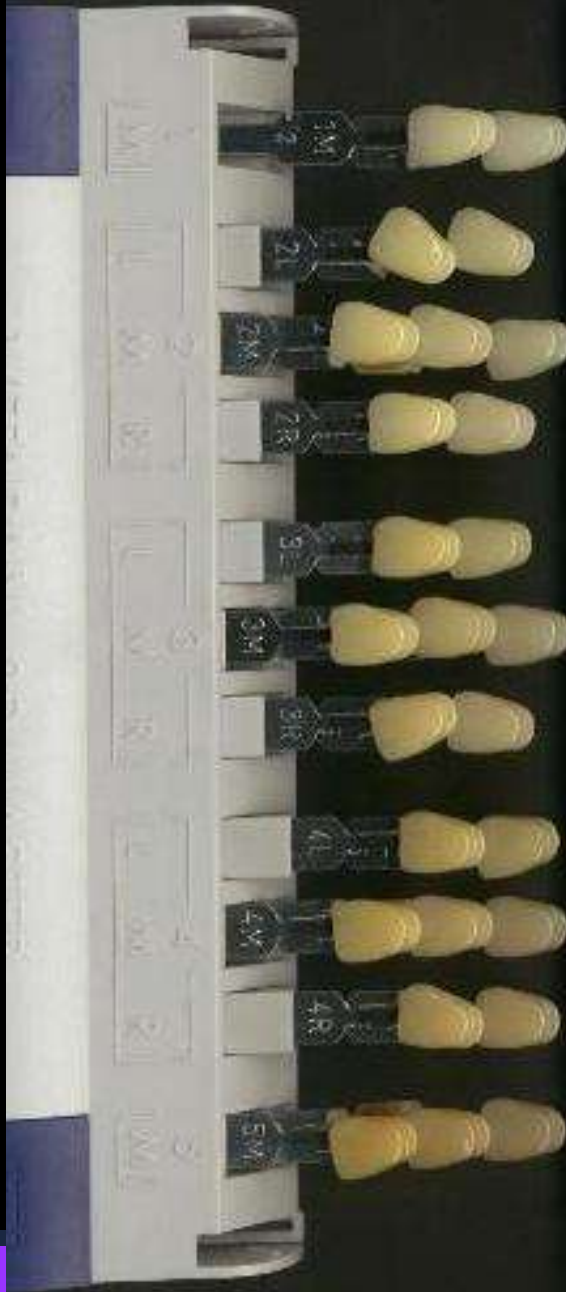
Med

&

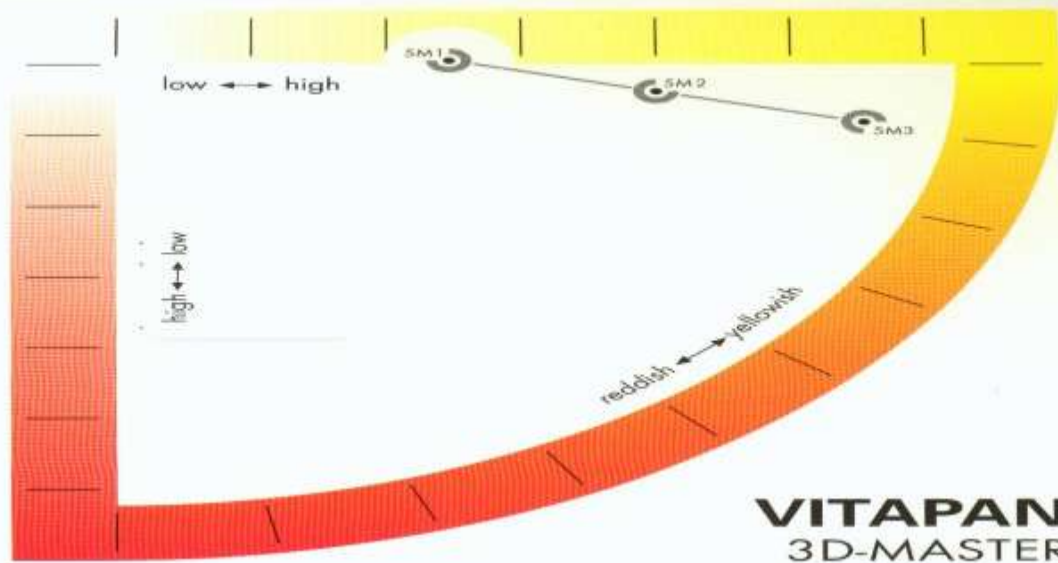
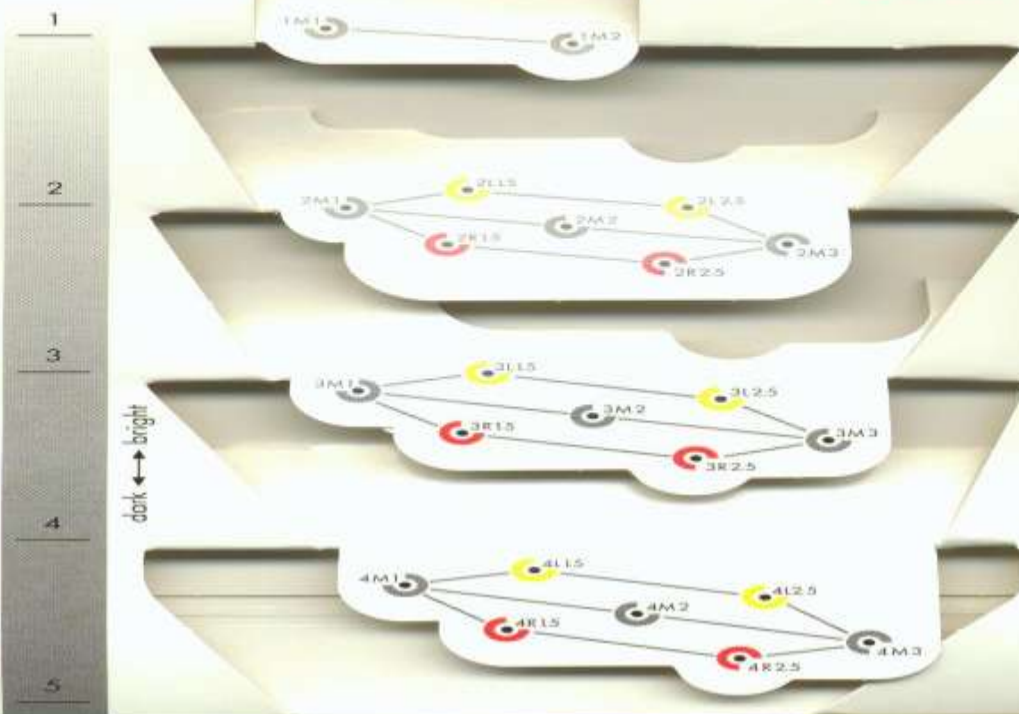
Uten

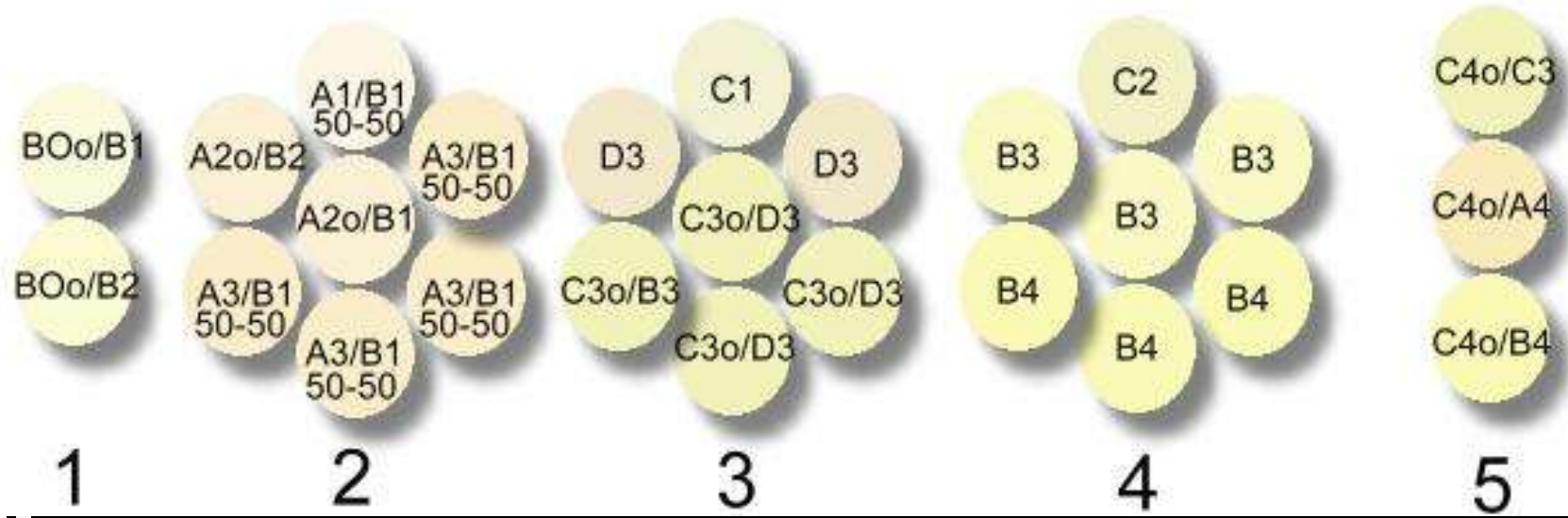
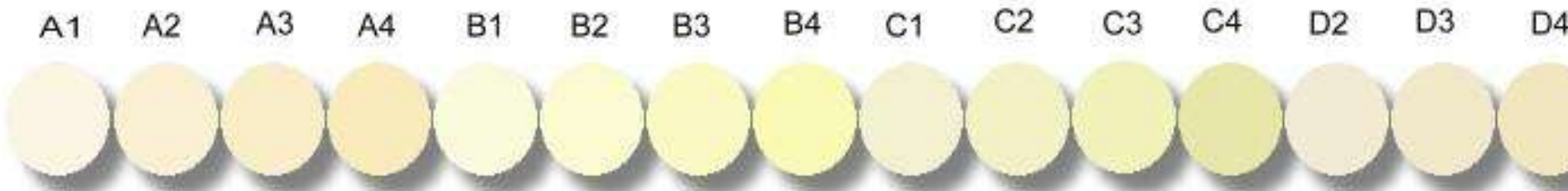
Halsfarge

Farge
Kroma
Valør

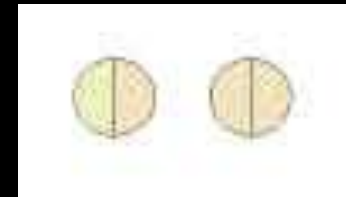


VITA



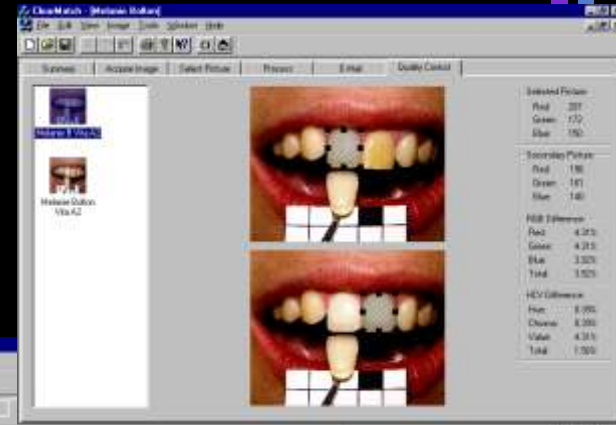
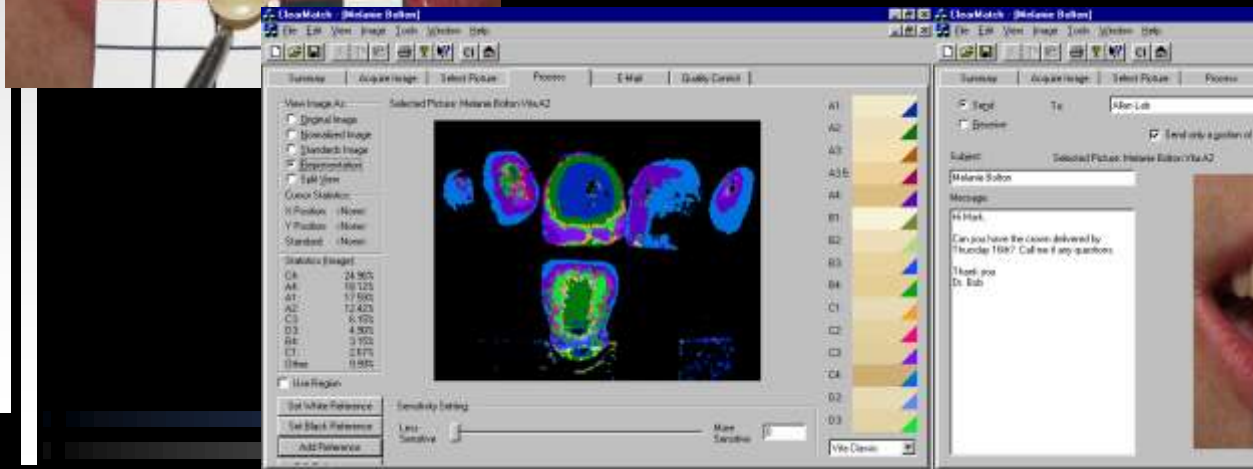


Fargebestemmelse - Analoge Systemer



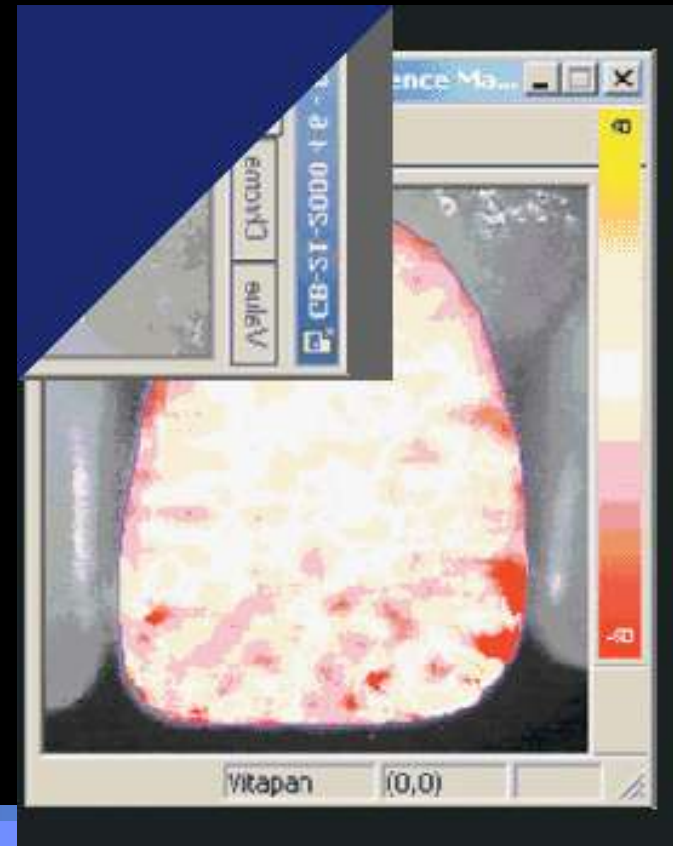
Fargebestemmelse - Digitale Systemer

Konsept 1: Standard fargeskala –
Registreres digitalt eller med videokamera
og analysert eller sendt til tekniker



Fargebestemmelse - Digitale Systemer

Konsept 2: Håndholdt apparatur med lyskilde reflektert gjennom fiberoptikk til et spektrofotometer



Fargebestemmelse - Digitale Systemer

- Dental Color Analyser (clearlight.com/~aei)
- Metalor-ikam system (metalor-ikam.com)
- Pocketspec (Pocketspec.com)
- ShadeVision /ShadeRite (X-Rite.com)
- Shadescan (Cynovad.com)
- Spectroshade (mhtint.com)
- ShadeEye NCC (Shofu.com)



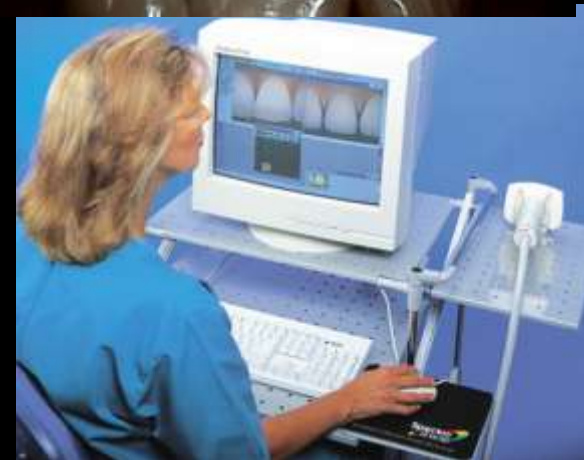
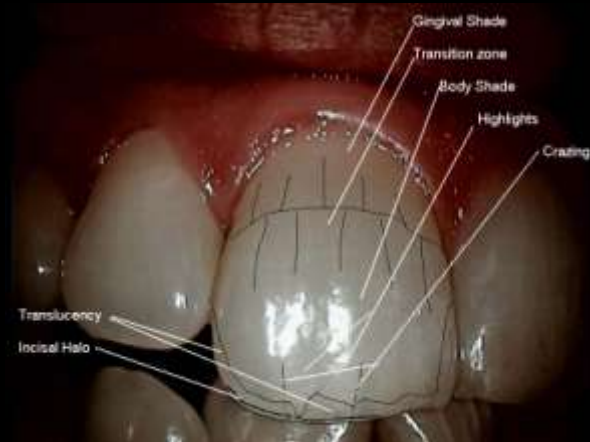
Fargebestemmelse, Digitale Systemer

Fordeler:

- Forbedret kommunikasjon med laboratoriet
- Kan integreres med
 - Intra-oral kamera
 - Digital kamera
 - Printer
 - Munn Simulator
 - Bildebehandling

Ulemper:

- Pris
- Kalibrering

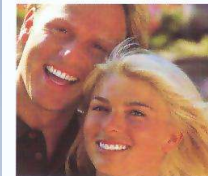


“Cosmetic imaging”

Cosmetic Imaging Systems

1. **Vipersoft 3.1**
Integra Medical
2. **Digital Dentist**
Digident
3. **Image FX 4.0**
SciCan
4. **Smile-Vision Cosmetic Imaging System**
Smile-Vision

Realistic white shades for special cosmetic needs



SYNERGY® Super White shades are ideal for restoring whitened teeth and deciduous teeth.

Only SYNERGY® offers three different bright white shades, selected by dentist.

- Super White N (neutral)
- Super White O (opaque)
- Super White P (pearl)

With SYNERGY® Super White shades, tooth whitening can be accomplished with one-off co-vist or laboratory produced veneers.

Let SYNERGY® Super White assist you with your cosmetic needs.



Before veneer



After SYNERGY® Super White veneer

Nye materialer & metoder –Fast protetik

Roterende instrument

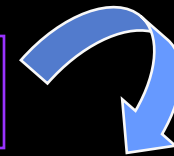
Rotstift

Gingival frilegging

Avtrykk & Avtrykkskje

Bitt & kjeveregistrering

Fargebestemmelse



Temporær konstruksjon



Roterende instrument

Røststift

Gingival frilegging

Avtrykk & Avtrykkskje

Bitt & kjeveregistrering

Fargebestemmelse

Temporær konstruksjon



Restaureringsmaterialer

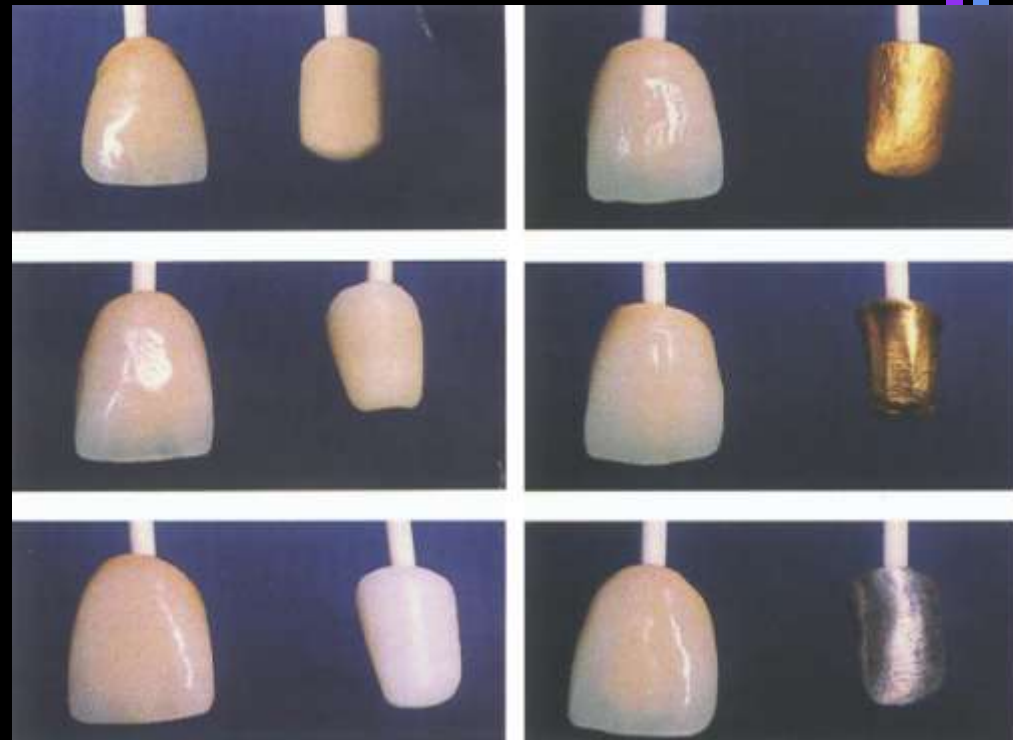


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Ålesund April 2003

Restaureringsmaterialer

- Legeringer
- Keramer
- Komposittfiber
- Keram-reparasjon



Fiberforsterket kompositt

Laboratorie

- FibreKor & Sculpture
- Vectris & Targis

Klinikk

- Connect & BelleGlass
- Fiber-splint
- FibreSpan NSI & Nulite
- GlasSpan
- Ribbond & Revolution
- Ribbond Triaxial & Revolution
- Splint-it! & Flow-It! & Protect-It!
- Stick / Sticknet / Everstick

Glass

Kevlar

Polyetylen

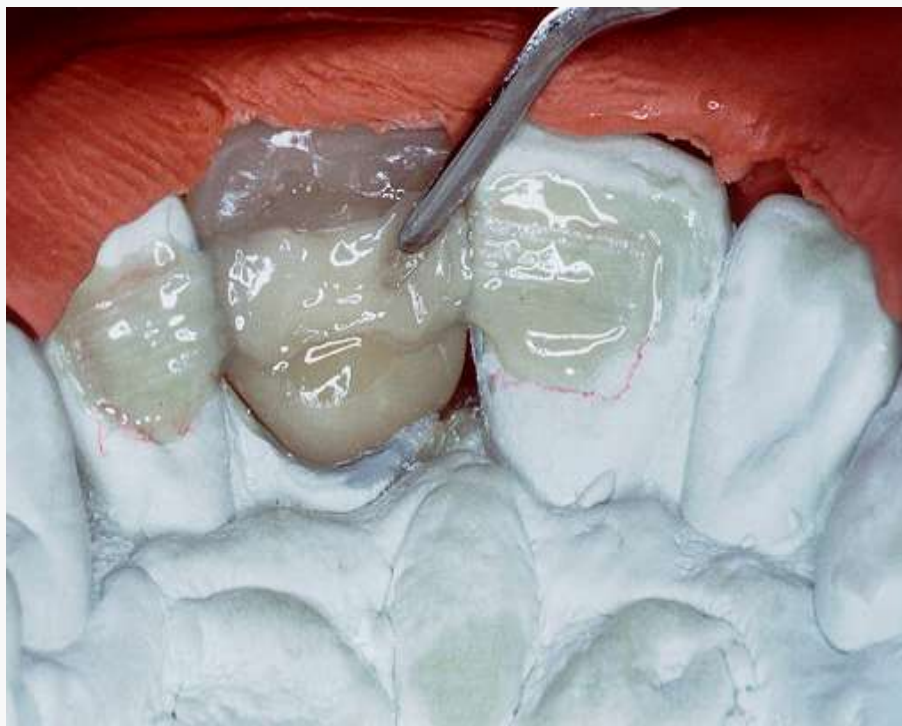


Pre-impregnert

Nettverk

Parallel

Tvunnet



Nye materialer & metoder –Fast prototikk

Roterende instrument

Rotstift

Gingival frilegging

Avtrykk & Avtrykkskje

Bitt & kjeveregistrering

Fargebestemmelse

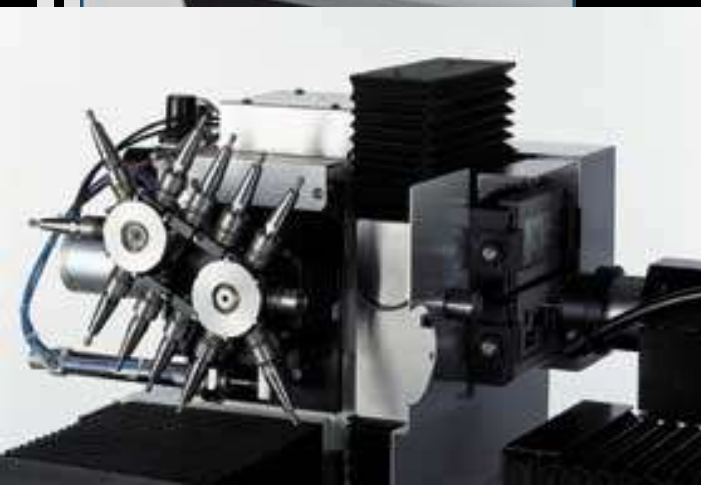
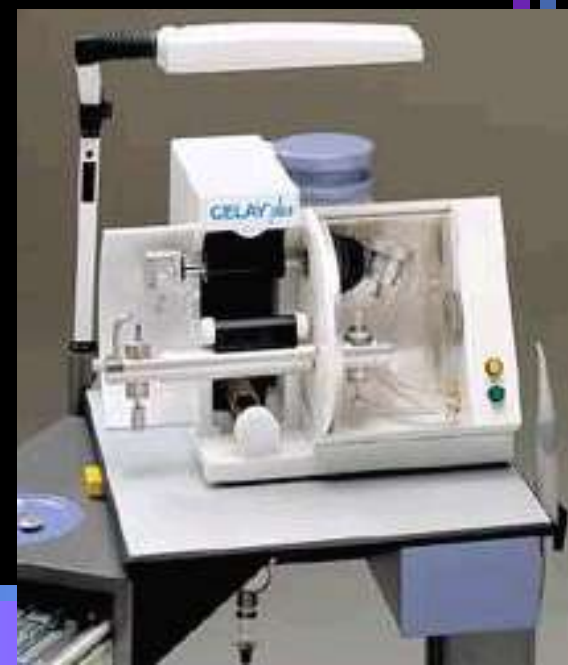
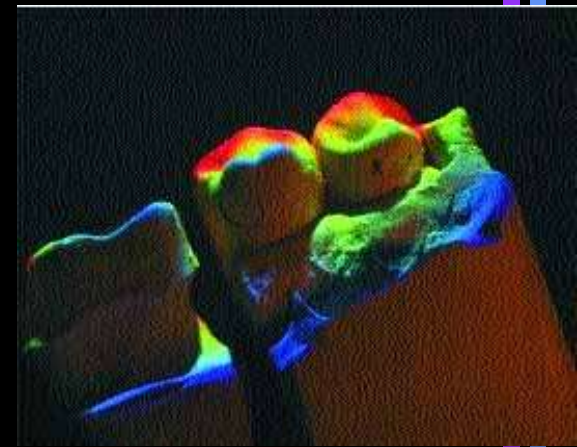
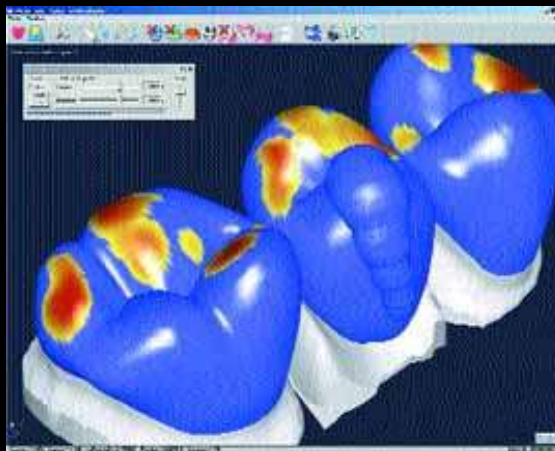
Temporær konstruksjon

Restaureringsmaterialer

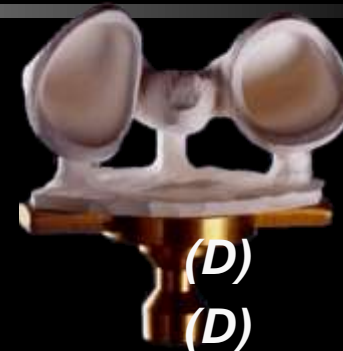
Fremstillingsteknikker

Åkeund April 2003

Fremstillingsteknikker- DAK-DAP (CAD-CAM)



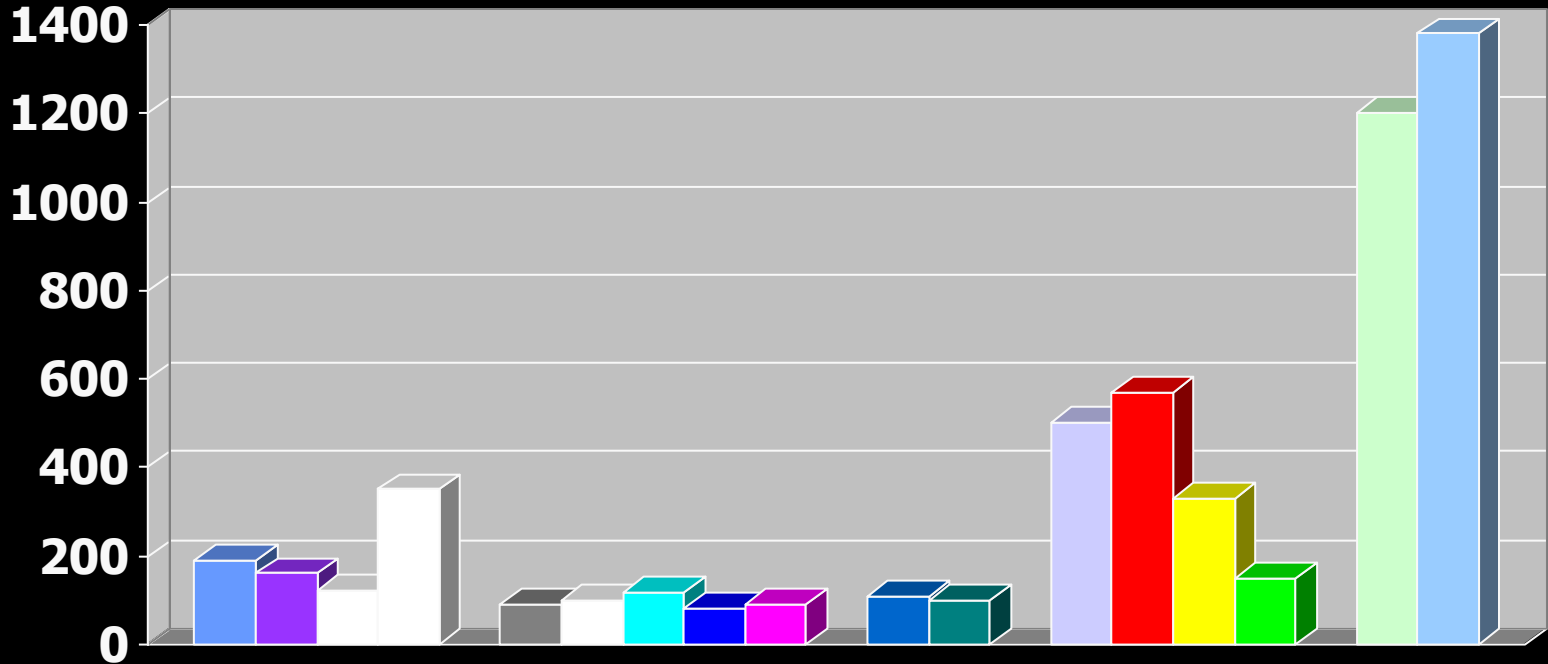
Fremstillingsteknikker- DAK-DAP



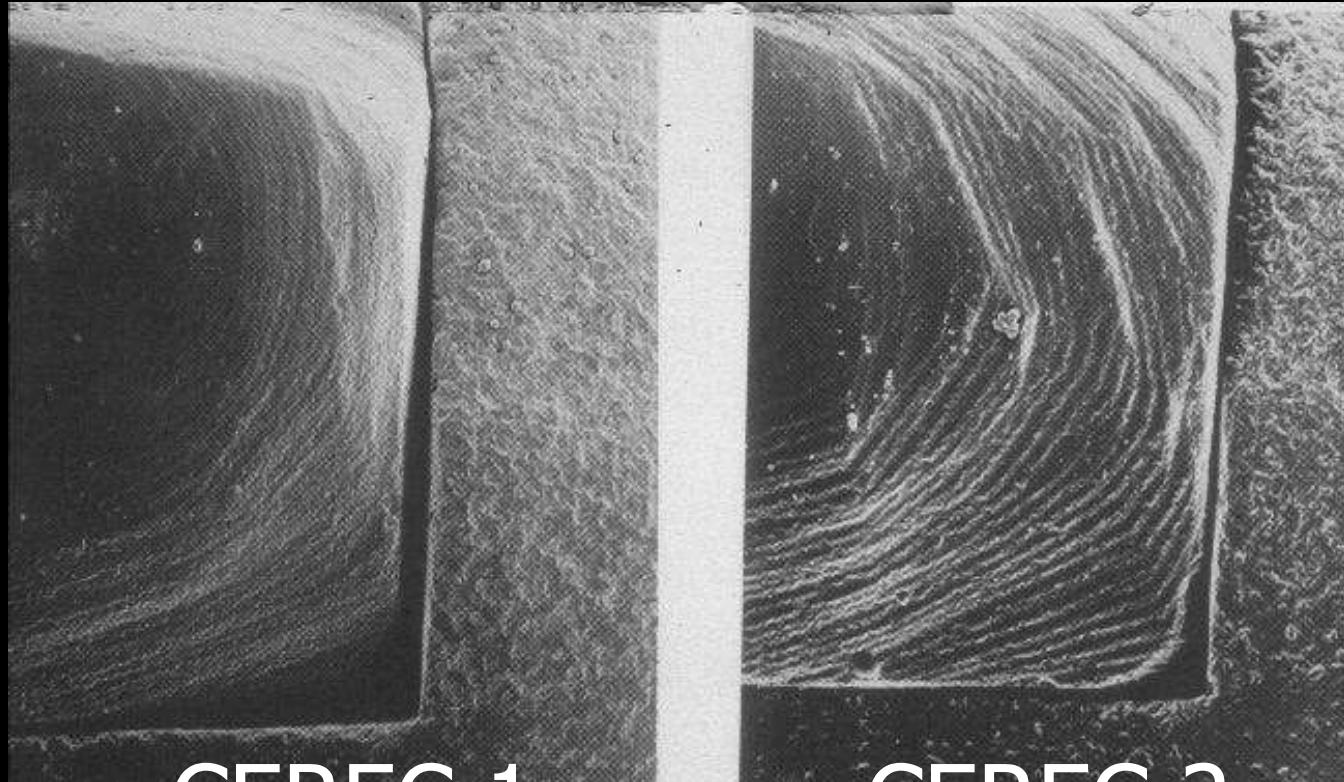
<i>BEGO Medifactoring</i>	<i>BEGO Medical</i>	(D)
<i>CAD/CAM System</i>	<i>etkon</i>	(D)
<i>CELAY</i>	<i>Mikrona Technologie</i>	(CH)
<i>Cercon®</i>	<i>Dentsply/Degudent/Degussa Dental</i>	(D)
<i>CEREC3/CEREC Inlab</i>	<i>Sirona Dental Systems</i>	(D)
<i>CICERO®</i>	<i>Cicero Dental Systems</i>	(NL)
<i>DCS Precident</i>	<i>DCS Dental</i>	(CH)
<i>DECIM</i>	<i>DECIM</i>	(S)
<i>DENT. CAD/CAM GN-1</i>	<i>GC Corporation</i>	(J)
<i>digiDENT®</i>	<i>Girrbach Dental</i>	(D)
<i>Everest</i>	<i>KaVo Elektrotechnisches</i>	(D)
<i>Lava®</i>	<i>3M ESPE Dental</i>	(D)
<i>PRO 50</i>	<i>CYNOVADSM</i>	(Can)
<i>Procera®</i>	<i>Nobel Biocare</i>	(S)
<i>WOL-CERAM</i>	<i>WDT-Wolz-Dental-Technik</i>	(D)
<i>Xawex</i>	<i>Arnold Wohlend</i>	(D)

1. Pga. utvikling av materialer, eks. Keram

(Bøystyrke, Mpa)



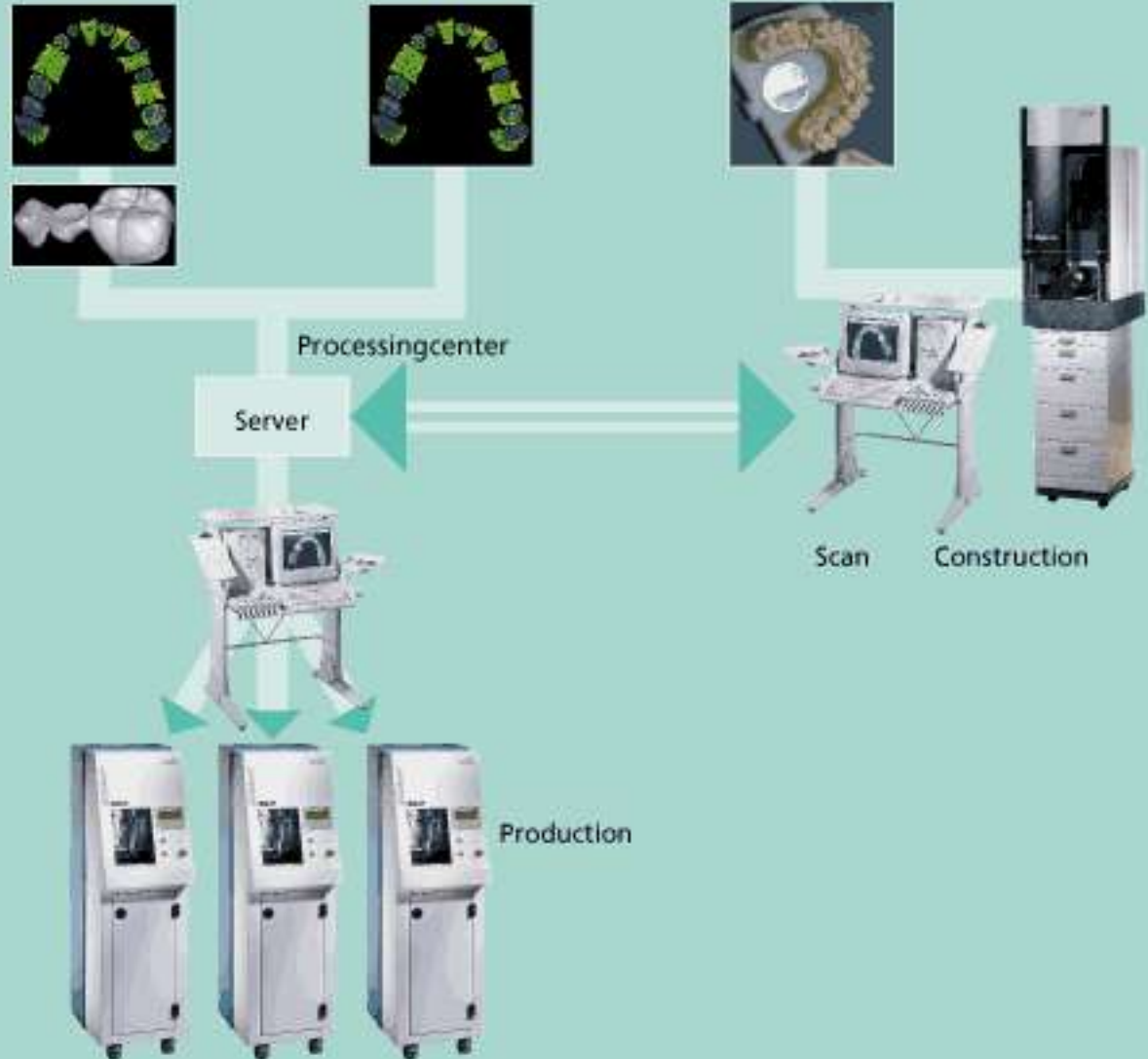
2. Pga. utvikling data-programvare Tid - Presisjon



CEREC 1

CEREC 2

Fremstillingsteknikker- DAK-DAP



Roterende instrument

Rotstift

Gingival frilegging

Avtrykk & Avtrykkskje

Bitt & kjeveregistrering

Fargebestemmelse

Temporær konstruksjon

Restaureringsmaterialer

Fremstillingsteknikker



Sementer



Ålesund April 2003

Sementer

1. Vannbasert – konvensjonelle
 - Sinkfosfat
 - Polykarboksylat
 - Glassionomer
2. Resin
3. Resinmodifisert glassionomer
4. Polyakrylmodifisert resin

Mest brukt i USA - Sement

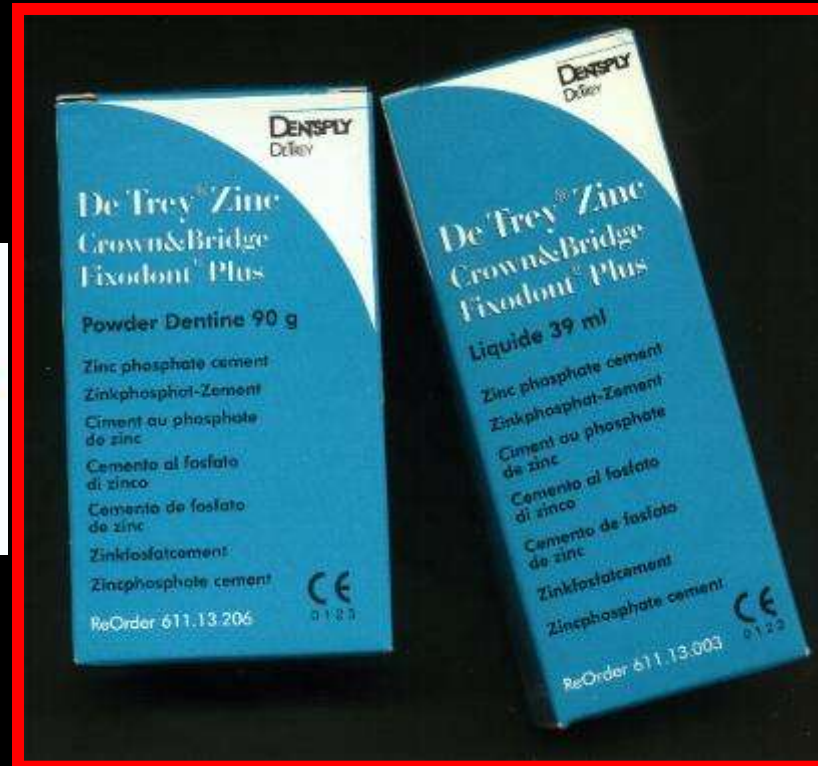
	MK	Helkeram
Hybrid ionomer	65%	46%
Adhesive resin	46%	63%
Glass ionomer	33%	

*Dental Products Report Survey, Nov 2000 n= 319 dentists.

Vannbaserte - konvensjonelle



PhosphaCEM IC



Glassionomer -Sementer



Resinmodifisert GIC & polyakrylmodifisert resin



Resin Cements

Light-Cured/Dual-Cure

1. **Insure/Insure Lite**
Cosmedent
2. **Variolink II**
Ivoclar Vivadent
- 3a. **Nexus2**
sds/Kerr
- 3b. **RelyX Veneer Cement**
3M ESPE
- 4a. **Choice**
Bisco
- 4b. **Illusion**
Bisco
5. **Calibra**
Dentsply/Caulk

Dual-Cure-Only

1. **Panavia F**
Kuraray
2. **RelyX ARC**
3M ESPE
3. **Bistite II DC**
Tokuyama Soda/
J. Morita USA
4. **Duo-Link**
Bisco
- 5a. **Cement-It!**
Universal C & B
Pentron
- 5b. **PermaFlo DC Indirect**
Luting/Restorative Resin
Ultradent

Self-Cure

1. **Panavia 21**
Kuraray
2. **Post Cement HI-X**
Bisco
- 3a. **C & B Metabond**
Parkell
- 3b. **M-Bond**
Tokuyama Soda/
J. Morita USA
4. **C&B Cement**
Luting Composite
Bisco

Sinkfosfatsement

1. Rengjør overflaten med H_2O_2 , , skyll, tørtlegg
2. Bland pulver og væske
3. Appliser sement i krone
4. Sett krone på preparert tann
5. Vent
6. Fjern overskudd
7. Inspiser kronkant

Cementering av en IPS Empress ersättning



Ersättning

Kavitet



Förbehandling av IPS Empress keram:
Om inte arbetet har fluorvätesyra-behandlats hos tandteknikern, måste detta göras nu. Lägg på IPS Ceramic etsgel i 60 sek. Läs säkerhetsföreskrifterna!

Silanisering
Monobond-S



Torrlästra



Heliobond



Emalj och dentin

Variolink

Placera ersättning



Tag bort överskott

Ljushärda



Grov och finpolering av cementspalt



Fluorlackning

Cementering av kompositersättning

Cementeringsschema för adhesiv cementering av komposit ersättning med Variolink



Ersättning

Kavitet



Förbehandling av kompositen:
Rugga upp ytan med en finisberingsdiamant 25 µm

Silanisering
Monobond-S



Torrlästra



Heliobond



Emalj och dentin

Variolink

Placera ersättning



Tag bort överskott

Ljushärda



Grov och finpolering av cementspalt



Fluorlackning

* 1. Mjölktänder och kraftig fluoriderad emalj skall etsas längre



Takk
for

oppmerksomheten