

## **CAM StructSURE® Precision Milled Bars And Frameworks**

*Procedure And Laboratory Manual*



*Hader or Dolder® Bar*



*Fixed-Hybrid Bar*



*Primary Bar*



*Copy Milled Bar Or Framework*



**CAM StructSURE®**  
PRECISION MILLED BARS

**Expanded Interface Compatibility  
And Design Matrix  
New Design Features Inside!**



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This Manual describes the process to submit a CAM StructSURE Precision Milled Bar and Framework. This Manual is not intended to replace implant education or experience. Use proper treatment planning for a more predictable result. For more information and recommendations, refer to the BIOMET 3i Restorative Manual (CATRM) treatment planning section.

## ***CAM StructSURE® Precision Milled Bars And Frameworks***

CAD/CAM Patient Specific Restorations® are the future of restorative implant dentistry and BIOMET 3i's ARCHITECH PSR® Family Of Products is leading the way with CAM StructSURE Precision Milled Bars And Frameworks. This leading-edge technology advances superstructures by offering simple laboratory procedures for implant overdentures, fixed-hybrid prostheses and fixed bridgework. With precision difficult to match using conventional laboratory techniques, CAM StructSURE Precision Milled Bars And Frameworks provide a one-piece milled titanium alloy or pure titanium structure with an impressive passive fit. The strength from a one-piece design reduces the potential for weakness that may be caused by soldering or laser welded joints. The result is a durable restoration with a precise fit.

### ***Better For Your Patients. Better For Your Practice®***

- Truly Passive Fit
- Superior Strength Compared To Conventional Cast Techniques
- No Soldered Or Welded Joints
- Light-Weight
- Available For Most Major Brand Implant Or Abutment Interfaces

### ***Better For The Laboratory***

- CAD/CAM Precision
- No Capital Investment
- No Waxing And Casting
- No Soldering Or Welding
- Laboratory Design Control

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### ***Product Description***

CAM StructSURE Precision Milled Bars And Frameworks are superstructures for implant overdentures, fixed-hybrid prostheses or fixed bridgeworks. These products are made from strong biocompatible titanium alloy or pure titanium and can be manufactured on most major brand implant and abutment interfaces. BIOMET 3i designs the CAM StructSURE Precision Milled Bars in CAD from a laboratory submitted work order form and then e-mails the design to the dental laboratory for design verification. Following a 24 hour laboratory preview period, the CAD design is transferred to a dedicated milling machine for bar fabrication. The overdenture bar is polished and ready for denture processing or the addition of porcelain or acrylic resin with no further finishing required by the laboratory.

### ***Virtual Design***

BIOMET 3i offers virtual design and milling of bars for laboratory technicians who wish to minimize their labor when fabricating overdenture and fixed-hybrid restorations. The design work from the technician is done only on the work order form. BIOMET 3i Design Technicians create the specified design in CAD within the confines of the wax prosthesis to fit the master cast. The design is verified by the laboratory technician prior to milling.

### ***Copymilled Design***

Laboratory technicians can create their own unique bar or framework design with a resin pattern and send it to BIOMET 3i with the master cast to be scanned and milled. Using a copymilling technique, BIOMET 3i creates a one-piece, titanium alloy replica of the design provided to fit the master cast.

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### ***Indications***

- Implant or abutment level interfaces (see compatibility chart on page three)
- For use on implant overdentures, fixed-hybrid and fixed bridgework prostheses with two – ten implants
- Parallel and divergent implants up to 30°
- Equal or less than 4mm of tissue depth
- Equal or greater than 7mm of interarch space
- Multiple implants with a minimum of 2mm of space between implants

## Interface Compatibility Chart

Description	Analog	Screw	Description	Analog	Screw
<b>BIOMET 3i®</b>			<b>Keystone/Lifecore</b>		
Certain® 3.4 Implant	IMMILA	ILRGHG, ILRGHT	External Hex 3.3 Implant	R9893-34	R9203-34-48
Certain 4.1 Implant	IILA20	ILRGHG, ILRGHT	External Hex 3.75 Implant	R9891-40	R9202-40-48
Certain 5.0 Implant	IILAW5	ILRGHG, ILRGHT	External Hex 4.1 Implant	R9891-40	R9202-40-48
Certain 6.0 Implant	IILAW6	ILRGHG, ILRGHT	External Hex 5.0 Implant	R9893-50	R9203-50-48
External Hex 3.4 Implant	MMILA	UNISG, UNIHG, UNIHT	External Hex 6.0 Implant	R9893-50	R9203-50-48
External Hex 4.1 Implant	ILA20	UNISG, UNIHG, UNIHT	Lifecore Prima 3.3 Internal Implant	45140K	45060K
External Hex 5.0 Implant	ILAW5	UNISG, UNIHG, UNIHT	Lifecore Prima 4.0 Internal Implant	45141K	45060K
External Hex 6.0 Implant	ILAW6	UNISG, UNIHG, UNIHT	Lifecore Prima 5.0 Internal Implant	45142K	45060K
Standard Abutment	SLA20	GSH30, GSH70	Prima Connex Multi 3.9 Abutment	45160K	45164K
IOL® Abutment	IOLLAS	GSH30, GSH70	Fixed Detachable Abutment	410530-4	R9460-48
Conical 3.4 Abutment	MMCLA	GSH30, GSH70	<b>Nobel Biocare™</b>		
Conical 4.1 Abutment	CLA20	GSH30, GSH70	Brånemark System® Mk III 3.3 NP Implant	31158	29282
Conical 5.0 Abutment	CLA20	GSH30, GSH70	Brånemark System Mk III 4.1 RP Implant	31159	29283
Conical 6.0 Abutment	WCLA6	GSH30, GSH70	Brånemark System Mk III 5.0 WP Implant	31160	29284
Pre-Angled Conical 17° Abutment	CLA20	GSH30, GSH70	Replace® Select 3.5 NP Implant	29498	29474
Pre-Angled Conical 25° Abutment	CLA20	GSH30, GSH70	Replace Select 4.3 RP Implant	29500	29475
<b>DENTSPLY Friadent®</b>			Replace Select 5.0 WP Implant	29502	29475
Ankylos Plus 3.5 Implant	3104 5270	3102 1505	Replace Select 6.0 WP Implant	29995	29475
Ankylos Plus 4.5 Implant	3104 5272	3102 1505	Replace HL™ 4.5 External Hex Implant	43714	2699
Ankylos Plus 5.5 Implant	3104 5274	3102 1505	Replace HL 5.0 External Hex Implant	5052	2699
XiVE S 3.4 Implant	45-4030	45-4305	NobelActive™ Internal 3.5 NP Implant	34243	31171
XiVE S 3.8 Implant	45-4040	45-4305	NobelActive Internal 4.3 RP Implant	34244	28815
XiVE S 4.5 Implant	45-4050	45-4305	NobelActive Internal 5.0 RP Implant	34244	35260
XiVE S 5.5 Implant	45-4060	45-4305	PME 4.5 Abutment	DCB-1750	DCA-074
Ankylos Balance Base Abutment	3104-5330	3105-6021	PME 5.0 Abutment	2128	2346
Friadent MP 3.4 Abutment	45-4103	45-4206	Standard Abutment	DCB 175-0	DCA-074
Friadent MP 3.8 Abutment	45-4103	45-4206	Brånemark System Multi-unit NP Abutment	31161	29285
Friadent MP 4.5 Abutment	45-4103	45-4206	Brånemark System Multi-unit RP Abutment	31161	29285
Friadent MP 5.5 Abutment	45-4103	45-4206	Brånemark System Multi-unit WP Abutment	31162	29286
<b>AstraTech</b>			<b>Straumann®</b>		
20° UniAbutment 3.5/4.0	22069	22435	Straumann 3.5 NN Implant	48.130	49.177
20° UniAbutment 4.5/5.0	22069	22435	Straumann 4.8 RN Implant	48.124	49.181
45° UniAbutment 3.5/4.0	22070	22435	Straumann 6.5 WN Implant	48.171	49.181
45° UniAbutment 4.5/5.0	22070	22435	Straumann Bone Level 3.3 NC Implant	25.2101	25.2906
<b>NOTE: 20° and 45° abutments cannot be combined in same bar</b>			Straumann Bone Level 4.1 RC Implant	25.4101	25.4906
<b>BioHorizons®</b>			Straumann Bone Level 4.8 RC Implant	25.4101	25.4906
3.5 External Implant	293-000	130-300	SynOcta 4.8 RN Abutment	48.124	048.350V4
4.0 External Implant	294-000	140-300	SynOcta 6.5 WN Abutment	48.171	048.350V4
5.0 External Implant	295-000	140-300	<b>Zimmer®</b>		
6.0 External Implant	296-000	140-300	Advent 4.5 Implant	AVR	AVHLS
3.5 Internal Implant	PYIA	PXAS	Screwvent 3.5 Implant	IA3	MHLAS
4.5 Internal Implant	PGIA	PXAS	Screwvent 4.5 Implant	IA4	MHLAS
5.7 Internal Implant	PBIA	PXAS	Screwvent 5.7 Implant	IA5	MHLAS
6.0 Internal Implant	PBIA	PXAS	Spline 3.25 Implant	400983	1537
3.5 Abutment	254-600	222-100	Spline 4.0 Implant	04024X9	1537
4.0 Abutment	254-600	222-100	Spline 5.0 Implant	10573	1537
5.0 Abutment	255-600	222-100	TaperLock 4.1 Implant (Ex Hex)	IAX	GPCAS
<b>CAMLOG</b>			Calcitek 4.0 MD Abutment*	*	*
Camlog Bar 3.3 Abutment	J3020.4300	J4005.1602	Calcitek Integral 3.25 SD Abutment*	*	*
Camlog Bar 3.8 Abutment	J3020.4300	J4005.1602	Corvent TSA Abutment*	*	*
Camlog Bar 4.3 Abutment	J3020.4300	J4005.1602	Corvent TSI Abutment*	*	*
Camlog Bar 5.0 Abutment	J3020.6000	J4005.2002	Tapered 3.5 Abutment	ACTR	SCTS
Camlog Bar 6.0 Abutment	J3020.6000	J4005.2002	Tapered 4.5 Abutment	ACTR	SCTS
<b>Sybron/Innova</b>			Tapered 5.7 Abutment	ACTR	SCTS
Endopore 3.5 External Hex Implant	06M-IA/1	05-2RS	Please call the manufacturer for all non BIOMET 3i Components. *Please call Attachments International 800-999-3003 or 650-340-0393		
Endopore 4.1 External Hex Implant	06B-IA/1	05-2RS			
Endopore 5.0 External Hex Implant	06WB-IA/1	05-2RS			
Endopore 4.1 Internal Implant	06I-PIA	05B-2RS			
Endopore 5.0 Internal Implant	06WI-PIA	05B-2RS			
UMA 3.9 Abutment	07-0015	07-00522			



## Available CAM StructSURE® Designs

### Hybrid Design #1



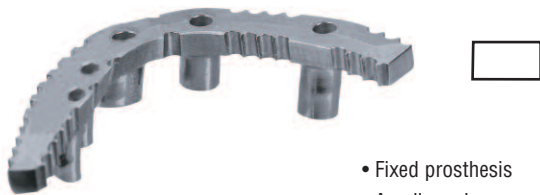
- Fixed prosthesis
- Metal lingual
- Low buccal finish line

### Hybrid Design #2



- Fixed prosthesis
- Designed for easy hygiene
- Metal lingual
- Buccal and lingual finish lines

### Wrap Around Bar



- Fixed prosthesis
- Acrylic resin wraps around the bar

### Canada Bar



- Fixed hybrid bar
- Removable prosthesis engages bar

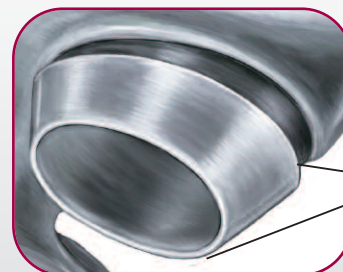
## New Design Features

Finishing Line



Ask for these design features on the CAM StructSURE Work Order Form (ART880).

Emergence Profile



## ***Dolder® Eggshape***



- Removable overdenture design
- Clips allow for anterior/posterior rotation of the denture

## ***Dolder U Shape***



- Removable overdenture design with clips for more rigid fit
- Clips allow for anterior/posterior rotation of the denture
- Provides lateral stability to denture

## ***Hader Bar***



- Removable overdenture design with clips that engage undercuts
- Provides some lateral stability
- 4mm between implants is needed for clips

## ***Primary Bar***



- Most secure removable overdenture design
- May be used with attachments or secondary casting
- Bar can be designed with a 2° – 6° taper

## ***Combination Primary With Hader Or Dolder***



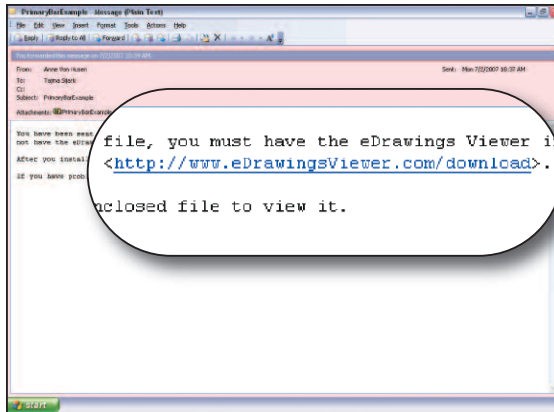
- Combines a milled bar with Hader or Dolder designs
- Excellent lateral stability
- Bar can be designed with a 2° – 6° taper

## ***Copy Milled***



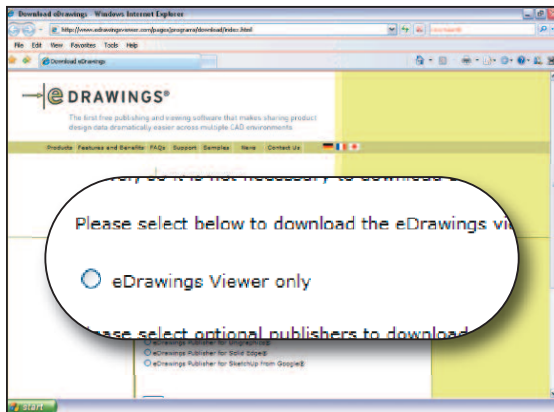
- Fixed or removable bar prosthesis
- Framework for fixed prosthesis
- Technician fabricated resin pattern for porcelain or acrylic bonded to titanium

## Using eDrawings® Viewer



1. You will receive an email from the ARCHITECH PSR® Department. Click on the eDrawing Viewer link to download the software.

This process should take no longer than five minutes to download.



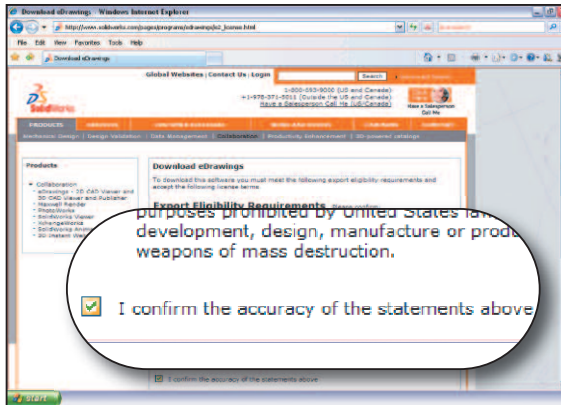
2. On the download eDrawing Viewer screen, select “eDrawing Viewer Only” and click next.



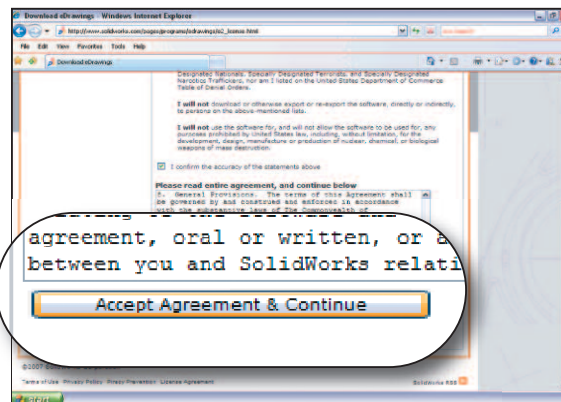
3. On the next screen, click download.



## Using eDrawings® Viewer (cont.)



- 4a. On the “Export Eligibility Requirements” screen, read and check the box acknowledging that you have read the requirement.



- 4b. Read and accept the software agreement.

**Note: Steps 1 thru 4 are necessary for initial software download only.**

5. Click to open the image file. Image viewing tools are located on the tool bar.

**Zoom Area** tool allows you to zoom in. Choose this tool and select the area you want to zoom in to.

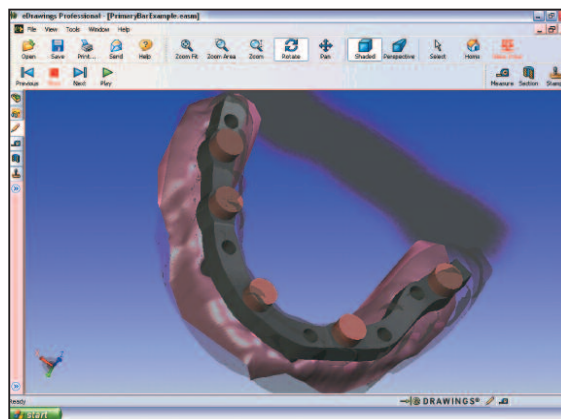
**Zoom Fit** tool reverts back to the original image size.

**Zoom** tool allows you to zoom in and out of the image with your mouse.

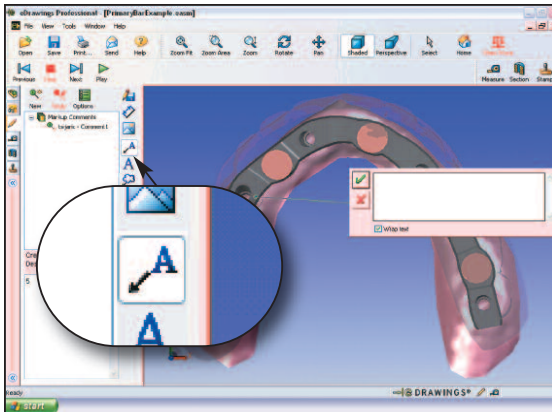
**Rotate** tool allows you to move the image and view it in 360°.

Select the **Pan** tool to move the image two dimensionally on the screen.

Selecting **Home** will take you back to the original image location, if changes have not been saved.

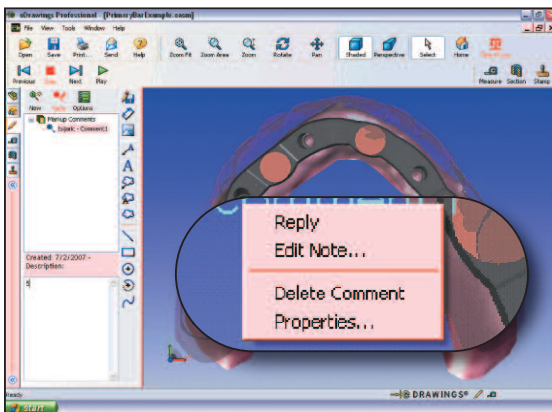


## Using eDrawings® Viewer (cont.)

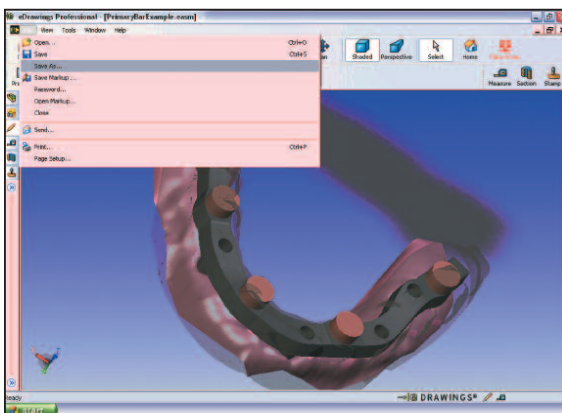


6. Select “text with leader” tool in the markup section to type comments. Click on the portion of the drawing where you desire the comment(s) to be placed and move the mouse slightly away from the desired comment location. Click again to allow for comments to be typed.

Click on the green checkmark to leave a comment. Comment(s) will appear on the screen.

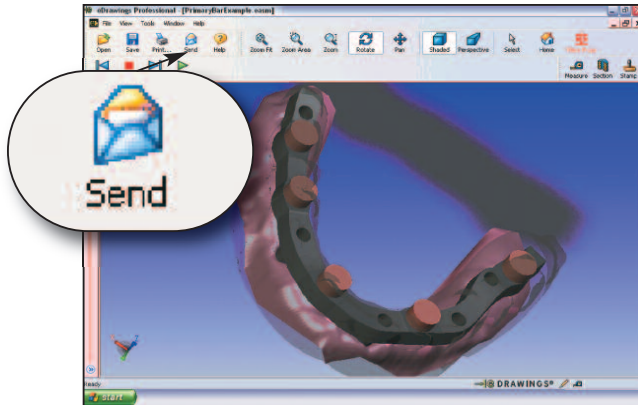


7. If you wish to edit or remove the comment(s) you made, place your mouse cursor over your comment(s) and right click.



8. Once completed, select the “Save As” option under the File tab to save the drawing with your comments.

## Using eDrawings® Viewer (cont.)



9. Select "Send" to return the drawing and comments to the BIOMET 3i ARCHITECH PSR® Department.

## Laboratory Work Order Form Instructions

### 1. Account Information

Please complete this section clearly. All requested information is important to ensure the necessary communication of the desired case design. Please make sure your communication is clear and timely as this is important from receipt to design verification and the delivery of the finished product.

Incomplete information on the work order form or missing case requirements may delay the delivery of the product.

### 2. Preparing Your Case For Shipment

This section serves as a checklist for the mandatory case contents.

### 3. Structure Type

The information in this section provides BIOMET 3i with the desired design of the bar for a particular type of prosthesis.

### 4. Case Information

This section is important for the scanning and design process. Providing accurate information regarding the tooth position of the implants, implant brand and size or abutment type will expedite the process of order entry, design and completion.

### 5. Design Instructions

Illustrations of the occlusal view for both a mandible and a maxilla are provided in this section. Please sketch the bar with implant positions and attachment or clip positions. Please use the legend provided.

**The following cases will be returned to the laboratory:**

1. Cases with more than 10 implants
2. Greater than 30° of divergence between implants
3. Less than 2mm between implants
4. Less than 7mm of interarch distance space
5. More than 4mm of tissue depth

### 6. Special Instructions

Please provide any special information necessary to ensure the proper design of the CAM StructSURE® Precision Milled Bar or Framework. This may include path of insertion information or malocclusion. Additional instructions are also welcome. **(Please note that additional instructions do not replace the mandatory sections on the prescription form.)**

### 7-8. BIOMET 3i Screw And Attachment Ordering

This section identifies the screw preference and quantity. Please order screws for this case only. Polishing protectors and attachments are also available in this section. **If components or screws other than the BIOMET 3i Brand are preferred, the laboratory will be responsible for ordering these from the specific implant or component manufacturer.**

### 9. Certification

The signature denotes that the technician and clinician have verified the master cast for accuracy by trying in a verification index intraorally. **Signature is mandatory. BIOMET 3i will not fabricate a CAM StructSURE Precision Milled Bar or Framework without this certification from the laboratory.**

**Work Orders are also available at [www.biomet3i.com](http://www.biomet3i.com)**

## CAM StructSURE® Laboratory Work Order Form

DO NOT PHOTOCOPY - Available online at [www.biomet3i.com](http://www.biomet3i.com)



**CAM StructSURE®**  
PRECISION MILLED BARS

### Work Order

1.

#### \*1. Account Information (Please Print)

\*Indicates Required Fields

\* Customer Name: \_\_\_\_\_

BIOMET 3i Account #: \_\_\_\_\_

\* Bill To: \_\_\_\_\_

Ship To: \_\_\_\_\_

\* Contact: \_\_\_\_\_

\* Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

\* Email: \_\_\_\_\_

\* Patient ID: \_\_\_\_\_

2.

#### 2. Preparing Your Case For Shipment

##### IMPORTANT:

- Only use new implant analogs.
- Please do not send the articulator.
- Missing information or components can delay your case.
- Only use current work order form online at [www.biomet3i.com](http://www.biomet3i.com).

Please include only the following items:

- ☐ Copy of the completed work order
- ☐ Verified/accurate soft-tissue cast
- ☐ Resin pattern if CopyMill bar is desired
- ☐ Verified wax try-in, disinfected
- ☐ Disinfected intraorally verified index (optional)

3.

#### \*3. Structure Type

\*\*See Compatibility Chart in CAM StructSURE Manual (ART868)

##### Overdentures

- ☐ Hader
- ☐ Dolder® U shape Macro  
→ 2.2mm
- ☐ Dolder Eggshape Macro  
→ 2.2mm
- ☐ Primary \_\_\_\_° Taper

##### Combination

- ☐ Hader anterior, Primary distal
- ☐ Hader anterior, Dolder distal
- ☐ Dolder anterior, Primary distal
- ☐ Dolder anterior, Hader distal
- ☐ Primary anterior, Hader distal
- ☐ Primary anterior, Dolder distal

##### Fixed Solutions

- ☐ Hybrid #1
- ☐ Hybrid #2
- ☐ Wrap Around
- ☐ CopyMill for acrylic (Default)
- ☐ CopyMill for porcelain
- ☐ Canada Bar

4.

#### \*4. Case Information

\*\*See Compatibility Chart in CAM StructSURE Manual (ART868)

Tooth Position	Implant Brand**	Implant System	Implant Platform Diameter	Abutment Type
				or
				or
				or
				or
				or
				or
				or
				or
				or

5.

#### 5. Design Instructions

- See design matrix in CAM StructSURE Manual (ART868) online at [www.biomet3i.com](http://www.biomet3i.com)
- Maximum implant divergence is 30°
- Minimum distance between implants is 2mm

##### Distal Extensions

###### Patients Left

- ☐ To 2nd bicuspid
- ☐ To 1st molar
- ☐ To 2nd molar
- ☐ Specify in mm = \_\_\_\_\_mm

###### Patients Right

- ☐ To 2nd bicuspid
- ☐ To 1st molar
- ☐ To 2nd molar
- ☐ Specify in mm = \_\_\_\_\_mm

##### Space Between Tissue And Bar

###### Distance

- ☐ As close as possible
- ☐ Specify in mm = \_\_\_\_\_mm

###### Shape

- ☐ Follow tissue contour
- ☐ Straight

##### Bar Height

- ☐ Specify in mm = \_\_\_\_\_mm (min. height 2.5mm)

#### Tap Areas For Attachments

##### Occlusal Taps

- ☐ LOCATOR®
- ☐ TSB Ball
- ☐ Ceka® M3
- ☐ 1.4mm 0.3 Tap for GSH30
- ☐ 2.0mm 0.4 Tap for UNIHT

##### Vestibular Taps

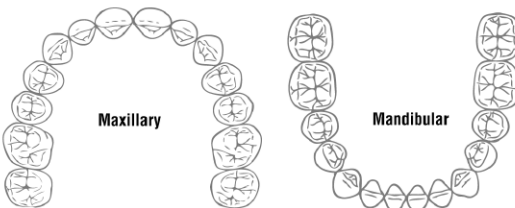
- ☐ Swiss-loc
- ☐ Lew Passive
- ☐ 1.5mm no tap drill only
- ☐ 2.2mm Bredent VKS

☐ Design bar according to the drawings below

● = Implant Position

■ = Clip Placement

▲ = Attachment



#### 6. Special Instructions

- ☐ Please see back or attached page.

#### 7. BIOMET 3i Screw Ordering

Contact manufacturer for screws not made by BIOMET 3i.

- ☐ I would not like to order screws at this time.

##### Certain® Abutment Screws

- Gold-Tite® Hexed Large Diameter (ILRGHG)
- Titanium Hexed Large Diameter (ILRGHT)

##### External Hex Abutment Screws

- Gold-Tite Square (UNISG)
- Gold-Tite Hexed (UNIHG)
- Titanium Hexed (UNIHT)
- Laboratory Square Try-in Screw - 5 pack (UNITS)

##### Retaining Screws

- Gold-Tite, 2mm(H) (GSH20)
- Gold-Tite, 3mm(H) (GSH30)
- Gold-Tite, 7mm(H) (GSH70)

##### Waxing Screws

- Certain - Implant Level Waxing Screw, 16mm (WSU30)
- External Hex - Implant Level Waxing Screw, 15mm (WSU30)
- Abutment Level Waxing Screw, 10mm (WSK10)
- Abutment Level Waxing Screw, 15mm (WSK15)

#### 8. Attachment Ordering

LOCATOR Bar Attachment Kit (LOAB)

Hader Clip Gold (ORCG1)

Hader Clip Plastic (ORCY1)

#### 9. Certification

I certify that the analog positions on the cast and the wax try-in have been verified for accuracy and the stated information is correct. All items that have contacted the oral environment have been disinfected. This form authorizes BIOMET 3i to fabricate the CAM StructSURE Precision Milled Bar using and consistent with the information provided on this work order. I have reviewed the applicable Procedure and Laboratory Manual (ART868) for this product.

\*Technician Signature \_\_\_\_\_

\*Date \_\_\_\_\_

Order will not ship without signature.

Job # \_\_\_\_\_

Issued By \_\_\_\_\_

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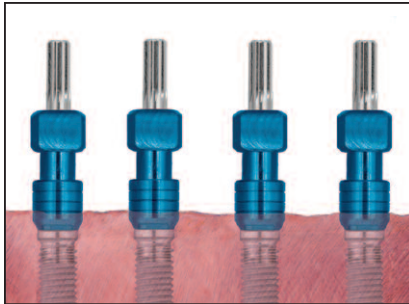


ART880

REV F 07/09

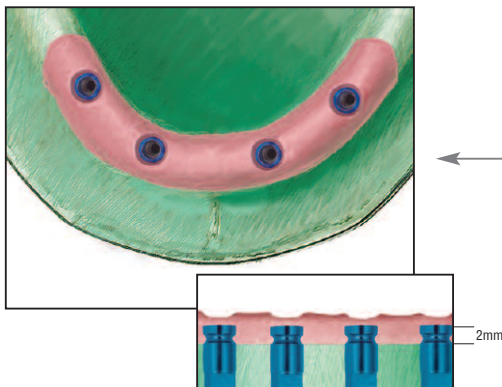


## Procedure And Laboratory Manual



### RESTORATIVE DENTIST - 1st Visit

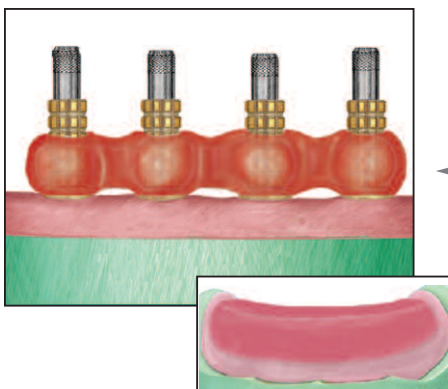
1. See the BIOMET *3i* Restorative Manual (CATRM) or consult the specific implant system manual for abutment placement and abutment level or implant level impressing instructions.



### LABORATORY

2. Fabricate a soft tissue master cast as illustrated using new, undamaged analogs. Using old, damaged or loose fitting analogs can interfere with the scanning and design process and may prevent the bar from properly seating. Cases received with either damaged or insufficiently anchored analogs will be returned to the laboratory.

**NOTE:** The soft tissue material on the master cast must be applied approximately 2mm down from the analog interface. It must also be easily removable for the scanning and design process and to ensure a proper fit.



3. Place non-hexed titanium implant or abutment temporary cylinders onto the analogs and screw into place with waxing or try-in screws. Fabricate a rigid verification index by luting the cylinders together using a light cure composite resin or autopolymerizing acrylic resin. Also, fabricate a baseplate and wax the occlusal rim. Return the verification index for intraoral fit verification and wax occlusal rim for interocclusal records.

## Procedure And Laboratory Manual (cont.)



### RESTORATIVE DENTIST - 2nd Visit

4. Remove the healing abutments or caps using the proper driver. Place the wax occlusal rim into the mouth and make the interocclusal records. Place the verification index onto the implants or abutments. Place a try-in screw into one posterior most cylinder of the verification index and finger tighten. Visually verify a passive fit on all interfaces. If the interfaces are subgingival, take a radiograph to verify a passive fit. Remove the screw and place into the opposite posterior most cylinder of the verification index and repeat. If a fit discrepancy is found, section the index and reassemble it intraorally by luting with a resin material. Remove the index. Immediately replace the healing abutments or caps.



### LABORATORY

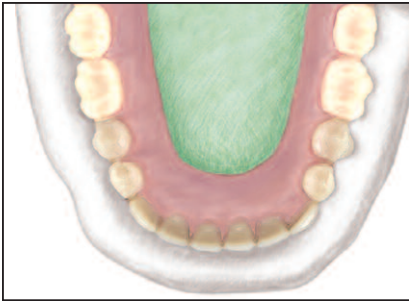
5. Verify that the analog positions on the cast are accurate using the verification index. If a fit discrepancy is found, remove the analog(s) and replace these in the cast using the corrected verification index. Articulate the casts using the interocclusal record. Set the denture teeth on the baseplate and return the wax try-in for verification.



### RESTORATIVE DENTIST - 3rd Visit

6. Remove the healing abutments or caps and place the wax try-in into the mouth. Verify occlusion, aesthetics and phonetics. Make any necessary adjustments. If major adjustments are necessary, make a new interocclusal record and return to the laboratory for a new set-up and wax try-in.

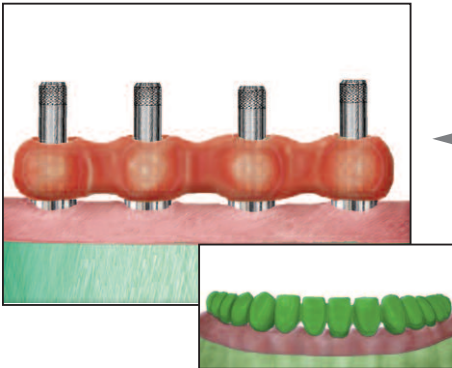
## Procedure And Laboratory Manual



### LABORATORY

7. Place the verified wax try-in on the cast and make a silicone or plaster matrix of the tooth positions. **Do not remove the teeth inside the matrix. If requesting fabrication of a virtual designed CAM StructSURE® Bar or Framework, go to step 11.**

**If requesting fabrication of a Copy Milled CAM StructSURE Bar or Framework, go to the next step.**



### COPY MILLED CAM StructSURE

8. Place the verification index on the implant or abutment analogs and screw into place with waxing screws. Reduce the height of the temporary cylinders using a carbide bur so that these fit within the confines of the silicone matrix. Apply a separator to the inside of the matrix of the wax try in and place it on the cast. Pour wax into the impressions of the teeth in the matrix and around the verification index. Remove the matrix and complete the wax up of the bar or framework on the lingual or palatal side.



9. Flask the wax up for processing. Boil away the wax and separate the flask. Remove the verification index and remove the temporary cylinders from the index. Place each Temporary Cylinder back on the analogs with waxing screws. Process the wax up in acrylic resin. Please use light color acrylic resin for scanning purposes.

## Procedure And Laboratory Manual (cont.)



10. Remove the framework from the flask. Finish the framework to the desired contours with a bur. Cut back the teeth approximately 2mm if the framework is being designed for porcelain application. Place the matrix on the cast periodically as a guide for proper contouring. On the CAM StructSURE® Work Order Form, please indicate whether the bar will be processed for acrylic or porcelain applications. The default is acrylic.

11. Complete the CAM StructSURE Precision Milled Bar Work Order Form. See page 11 for an example. Package the following items securely in a box:
- Copy Of The Work Order Form
  - Verified Soft Tissue Master Cast Unmounted\*
  - Verified Wax Try-In Or Acrylic Resin Framework
  - Verification Index

\*Casts should be unmounted because BIOMET 3i will mount those for scanning purposes. If casts are sent mounted, some may need to have mountings removed from the cast, requiring remounting and articulating at a later point, which may break the model.

**PLEASE DO NOT SEND:**

- The Articulator
- The Opposing Cast

**NOTE: All items and/or materials that have been used intraorally must be disinfected following manufacturer's instructions before these are sent to BIOMET 3i.**

**Send to:**

In USA:

BIOMET 3i ARCHITECH PSR®  
4555 Riverside Drive  
Building B  
Palm Beach Gardens  
Florida 33410  
1-800-342-5454

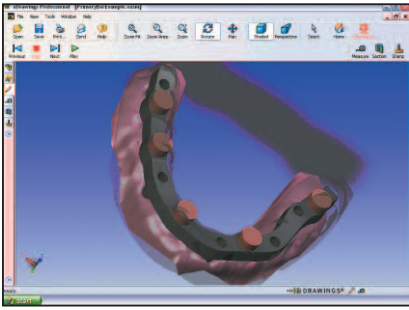
In Canada:

BIOMET 3i Canada, Inc.  
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St Laurent, Québec  
CANADA H4S 1B6  
1-800-363-1980 Ext. 230

In Europe:

BIOMET Spain Orthopaedics, S.L.  
ARCHITECH PSR®  
Calle Islas Baleares, 50  
46988 Fuente del Jarro  
Valencia, Spain  
34-96-137-95-00

## Procedure And Laboratory Manual (cont.)



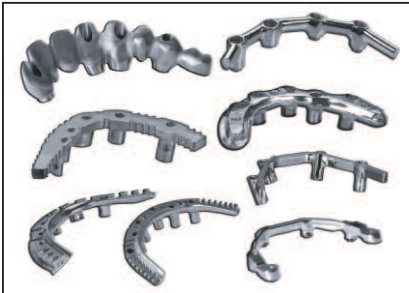
### BIOMET 3i ARCHITECH PSR® VIRTUAL DESIGN

**12a.** The soft tissue master cast and the verified wax try-in are scanned and transferred into the CAD software. The CAM StructSURE® Precision Milled Bar is designed in CAD according to the work order form provided.

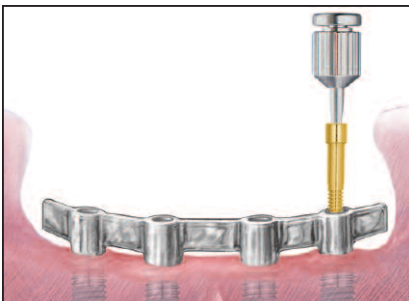
### COPY MILLED DESIGN

**12b.** The acrylic bar or framework is scanned and transferred into the CAD software. The Copy Milled Bar or Framework is designed to match the acrylic bar or framework.

A link for virtual viewing of your CAM StructSURE design will be sent via email for a 24 hour preview and design verification (See pages 6-9 for viewing instructions).



**13.** Following the preview period, the design file is transferred to a milling machine for fabrication. After milling is complete, the bar or framework is finished and polished. The CAM StructSURE Bar or Framework, any requested components and case materials sent to BIOMET 3i are returned to the laboratory. The laboratory may send the CAM StructSURE Bar or Framework to the restorative dentist for intraoral try in or complete the prosthesis.



### RESTORATIVE DENTIST - 4th Visit (Optional)

**14.** Remove the healing abutments or healing caps. Place the CAM StructSURE Bar or Framework onto the implants or abutments. Thread a try-in screw into the posterior most access hole until finger tight. Visually verify a passive fit on all interfaces. If interfaces are subgingival, take a radiograph to verify a passive fit. Remove the screw and place into the opposite posterior-most access hole of the bar and repeat.

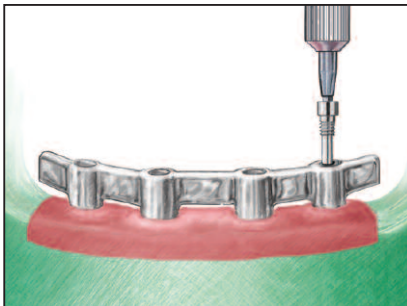
**NOTE: If a fit discrepancy is detected during bar try-in, one of the following corrective measures may be used.**

1. The CAM StructSURE Bar or Framework may be sectioned and reassembled intraorally. Then the analog(s) in the master cast are repositioned by the laboratory and a new bar or framework is fabricated.
2. A new impression is made and a new master cast is poured. Then, the verification steps must be repeated and a new bar or framework is fabricated.

Please consult with your laboratory.



## Procedure And Laboratory Manual (cont.)

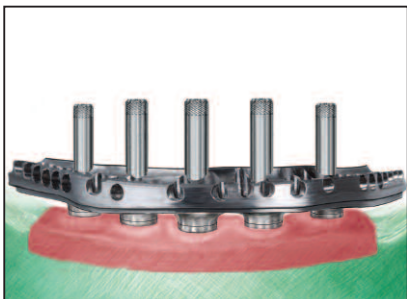


Hader or Dolder Bar

### LABORATORY

#### 15a. Hader Or Dolder® Bar Restoration

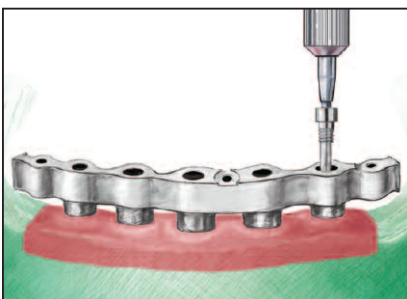
Place the wax try-in on the cast. Place the matrix on the try-in and remove it with the denture teeth inside it. Attach the bar onto the analogs using try-in or laboratory screws. Transfer the denture teeth from the matrix over the bar on the cast and wax the denture for processing. Flask the waxed denture. Boil away the wax and separate the flask. Block out all undercuts and access holes with wax. Place the Hader/Dolder clips or other attachments onto the bar. Process and finish the overdenture prosthesis in a conventional fashion. Polishing protectors should be in place to protect the bar interfaces during all polishing procedures. Return the final prosthesis to the restorative dentist for delivery.



Fixed-Hybrid Bar

#### 15b. Fixed-Hybrid Restoration

Place the wax try-in on the cast. Place the matrix on the try-in and remove it with the denture teeth inside it. Attach the bar onto the analogs using waxing screws. Transfer the denture teeth from the matrix onto the bar on the cast and wax the fixed-hybrid prosthesis for processing. Flask the waxed fixed-hybrid prosthesis. Boil away the wax and separate the flask. Block out all undercuts with wax. Process and finish the fixed-hybrid prosthesis in a conventional fashion. Polishing protectors should be in place to protect the bar interfaces during all polishing procedures. Return the final prosthesis to the restorative dentist for delivery.

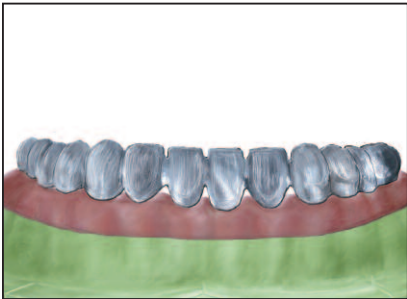


Milled Primary Bar

#### 15c. Milled Primary And Secondary Bar Restoration

Place the wax try-in on the cast. Place the matrix on the try-in and remove it with the denture teeth inside it. Attach the primary bar onto the analogs using try-in or laboratory screws. Seal the access holes and block out all the undercuts with wax. Make a refractory model of the primary bar on the cast. Wax and cast the secondary bar on the refractory model with the selected attachments. Fit the secondary bar onto the primary bar on the cast. Place the attachments. Transfer the denture teeth from the matrix onto the secondary bar on the cast and wax for processing. Flask the waxed prosthesis. Boil away the wax and separate the flask. Block out all undercuts and access holes with wax. Process and finish the prosthesis in a conventional fashion. Polishing protectors should be in place to protect the bar interfaces during all polishing procedures. Return the final prosthesis to the restorative dentist for delivery.

## Procedure And Laboratory Manual (cont.)



### 15d. Copy Milled Framework

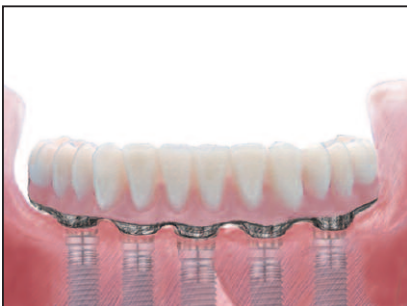
Place the Copy Milled Framework on the cast and screw it into place using try in screws. Place the cast on the articulator. Opaque and build porcelain on the framework or apply acrylic resin. Place the matrix on the cast periodically as a guide for proper contouring. Stain and glaze the porcelain or polish the acrylic.



### RESTORATIVE DENTIST - Final Visit

#### 16a. Hader Or Dolder® Bar Restoration

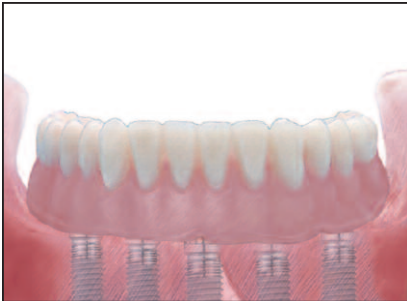
Remove the healing abutments or caps from the implants or abutments. Place the bar onto the implants or abutments. Thread the abutment or retaining screws into the implants or abutments until finger tight using the manufacturer's recommended driver. Visually verify a passive fit on all interfaces. If the interfaces are subgingival, take a radiograph to verify a passive fit. Torque the screws to the recommended level with a torque device following the manufacturer's instructions. Place the overdenture onto the bar engaging the attachments. Make any occlusal adjustments necessary. Instruct the patient on insertion and removal of the prosthesis and on proper oral hygiene.



#### 16b. Fixed-Hybrid Restoration

Remove the healing abutments or caps from the implants or abutments. Place the fixed-hybrid prosthesis onto the implants or abutments. Thread the abutment or retaining screws into the implants or abutments until finger-tight using the manufacturer's recommended driver. Visually verify a passive fit on all interfaces. If the interfaces are subgingival, take a radiograph to verify a passive fit. Torque the screws to the recommended level with a torque device following the manufacturer's instructions. Make any occlusal adjustments necessary. Place a protective material over the screw heads. Seal the access holes with composite resin and polish. Instruct the patient on proper oral hygiene.

## Procedure And Laboratory Manual (cont.)



### 16c. Milled Primary And Secondary Bar Restoration

Remove the healing abutments or caps from the implants or abutments. Place the primary bar onto the implants or abutments. Thread the abutment or retaining screws into the implants or abutments until finger-tight using the manufacturer's recommended driver. Visually verify a passive fit on all interfaces. If the interfaces are subgingival, take a radiograph to verify a passive fit. Torque the screws to the recommended level with a torque device following the manufacturer's instructions. Place the secondary prosthesis onto the bar, engaging the attachments. Make any occlusal adjustments necessary. Instruct the patient on insertion and removal of the prosthesis and on proper oral hygiene.



### 16d. Copy Milled Framework

Remove the healing abutments or caps from the implants or abutments. Place the Copy Milled Bridge onto the implants or abutments. Thread the abutment or retaining screws into the implants or abutments until finger-tight using the manufacturer's recommended driver. Visually verify a passive fit on all interfaces. If the interfaces are subgingival, take a radiograph to verify a passive fit. Torque the screws to the recommended level with a torque device following the manufacturer's instructions. Make any occlusal adjustments necessary. Place a protective material over the screw heads. Seal the access holes with composite resin and polish. Instruct the patient on proper oral hygiene.

## Design Matrix

### Type I Bars:

**Bars For Removable Protheses** (all dimensions in millimeters unless otherwise specified)

Dim.	Description	Min.	Max.
A	Platform Seating Diameter	3.4	6.0
B	Cylinder Height	2.5	10.0
C	Cylinder Diameter	3.4	6.0
D	Maximum Angulation Between Cylinders	0°	30°
E	Total Implants Or Abutments	2	10
F	Bar Span Between Implants Or Abutments	2.0	27.0
G	Bar Height	2.5	10.0
H	Bar Width	1.8	10.0
I	Distal Extension	0	12.0

### Type II Bars:

**Fixed Hybrid Bars** (all dimensions in millimeters unless otherwise specified)

Dim.	Description	Min.	Max.
A	Platform Seating Diameter	3.4	6.0
B	Total Implants Or Abutments	4	10
C	Bar Span Between Implants Or Abutments	2.0	27.0
D	Bar Height	2.5	22.0
E	Bar Width	4.0	10.0
F	A/P Spread	0	40.0
G	Distal Extension	0	18.0

## Notes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.





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ART868

Rev D 08/09

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