

AccuDent[®] XD

Alginate Impression System

Office Procedure Guide



A beautiful smile makes
a great impression...

...but it takes a great impression to make a beautiful smile.

Accu-Dent® XD

AccuDent XD is a two viscosity irreversible hydrocolloid impression material for complete and partial denture impressions. This system includes two dual-phase alginate materials (tray and syringe) for more accuracy and precision than traditional alginate impression materials and a thermoplastic heat moldable tray system for both dentate and edentulous impressions.



About AccuDent® XD

The secret behind the system rests in the unique relationship between the two impression materials.

The irreversible hydrocolloid tray and syringe gels have different viscosities, but are chemically compatible and designed to work harmoniously in the mouth to create impressions with outstanding accuracy and detail.

The light bodied thixotropic syringe gel is fluid yet resists slumping, making it ideal for both dentate and edentulous impressions. For the edentulous patient, the syringe gel can be conveniently placed into the peripheral border areas using the AccuDent XD syringe delivery system. For the dentate patient, a specially designed tip is attached to the syringe to facilitate the capturing of detail of the dentition and surrounding gingival area.

The highly viscous tray gel supports the syringe gel in the mouth as it forms a “custom tray” directly in the patient’s mouth. Applied correctly, the “zeroflow” tray gel does not flow down the patient’s throat, greatly reducing the gag reflex and promoting a more accurate impression.

The AccuDent XD Impression System creates dimensionally accurate impressions free of air bubbles and voids, making it possible to create visibly better primary stone or virtual models. These impressions are highly desirable for the fabrication of complete and partial dentures, whitening trays, mouthguards, orthodontic appliances and opposing models.

Technical Data

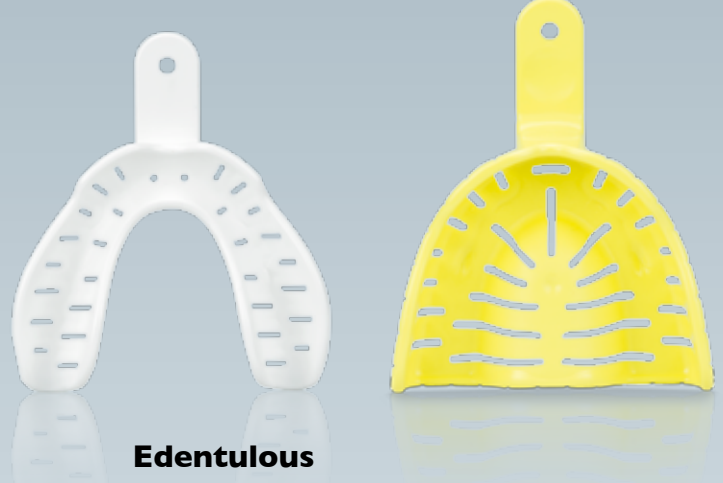
	SYRINGE ALGINATE	TRAY ALGINATE
Color	Orange	Blue (chromatic)
Mixing Ratio (Powder/Water)	9 g Powder/21 ml Water	24 g Powder/44 ml Water

Composition

AccuDent XD impression materials are irreversible hydrocolloid materials.

Tray Selection

It is highly recommended to use AccuDent XD Impression Trays. Select the appropriate impression tray and try in patient's mouth to assess for size. There should be a minimum of 1/4 inch of space allowance for the impression material.



Tray Numbering Charts

Dentate

Mandibular

Small	5
Medium	3
Large	1

Maxillary

Small	6
Medium	4
Large	2

Edentulous

Mandibular

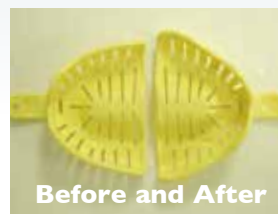
Small	11
Medium	9
Large	7

Maxillary

Small	12
Medium	10
Large	8

Tray Adjustment of AccuDent XD Impression Trays

Assess whether the tray requires reshaping due to arch shape or excess peripheral borders. If adjustment is required dip the selected part of the tray to be adjusted in hot water at approximately 158°F (70°C) for 20 seconds. The material will become soft and pliable at this stage. Mold the tray to the desired shape and retain in this position until hardening begins (approximately 10 seconds). Allow the material to cool to room temperature or dip in cold water. The material will retain the molded shape and maintain its original strength. Retry the tray back into the patient's mouth and repeat until the desired shape is achieved.



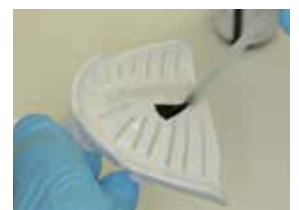
Before and After

Pre-treatment of Impression Trays (Tray Adhesive)

It is highly recommended that a tray adhesive (e.g. AccuDent XD Tray Adhesive) be used to reduce the chance of distortion when removing impressions from the mouth.

Instructions for AccuDent XD Tray Adhesive

- Be sure that all surfaces of the impression tray are oil-free, clean and dry.
NOTE: If the disinfection of the impression tray cannot be ensured, the tray adhesive must be poured into a disposable container and applied using a disposable brush.
- Apply a thin layer of AccuDent XD Tray Adhesive using a brush to all surfaces of the impression tray (metal or plastic) that will come into contact with the impression material.
- Allow the tray adhesive to dry for approximately 3-5 minutes (or blow dry with compressed oil-free air).
- Replace the bottle cap immediately after use.



Mixing sequence

It is highly recommended to mix the syringe material prior to mixing the tray material. The syringe material has a 30 second longer working time than the tray material. This gives the single operator additional time to mix and load the syringe material into the syringe (approximately 30 seconds) prior to mixing the tray material. If two operators are mixing the materials it is still recommended that the syringe material is mixed first and loaded into the syringe prior to the start of mixing the tray material so that the setting time in the patient's mouth is synchronized.



Mix the Syringe Gel with 21ml of 73°F water.



Spatulate the Syringe Gel for 45 seconds, or until smooth.



Backload the syringe and replace the plunger. Set the syringe within easy reach of the operator.



Mix the Tray Gel with 44ml of 73°F water.



Spatulate for 45 seconds or until smooth. The Tray Gel is much thicker than alginate. Do not add more water. Load the tray.

Mixing the Syringe Material

- Dispense the entire content of the AccuDent XD syringe material packet (9 grams) into a rubber mixing bowl.
- Using the AccuDent XD water vial, measure distilled water [at 73°F (23°C)] to the "Syringe Material" line (21 ml).
- Add the water to the powder and mix for 45 seconds. It is recommended to first dispense the powder into the mixing bowl and then add the water to reduce the effect of powder floating on the water.
- Load the mixed material into a syringe as described below. It is highly recommended to use the AccuDent XD Syringe to inject the syringe material into the patient's mouth prior to placing the impression tray.

Mixing the Tray Material

- Dispense the entire content of the AccuDent XD tray material packet (24 grams) into a rubber mixing bowl.
- Using the AccuDent XD water vial, measure distilled water to the "Tray Material" line (44 ml) at 73°F (23°C).
- Add the water to the powder and mix for 45 seconds. It is recommended to first dispense the powder into the mixing bowl and then add the water to reduce the effect of powder floating on the water. There will be a gradual color change from purple to dark blue which indicates completion of mixing time.

Working Time and Setting Times

	SYRINGE ALGINATE	TRAY ALGINATE
Mixing Time	45 sec	45 sec
Working Time	2:00 min	1:30 min
Initial Setting Time	3:30 min	2:30 min
Setting Time	3:45 min	2:45 min
*Water Temperature	73°F/23°C	73°F/23°C

*Times for clinical use are stated from the start of mixing with distilled water at 73°F/23°C. Colder water makes setting slower, warmer water makes setting faster. Variations in water hardness may result in deviations in times.

Mixing Time – The required time to mix water and alginate powder.

Working Time – Includes the mixing time and is the time period before the material begins to set.

Initial Setting Time – The time when the activated material has begun to set.

Setting Time – The time measured from the commencement of mixing the components of the material until it sets.

Total recommended setting time- 3:45 minutes from start of mixing syringe material

Partial and Dentate Maxillary Impression

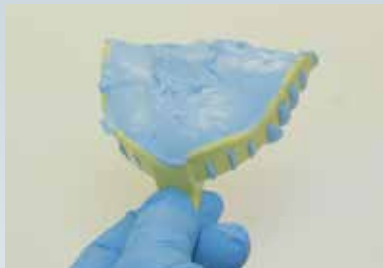
Tray Loading



Load the upper tray from the back, making sure that most of the Tray Gel is in the anterior of the tray sloping back to a reduced thickness in the posterior.



Make sure a small amount of tray gel is pushed through the hole of the tray for retention.



Completely fill the tray with the desired amount of tray material.



This is the proper shape of the loaded tray. Very deep palates may require more Tray Gel in the front center of the tray.

Maxillary Procedure



1 With a gauze pad, wipe dry the buccal and labial vestibules, and the vault of the palate. If patient is dentate, attach the AccuDent XD Syringe Tip.



2 The small pressure chamber of the Syringe Tip is firmly seated over the most distal tooth in the arch. Start the flow of Gel and draw the Tip forward, pressing firmly.



3 Continue the flow of Gel as the syringe is smoothly drawn forward along the arch. At the cuspid, rotate the Tip 90° toward the labial and...



4 ...continue to express Syringe Gel against the facial surfaces of the anterior teeth past the midline. Keep the Tip pressed firmly against the teeth throughout.



5 Repeat on the other side of the arch, rotating at the cuspid, and overlapping the first sweep at the midline.



6 Wipe the Syringe Tip across the lingual surfaces of the anterior teeth from cuspid to cuspid.



7 Remove the Syringe Tip from the syringe. Note: Have the patient relax the upper lip prior to performing the next step.



8 Without the Tip in place, express Syringe Gel into the vestibules from the hamular notch forward to the midline, on one side, then the other.



9 A small amount of the Syringe Gel is applied into the anterior vault of the palate to prevent an air void.



10 Carefully center the front of the filled tray on the midline and push upward until the Tray Gel merges with the Syringe Gel. **DO NOT OVER-SEAT.**



11 Push the back of the tray upward until the Tray Gel appears beyond the distal border of the Tray. **STOP** any further seating pressure.



12 **BORDER MOLDING** - Grasp the philtrum at the vermilion border of the lip and pull straight down once.



13 Lightly stretch the upper lip and cheeks down over the labial vestibule and the buccal frena with the flat of the fingers.



14 massage the cheeks very lightly downward with the fingers as shown above.



15 When both impression materials are set in the bowl, break the impression loose at the distal buccal periphery and remove carefully. **Do not pull on the handle.**



16 Rinse after disinfection and wrap impression loosely in a wet paper towel.

Mandibular Impression

Tray Loading



Load the lower tray, making sure to fill to the bottom of the lingual flanges. Overfill the tray where it opposes edentulous ridges (i.e. distal extension cases).



Make sure a small amount of Tray Gel is pushed through the large holes in the tray for retention.



Load the tray from the back. The proper shape is: most of the material in front sloping to very little in the back.

Mandibular Procedure



1 Wipe dry the mandibular buccal and labial vestibules with gauze pad.



2 The small pressure chamber is firmly seated over the most distal tooth in the arch. Start the flow of Gel and draw the Tip forward along the arch.



3 At the cuspid, rotate the tip 90° toward the labial...



4 ...and continue to express Syringe Gel against the facial surfaces of the anterior teeth past the midline. Keep tip firmly against the teeth throughout.



5 Repeat on the other side of the arch, rotating at the cuspid, and overlapping the first sweep at the midline.



6 Wipe the Syringe Tip across the lingual surfaces of the anterior teeth from cuspid to cuspid.



- 7** Remove the Syringe Tip from the syringe.
Note: Use a paper towel and twist for easy removal.



- 8** Without the Tip in place, express Syringe Gel into the vestibules from the hamular notch forward to the midline, on one side, then the other.



- 9** Carefully center the filled tray on the midline and push downward until the Tray Gel merges with the Syringe Gel in the vestibules. **DO NOT OVERSEAT.**



- 10** Push the back of the tray downward until the Tray Gel appears at the distal border of the Tray. **STOP** any further seating pressure. Have patient push tongue forward.



- 11** When both impression materials are set, break the impression loose at the distal buccal periphery and remove carefully. **Do not pull on the handle.**



- 12** Rinse after disinfection and loosely wrap impression in a wet paper towel until ready to pour model.

Pouring Up Models

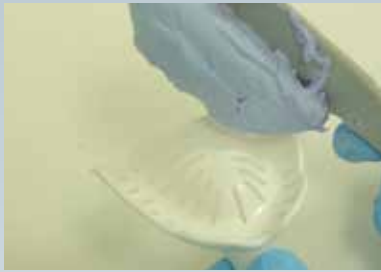
*After disinfection, carefully rinse to remove any excess impression material and drain off the excess water. The impression may be poured immediately after disinfection or within 24 hours, provided the impression is stored in a hermetically sealed bag at room temperature. For the best results, AccuDent XD impression materials are compatible with all popular type 3 and type 4 dental plasters on the market, such as Type 3: Dentstone (Heraeus/Modern Materials), Buff Stone (Whip Mix), Type 4: Silky-Rock (Whip Mix), Resin Rock (Whip Mix) and Type 5: Die-Keen (Heraeus/Modern Materials).

The use of GC Fujirock® EP is contraindicated with AccuDent XD system.

* Refer to AccuDent XD Instructions for use for additional information.

Edentulous Maxillary Impression

Tray Loading



Load the lower tray.



Make sure a small amount of Tray Gel is pushed through the large holes in the tray for retention.



Load the tray from the back. The proper shape is: most of the material in front sloping to very little in the back.

Maxillary Procedure



1 Wipe dry the vestibules and palate with a gauze pad.



2 Express a line of the Syringe Gel into the mucobuccal fold from the hamular notch...



3 ...forward to the midline. Do not use the Syringe Tip for edentulous impressions.



4 Repeat on the other side of the arch. Do not go all the way around in a single pass.



5 Place a small amount of Syringe Gel in the anterior vault of the palate.



6 Carefully center the front of the filled tray on the midline and push upward until the Tray Gel merges with the Syringe Gel. DO NOT OVER-SEAT.



7 Then rotate the tray upward in back just until a small amount of Tray Gel appears at the distal edge of the tray. **STOP.**



8 **BORDER MOLDING** Begin by pulling straight down once on the filterum at the vermilion border.



9 massage the cheeks very lightly downward with the fingers as shown above.



10 Finally have the patient open wide to border mold the retro-molar area.



11 When set, break the impression loose at the distal buccal periphery and remove. **Do not use the handle.**



12 Rinse after disinfection and wrap in a wet paper towel until ready to pour.

Mandibular Impression

Mandibular Tray Loading



Load the lower tray, making sure to fill to the bottom of the lingual flanges.



Make sure a small amount of Tray Gel is pushed through the large holes in the tray for retention.



Load the tray from the back. The proper shape is: most of the material in front sloping to very little in the back.

Mandibular Procedure



- 1** Express a line of Syringe Gel into the vestibules from the retromolar pad...



- 2** ...forward to midline.



- 3** Repeat on both sides. It is not necessary to place Syringe Gel into the lingual vestibules.



- 4** Bring the loaded tray to the mouth. Merge the Tray Gel down against the Syringe Gel in front. Do not Overseat.



- 5** Have patient push the tongue forward as you rotate the tray backward. When Tray Gel rises up in the distal, **STOP**.



- 6** When set, loosen the impression at the distal buccal periphery, and remove carefully. **Don't use the handle to remove.**



- 7** Rinse after disinfection and wrap in a wet paper towel until ready to pour.

Pouring Up Models

*After disinfection, carefully rinse to remove any excess impression material and drain off the excess water. The impression may be poured immediately after disinfection or within 24 hours, provided the impression is stored in a hermetically sealed bag at room temperature. For the best results, AccuDent XD impression materials are compatible with all popular type 3 and type 4 dental plasters on the market, such as Type 3: Dentstone (Heraeus/Modern Materials), Buff Stone (Whip Mix), Type 4: Silky-Rock (Whip Mix), Resin Rock (Whip Mix) and Type 5: Die-Keen (Heraeus/Modern Materials).

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Delivery Form / Product Codes

Material

AccuDent XD Syringe Material - 12pk	673470
AccuDent XD Tray Material - 12 pk	673471
AccuDent XD 12 pk Dentate 1 - (LR, Lg)	673704
AccuDent XD 12 pk Dentate 2 - (Up, Lg)	673705
AccuDent XD 12 pk Dentate 3 - (LR, Md)	673706
AccuDent XD 12 pk Dentate 4 - (Up, Md)	673707
AccuDent XD 12 pk Dentate 5 - (LR, Sm)	673708
AccuDent XD 12 pk Dentate 6 - (Up, Sm)	673709
AccuDent XD 12 pk Edentulous 7 - (LR, Lg)	673710
AccuDent XD 12 pk Edentulous 8 - (Up, Lg)	673711
AccuDent XD 12 pk Edentulous 9 - (Lr, Md)	673712
AccuDent XD 12 pk Edentulous 10 - (Up, Md)	673713
AccuDent XD 12 pk Edentulous 11 - (LR, Sm)	673714
AccuDent XD 12 pk Edentulous 12 - (Up, Sm)	673715
AccuDent XD 24 pk Dentate Trays - (4 x ea.)	673716

Material

AccuDent XD 24 pk Edentulous Trays - (4 x ea.)	673717
AccuDent XD Tray Adhesive - (30 ml)	673469
AccuDent XD Syringe	679890
AccuDent XD Syringe Soft Tips - (2 pc)	679891
AccuDent XD Syringe Med Tips - (2 pc)	679892
AccuDent XD Syringe Finger Grip Extender	679889
AccuDent XD Water Measuring Vial	679888
AccuDent XD Accessory Kit: (2 Syringes, 2 Soft Tips, Water Measuring Vial, 2 Finger Grip Extender)	679893
AccuDent XD Edentulous Trial Kit: (24 pk Edentulous Trays, 1 ea. - Syringe Material, Tray Material, Tray Adhesive, Accessory Kit)	680375
AccuDent XD Dentate Trial Kit: (24 pk Dentate Trays, 1 ea. - Syringe Material, Tray Material, Tray Adhesive, Accessory Kit)	680376

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United States

175 Pineview Drive
 Amherst, NY 14228
 716.691.0010
 800.533.6825
 Fax: 716.691.2285
mail@ivoclarvivadent.com

Canada

#1-6600 Dixie Road
 Mississauga Ontario L5T 2Y2
 905.670.8499
 800.263.8182
 Fax: 905.238.5711
mail@ivoclarvivadent.com



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