fusioin treatment is powered by suresmile technology to provide 3D models and fully-customized wires based on your scan of the patient.
For more information on suresmile fusion

Visit suresmile.com and select suresmile fusion in the header.
Capture two scans per patient:

- **Initial 3D scan** – this scan may be captured by any system that can provide STL files for uploading your case to the doctor portal. Follow the instructions for starting a case to upload this data.

- **Scan after bonding** – this scan must be captured with a suresmile-certified scanner such as the CEREC® scanner with Omnicam. This document includes the steps for capturing acceptable data and guidelines for scanning patients who are bonded.

  **NOTE:** Do not perform the scan with brackets until both IDB and any sequential bonding are complete.
Getting Started

suresmile supports the following systems:

- CEREC® AC/AF/AI with Omnicam
- AC/AF Connect with Omnicam

1) Scans must be completed with CEREC Ortho SW, version 1.2.1 or newer.

CEREC Omnicam variations:

- CEREC AC (Acquisition Center) - The mobile cart version
- CEREC AF (Acquisition Flex) – The flexible tabletop unit
- CEREC AI (Acquisition Integrated)– The integrated, economic version
Capture Data for fusion

Prepare the Patient

1. Remove the patient’s wires in the arches to be scanned. If they are suresmile archwires, keep track of their orientation to help you reinsert them correctly at the end of the appointment.

2. Remove calculus and any other material that will misrepresent the true shape of the teeth.

3. If the patient has turbos, the guideline is the same whether they consist of metal or composite material—if the turbos are scheduled to be removed at this appointment, remove them before the scan.

4. Close the bracket doors of the self-ligating brackets before scanning.

**WARNING:** This step is critical since the fusion system cannot process the scan data if the bracket doors are open.

Opaque Brackets

Before you begin scanning, you must apply an opaque material to brackets since they are difficult to capture with this scanning technology.

Use a material such as CEREC OptiSpray or SureWhite (available from SureSmile Customer Care) that can provide a thin coating for the bracket without obscuring its detail. It is not necessary to coat the teeth.
Take the Scan/Send Order

1. Capture the upper, lower and buccal registration.
   
   NOTE: If you are taking an extra scan to capture brackets that have been repositioned or rebonded, you may bypass steps in the scanner software to skip to the areas needed. When you scan the section, be sure to include the teeth with bracket changes and several adjacent teeth to assist in merging the data with the previous model.

2. Fill in any voids to capture:
   - 100% of tooth surfaces
   - 100% of bracket faces
   - 70% (or more) of bracket mesial and distal profiles
   - Gingival margins

Export Scan Data

   NOTE: CEREC Ortho software requires either a single arch, or both arches and the bite to enter a case.

3. After scanning the patient in CEREC Ortho SW, proceed to the MODEL phase and check the models for completion.

4. Choose “Export…” from the system menu at the top of the screen.

5. In the save dialog, choose the file type “STL File”.
   
   Warning: The file type “STL Closed Geometry” is optimized for printing. It is not suitable for SureSmile treatment planning.

6. Save the STL file to a directory that can be accessed later for uploading during the ordering process.
   
   NOTE: The SureSmile Digital Lab recommends marking the bite with articulating paper when preparing to take photos. Also, wires must be removed for SureSmile records.

7. Reinsert the archwires and complete the patient appointment.
Upload your Scan Data to the fusion Case Portal

Finally, go to the fusion case portal and upload the patient’s records.

NOTE: If you are capturing this scan after completing sequential bonding, remember to take progress photos at the same appointment. In preparation for uploading, combine the photos into a .ZIP file.

1. Go to the fusion case portal by visiting suresmile.com and selecting suresmile fusion in the header.

2. Select the case portal option (between “how it works” and “support”).

3. Select Upload with bracket scans.

4. Follow the instructions for uploading your scan with brackets.
Scan Procedure – CEREC® with Omnicam

When you scan a patient who is bonded, follow these guidelines to:

- Capture accurate and complete modeling data, including bracket features
- Follow the most efficient steps

Because the suresmile system will fill in holes with artificial data, complete coverage is required for an accurate representation of the patient. Capture to these standards:

- 100% tooth coverage and interproximal areas
- 100% of bracket faces
- 70% of bracket mesial and distal profiles
- 2mm of gingiva

Scanning Bonded Patients

If the patient is bonded, add the best practices on the following pages to your procedure to adequately capture teeth with brackets. Depending on user preference, you can begin scan on either upper or lower arch and on right or left side.

✓ Keep Areas Dry

Part of capturing a high quality scan, it is important to keep areas being scanned completely dry. Saliva and bubbles can distort the surface captured by the scanner. Be sure to have extra cotton rolls or gauze in addition to having a constant suction at hand.

✓ Opaque Brackets
In general:

- Keep the scanner in motion. You will need more pictures to capture bonded patients so do not hover over an area or you may exceed recommended image counts.

- Avoid capturing soft tissue (tongue, lips, cheeks) since soft tissue can move between pictures and confuse the system. This rule also applies to your fingers. If you accidentally capture any extraneous anatomy, use the trim function to remove this data.

- It is critical to follow the CEREC Ortho scan strategy and is recommended to use the guided scanning feature.
Lower Jaw Scan

Scan the right-hand quadrants

1. Remove the CEREC Omnicam from its holder.
   - The step list for scanning the lower jaw is displayed.
   - In the step list, the first step “Scan lingual right” is selected.

2. Position the camera above the last molar on the right of the lower jaw and hold the camera in this position to mark the start of the scan.
   - The start marker (A), which marks the starting point for the partial scan, slowly disappears and the scan begins.
   - The guide direction for the camera is shown with an arrow.

3. Turn the camera lingually and guide it in the direction of the arrow over the lingual surface of the teeth as far as the target marker (B) on the centerline.
   - When the center line has been reached, hold the camera in position once more for 3 seconds to mark the end point of the partial scan. While doing so, the target marker slowly disappears.
   - The software automatically changes to the next “Scan occlusal right” step.

4. Position the camera above the last molar on the right. The starting point is marked with a start marker (A) and is automatically recognized. Guide the camera occlusally in the direction of the arrow as far as the target marker (B) on the centerline.
   - If the centerline has been scanned, a signal tone will be heard.
   - The software changes to the next “Scan vestibular right” step.

5. Position the camera above the last molar on the right. The starting point is marked with a start marker (A) and is automatically recognized.

6. Turn the camera towards the buccal and guide it in the direction of the arrow over the arch as far as the target marker (B) on the centerline.
   - If the centerline has been scanned, a signal tone will be heard.
   - The software changes to the next “Scan transversal right” step.
7. Guide the camera in the direction of the arrow over the marked area from the start marker (A) to the target area (B).
   - If the connection is scanned, a signal tone will be heard.
   - The software changes to the next left-hand quadrant step

**Scanning the left-hand quadrant and completing the lower jaw scan**

1. Position the camera above the last molar on the left of the lower jaw and hold the camera in this position to mark the start of the scan.
   - The position marker (A), which marks the start of the scan, slowly disappears and the scan begins.
   - The guide direction for the camera is shown with an arrow.
2. Turn the camera lingually and guide it in the direction of the arrow over the lingual surface of the teeth as far as the target area (B) on the centerline.
   - When the center line has been reached, hold the camera in position once more for 3 seconds to mark the end point of the partial scan. While doing so, the target marker slowly disappears.
   - The software automatically changes to the next “Scan occlusal left” step.
3. Position the camera above the last molar on the left. The starting point is marked with a start marker (A) and is automatically recognized. Guide the camera occlusally as far as the target marker (B) on the centerline.
   - If the centerline has been scanned, a signal tone will be heard.
   - The software changes to the next “Scan vestibular left” step.
4. Position the camera above the last molar on the left. The starting point is marked with a start marker (A) and is automatically recognized.
5. Turn the camera towards the buccal and guide it in the direction of the arrow over the arch as far as the target marker (B) on the centerline.
   - If the centerline has been scanned, a signal tone will be heard.
   - The software changes to the next "Scan transversal left" step.
6. Guide the camera in the direction of the arrow over the marked area from the start marker (A) to the target marker (B).
   - If the connection is scanned, a signal tone will be heard.
7. If insufficient area has been scanned, switch to the next step “Complete Jaw” to finish lower jaw.
8. Click the “Upper Jaw” scan object to begin scanning of upper jaw
Upper Jaw Scan

Scan the right-hand quadrants
✓ The lower jaw has been scanned.
✓ The “Upper Jaw” scan object is activated.
✓ The step list for scanning the upper jaw is displayed.
✓ The first step, “Scan palatal right”, is selected in the step list.

1. Position the camera above the last molar on the right of the upper jaw and hold the camera in this position to mark the start of the scan.
   • The start marker (A), which marks the starting point for the partial scan, slowly disappears and the scan begins.
   • The guide direction for the camera is shown with an arrow.

2. Turn the camera lingually and guide it in the direction of the arrow over the lingual surface of the teeth as far as the target marker (B) on the centerline.
   • When the center line has been reached, hold the camera in position once more for 3 seconds to mark the end point of the partial scan. While doing so, the target marker slowly disappears.
   • The software automatically changes to the next “Scan occlusal right” step.

3. Position the camera above the last molar on the right. The starting point is marked with a start marker (A) and is automatically recognized. Guide the camera occlusally as far as the target marker (B) on the centerline.
   • If the centerline has been scanned, a signal tone will be heard.
   • The software changes to the next “Scan vestibular right” step.
4. Position the camera above the last molar on the right. The starting point is marked with a start marker (A) and is automatically recognized.

5. Turn the camera towards the buccal and guide it in the direction of the arrow over the arch as far as the target marker (B) on the centerline.
   - If the centerline has been scanned, a signal tone will be heard.
   - The software changes to the next "Scan transversal right" step.

6. Guide the camera in the direction of the arrow over the marked area from the start marker (A) as far as the target marker (B).
   - If the connection is scanned, a signal tone will be heard.
   - The software changes to the next "Scan palatal left" step.

**Scan the left-hand quadrant and complete the upper jaw scan**

1. Position the camera above the last molar on the left of the upper jaw and hold the camera in this position to mark the start of the scan.
   - The start marker (A), which marks the start of the scan, slowly disappears and the scan begins.
   - The guide direction for the camera is shown with an arrow.

2. Turn the camera lingually and guide it in the direction of the arrow over the lingual surface of the teeth as far as the target area (B) on the centerline.
   - When the center line has been reached, hold the camera in position once more for 3 seconds to mark the end point of the partial scan. While doing so, the target marker slowly disappears.
   - The software automatically changes to the next "Scan occlusal left" step.

3. Position the camera above the last molar on the left. The starting point is marked with a start marker (A) and is automatically recognized. Guide the camera occlusally as far as the target marker (B) on the centerline.
   - If the centerline has been scanned, a signal tone will be heard.
   - The software changes to the next "Scan vestibular left" step.
4. Position the camera above the last molar on the left and hold the camera in this position to mark the start of the partial scan.

5. Turn the camera towards the buccal and guide it in the direction of the arrow over the arch as far as the centerline.
   - If the centerline has been scanned, a signal tone will be heard.
   - The software changes to the next "Scan transversal left" step.

6. Guide the camera in the direction of the arrow over the marked area.
   - If the connection is scanned, a signal tone will be heard.
   - The software changes to the "Scan Palate" step. This step is optional.

7. Click the "Buccal" scan object to begin scanning the bite or buccal registration

**Bite or Buccal Registration Scan**

- The lower jaw and upper jaw have been scanned.
- The "Buccal" scan object is activated.
- The sequence bar for the buccal registration is displayed

1. Perform the buccal registration on the right side by having the patient bite as required and guiding the camera from the start marker (A) to the target area (B).
   - As soon as the buccal registration is finished a signal tone will be heard.
   - The software changes to the next "Scan buccal left" step.

**IMPORTANT**

As the jaw models are displayed with a distance from one another before the first bite is scanned, the target symbol appears lower in relation to the upper jaw during scanning than it is in reality.

- Before scanning, observe the position of the target marker in the lower jaw (between the premolars and the molars in the figure) and scan this region in the mouth.
2. Perform the buccal registration on the left side by guiding the camera from the start marker (A) to the target marker (B).
   - As soon as the buccal registration is finished a signal tone will be heard.

Examples of Insufficient Overlap in Anterior
If you see ridges or grooves at the incisal edge that do not reflect actual tooth anatomy, the scan has not accurately registered; and it will ultimately be rejected by the suresmile Digital Lab. Do not save this scan. Instead, delete the segment and re-scan to capture accurate data.
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Questions?

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