

Section I – The Basics

	Page
Introduction	2
Operating Instructions (Flexite System with built in heater)	3
Operating Instructions (Flexite System with separate oven)	4
Model Duplication	5
Tooth Preparation	6
Preparing for Clasps and Matrices (part one)	7
Preparing for Clasps and Matrices (part two)	8
Waxing Technique	9
Investing & Spruing	10
Boil Out Technique	11
Finishing and Polishing	12
The Secret of a Good High Shine	13
How to Finish Flexite Guard	14
Repairs & Additions (Acrylic and Silicone) Quick Cure Method	15
Re-injecting a clasp or section to Flexite from lingual	16
Re-injecting a clasp or section to Flexite from buccal	17
How to repair a fractured lower partial	18
Temperature Chart for Flexite System with digital oven	19
Temperature Chart for Flexite System with built in heater	20
Trouble Shooting Chart	21
Metal-Flexite Comparison	22
Common Problems - Full Denture Adjustments	23
Anti Snoring Device	24
Manufacturers Recommended Impression Technique	25
Quality Control Chart	26
Instructions for Clasp-Eze	27
Cartridge Size and Color Chart	28
Don't Take Your Plaster Department For Granted	29

Section II - Helpful Hints and Designs For Flexite

Establishing Path of Insertion	31
Basic Path of Insertion (Illustration)	32
Changes in Path of Insertion (Illustration)	33
Distal Extension and High Survey Line (Illustration)	34
Survey Creating more Proximal Contact and lower Survey Line	35
Clasp Outline close to gingival and esthetic (Illustration)	36
Comparing a Metal Clasp and Flexite Clasp using the same survey	37
Using Flexite Arms on Mucosa	38
How to Accurately and Consistently Survey a Roach Clasp	39
Rotational Design	40
Conventional Clasp Chart	41

INTRODUCTION

The **TECHNIQUE MANUAL** contains instructions for **FLEXITE PLUS** (our non-breakable Flexite nylon for partials), **FLEXITE SUPREME** (our cast-like super fitting nylon for partials), **FLEXITE M.P.** (our super clear multipolymer acrylic for tmj's, bruxism and anti-snoring devices); including Lucitone shades for full and cusil dentures. **FLEXITE M.P.** is exceptionally compatible with silicone-acrylic combinations. **FLEXITE GUARD** (our soft rubber for sports mouth guards), **NORTHERM** (our non allergic acrylic free denture base thermoplastic) and **FLEXITE ULTRA** (our cast like clear nylon).

The design concepts are included in the manual under "Helpful Hints & Designs for Flexite".

Your FLEXITE equipment has been designed for rugged use and long life. All parts are easily accessible for service and manufactured in the U.S.A.

Our manual contains simple instructions with sketches and should be followed carefully. Should you need additional clarification, the Flexite Company has technical support to assist you. You can contact us by telephone, fax or E-mail.

We are happy to welcome you to the Flexite family of laboratories. Our monomer free thermoplastics has created great success and enthusiasm throughout the dental world.

Sol Soroca - Pres., C.D.T.
Lee Soroca - Exec. V.P.

OPERATING INSTRUCTIONS FOR FLEXITE INJECTION MACHINE WITH BUILT IN HEATER

- (1) TURN ON POWER SWITCH. (PRE-HEAT START UP TIME IS APPROXIMATELY 15 MINUTES)
- (2) TO SET DIGITAL CONTROL TEMPERATURE: HOLD DOWN THE LEFT BUTTON WITH ONE FINGER WHILE PRESSING THE UP ARROW OR DOWN ARROW WITH THE OTHER FINGER.
- (3) APPLY RELEASE COMPOUND LUBRICANT ONTO THE CARTRIDGE BUT DO NOT CARRY LUBRICANT PAST THE CRIMP. DO NOT GET LUBRICANT ONTO THE HOLE WHERE THE PLASTIC FLOWS OUT OF THE CARTRIDGE AS THIS WILL CONTAMINATE THE PLASTIC.
- (4) INSERT CARTRIDGE INTO THE HEATING CHAMBER WITH PUNCH OUT HOLE FACING THE FLASK ON THE RIGHT.
- (5) MEDIUM SIZE CARTRIDGES ARE PLACED APPROXIMATELY 1.25 INCHES INTO THE HEATING CHAMBER. USE THE SHORT SIDE OF THE FLASK HEX TOOL TO QUICKLY SET THIS DISTANCE.
- (6) AFTER INSERTING CARTRIDGE INTO THE HEATING CHAMBER, OPEN NITROGEN TANK VALVE SO MACHINE IS READY FOR INJECTING. SET NITROGEN PRESSURE BETWEEN 150- 175 PSI.
- (7) DO NOT OVERTIGHTEN THE 4 BOLTS ON THE FLASK AND DO NOT OVERTIGHTEN THE 2 LOCK IN DISCS ON THE INJECTION MACHINE.
- (8) WHEN IT IS TIME TO INJECT THE CARTRIDGE: HOLD DOWN THE INJECTION BUTTON FOR 15 SECONDS SO ALL THE PLASTIC FLOWS EVENLY INTO THE FLASK. DO NOT RELEASE BUTTON BEFORE 15 SECONDS!
- (9) AFTER 15 SECONDS, RELEASE THE INJECTION BUTTON AND UNLOCK FLASK. (FRONT AND SIDE) INSERT A LARGE SCREWDRIVER BETWEEN FLASK AND HEAT CHAMBER TO SEPARATE THE FLASK FROM THE INJECTION MACHINE. REMOVE FLASK WITH LIFTER TOOL, THEN PRESS INJECTION BUTTON TO RELEASE THE USED CARTRIDGE FROM THE HEAT CHAMBER.

***** If the technician forgets to secure the flask bolts properly or if a flask bolt is missing, the flask will expand inside the injection machine when the hot plastic is injected. It will now be more difficult to remove the flask from the injection machine. A chisel and rubber hammer are included with your Flexite system to aid in removing the flask from the injection machine.**

HEATING TIME:

FLEXITE PLUS 475 DEGREES FAHRENHEIT 14 MIN.

FLEXITE SUPREME 530 DEGREES FAHRENHEIT 30 MIN.

FLEXITE M.P. 520 DEGREES FAHRENHEIT 25 MIN.

FLEXITE GUARD 425 DEGREES FAHRENHEIT 12 MIN.

NORTHERM 520 DEGREES FAHRENHEIT 20 MIN.

ACETAL RESIN 475 DEGREES FAHRENHEIT 15 MIN

FLEXITE ULTRA CLEAR 520 DEGREES FAHRENHEIT 22 MINUTES.

OPERATING INSTRUCTIONS FLEXITE SYSTEM (WITH SEPARATE OVEN)

1. **Oven should be turned on a couple of hours prior to using** to allow for upsurge and leveling off to proper temperature. **When the oven reaches the temperature you have set and it stays there for 5-10 minutes, it is ready to use. (Suggest purchasing Automatic timer to set for six A.M. turn on so it will be ready at 8 A.M.) (Check your local hardware store or Home Depot) (Home Depot Price approx. \$17.50)**

Important: The parameters have been set and tested at the factory. **Do not touch the "P" control.** Adjust the temperature by pressing and holding the control on the left and press the ^ arrow up or v arrow down to lower or raise the temperature.

2. **Portable injection chambers (P.I.C.'s) remain in the oven at all times, except when using to inject.** P.I.C. chambers are always put back into the oven after the cartridges are removed. This way the P.I.C.'s will not cool down and become ineffective!
3. Lubricate cartridge with release compound lubricant and place into P.I.C. chamber in oven. Close door quickly and time according to the plastic used. Use precise time clock. We suggest a GraLab Universal Timer. **(Note: Do not get silicone lube on end of cartridge where plastic flows out into flask or denture will get contaminated)**
4. Keep flasks **open** under heat lamps for time cartridges are in oven. **(See boilout Page 11)**
5. When timer goes off, close flasks and stand with hole in upright position. **(Note: Excessive force is not necessary to close flask. Hand tighten bolts only!)**
6. Open nitrogen tank and set pounds designated for plastic. (See page 19 for settings)
7. Using Kevlar glove, remove P.I.C. from oven and seat into cradle of machine. **(Note: Keep in horizontal position so cartridge does not fall out.)**
8. With lifter tool provided, **place flask into machine with bolts facing you.** **(Note: Lifter hole must be on top with entry hole facing the P.I.C. chamber.)**
9. Abut flask against P.I.C. chamber so there is no space between the two. Close front clamp lightly till flask rests against side wall. Then tighten clamp on right so that P.I.C. chamber secures firmly against flask. **Do not over tighten any machine lock down discs. Metal to metal contact is sufficient.**
10. Release lever, wait 15 seconds, return lever and loosen clamps. Then remove P.I.C. with snap to break off plastic. Use metal upright post to extract cartridges from P.I.C. chamber.
11. Remove flask with lifter and bench cool 7 minutes. Rinse in water 1 minute and open. **Note: Never leave case in flasks overnite as this will stress the plastic.**

MODEL DUPLICATION

1. MATERIALS:

- a. Duplicating Flasks
- b. Any top grade duplicating materials specifically for stone models. If you get a film of stone that remains on duplicating gel, you may be using the duplicating gel meant for the chrome department. Discard and do not use!!
- c. Duplicating apparatus can range from the most sophisticated (ex: C.M.P. duplicator) to a Microwave oven. For labs starting out, we have Flexite Ez-Dup available in convenient packages. All that is required is a 1000-1200 watt microwave oven and a 64 oz. plastic pyrex container.

2. TECHNIQUE:

- a. Soak model in water for a minimum of 30 minutes, but do not cover teeth. Prolonged soaking of models completely submerged will result in smaller teeth as minute stone particles will dissolve into the water.
- b. A quick alternate method: Put model in pressure pot filled with slightly warm water. Cover completely. Build pressure up to 15-20 lbs. and allow to stand for only 7 minutes.
- c. Blow excess moisture off model, set on base.
- d. Dip bottom of flask into duplicating gel and place on base. This will seal flask to base or flat pan.
- e. Pour duplicating gel and allow to harden for 15 minutes.
- f. Refrigerate or allow cold water to run through flasks for 30 minutes. Entire time is 45 minutes.
- g. Separate and pour. Try to use different color stone, if feasible, to differentiate between master and duplicated casts.
- h. Separate after surface is very hard. Copy design in pencil and remove all artifacts. I suggest you survey with red pencil and clasp design in black pencil.

TOOTH PREPARATION

- A. Retain as much bulk as possible when setting teeth to allow room for burring Diatorics into plastic teeth. Never use short bite teeth.
- B. Diagram shows example of molar tooth. Dark area indicates retention prepared with burr, similar to porcelain diatorics.



- C. Anterior teeth diatorics are cut toward lingual so that holes are not visible anteriorly.



- D. Loops may be added for close bites. *Vacuum fired porcelain teeth may be used but never next to a clasp.



Note: Use #8 round burr for center hole. Open generously when feasible. Bisect with #4 round burr from mesial to distal.

DO NOT SET TEETH ON HEAVY BASEPLATES. USE THIN WAFER OR SETUP WAX WITH RE-ENFORCING WIRE SO THICKNESS OF TOOTH IS PRESERVED FOR RETENTION.

PREPARING FOR CLASPS AND MATRICES

After design is marked off in red pencil, mark approximate position of clasps.

Using a heatless stone, cut in at least 1-1/2MM of space for Flexite broadening towards the lingual.



Note cut-outs on lower quadrant showing approximately how much space should be provided.



To transfer teeth to duplicate model, use full occlusal arch matrices.

*For free-end saddles where no natural molar teeth are present, be sure to have the plaster matrix rest on saddle.



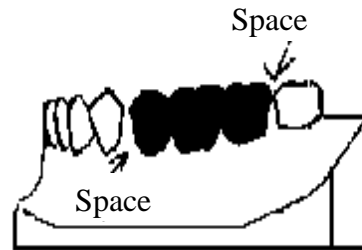
Alternate Technique:

Survey, design and blockout undercuts. Duplicate model and articulate with counter model. Put in retention holes and setup teeth on duplicated model. You will have one counter model and two working models. No transferring of the teeth will be necessary. Complete on duplicate model.

SPACING FOR CLASPS



Note the occlusal space



Note spaces in buccal area.

WAXING TECHNIQUES

1. MATERIALS:

- a. Baseplate wax. (Use thin gauge for partials and heavier gauge for Fulls)
- b. 1/4 inch Boxing wax for sprues only in metal and Flexite combinations. See Page 10
- c. Usual waxing instruments
- d. Abbots brushes
- e. Odorless Mineral Spirits. (wax solvent) Can be purchased at Home Depot.

2. TECHNIQUES:

Assuming design has been copied on to duplicate model, proceed as follows:

- a. With small spatula fill in clasp areas with a light flush. For full uppers, flush palate lightly with wax from wax pot. Soften sprue wax and mold into center of palate with fingers to provide a rib for added support and flow.
- b. Soften baseplate wax and apply to palate. Try not to nick or dent palatal area.
- c. When **waxing upper partials extend posteriorly as if for a full palate.**
- d. Apply wax to buccal areas by heating baseplate wax and pressing on. One sheet thickness usually will suffice. Double when necessary.
- e. Trim gingival around teeth but leave interdental papillae convex rather than concave.
- f. Use abbots brush with wax solvent to clean excess.
- g. Apply odorless mineral spirits to wax surface, then burnish wax with soft paper towel. (Bounty or Viva brands are durable and work best)
- h. High shine with cotton dipped into soapy water, or use Flexite Debubblizer.

3. IMPORTANT TIPS:

- a. Follow taper principle for clasps. Observe buccally as well as occlusally to insure proper taper.
- b. Buccal and lingual clasps may be connected when the bite is very close and the tooth has been ground excessively.
- c. This is particularly so when processing a Flexite saddle against a metal frame. If there is not at least 2 mm of space between tooth and metal retention, carry an extra sprue toward buccal saddle.

INVESTING

*IMPORTANT:

Vaseline is used only one time to lubricate inside of flasks so stone can be extracted easily. Make sure that no excess Vaseline remains on platform or entry hole.

"Paint & Pour" spray is recommended as the separating medium between stone in the flasks. DO NOT USE VASELINE! With Vaseline the risk of contaminating the teeth is too great. Spray with "Paint & Pour" plaster separator. With "Paint & Pour" this is eliminated. No teeth will shift out of position. Vaseline affects the plastic.

1. Soak cases in water to eliminate dryness.
2. Trim points of stone teeth and any protruding stone areas that are undercut.
3. Mix stone to a smooth creamy texture and invest in lower half of flask.
Note: The lower half contains the larger platform. Upper half does not contain threads for the Allen screws, therefore always screw top to bottom.
4. Draw all teeth over, unless butted.
5. Smooth and dry out stone. Prepare for Spruing.

SPRUING

Standard Procedure For All Flexite Cases.

UPPERS:



Use a flat sheet of base plate wax. Wax all uppers as if they were full dentures. Extend to end of model and tape to the entry hole in Flask. Plastic will be cut back later to bead line.

LOWERS:



Take sheet of base plate wax, and trim to fit into entire lingual. Be sure to trim stone in center platform section so baseplate wax is flat and can be sealed down low at periphery.

Heat and roll ½ inch strip of baseplate wax into entry hole. (Entry hole remains plugged in wax) Compress upper flask into position. Trim excess wax till flasks close properly, remove and pinch and taper wax into center.

BRUXISM and TMJ's:

Bruxism and TMJ's are sprued differently because of the heavier than usual occlusal. To avoid bubbles, connect a heavy 1/4" inch sprue from the entry hole to the distal of both saddles.

6. Spray lower half with PNP separator, rinse with water and top with well mixed stone. Vibrate in slowly rotating flask so teeth are covered, then add the rest of the stone.
7. Screw in 2 Allen screws diagonally opposed, making sure flasks have metal to metal contact.
8. When stone is set, remove the 2 screws and immerse flasks in boiling water for 7 minutes.

BOIL OUT TECHNIQUE

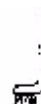
- A. Remove bolts from flasks before putting into boiling water for **7 minutes**.
- B. After 7 minutes separate flasks but allow the model side to remain in the boiling water until you complete boiling out the side containing the teeth.
- C. Take the Odorless Mineral Spirits (Purchased from Home Depot- 1 Gal Container), put it into a convenient plastic bottle that you can squeeze.
- D. Flush out wax with mineral spirits (a wax solvent) Then flush with clean boiling water. (Repeat if necessary)
- E. Spray with Fantastic (household cleaner purchased in super markets) (OPTIONAL)
- F. Flush with clean boiling water.
- G. Allow to dry and paint with separator.
- H. Put flasks under 100 watt flood lamp, but never directly.



HELPFUL HINTS:



- I. *Take an old tooth brush, shorten the bristle to less than one inch. Take heat gun and bend the handle at right angles so you can use it for the wax solvent.*
- II. *Purchase basting brush in supermarket and shorten it slightly to use with Fantastic cleaner.*



9. Open flask, trim sharp excesses and check teeth with fingers for any mobility. Set loose teeth aside and paint the mold with our plastic separator. Then carefully seat the teeth into place. The teeth will remain clean and you will not have to finish the occlusal surface as you would have to when using glue.
10. Place under lamps until ready to close. (Distance should be around 12 in.) Usually 25 minutes for a medium size cartridge and 30 min. for a large cartridge. A 100 watt flood light is O.K. **Flasks should be warm, not hot.**

11. Rotate occasionally so that acrylic teeth do not soften. Do not concentrate heat in one spot.
12. When ready to inject, use 4 Allen screws. Clean off all surfaces, especially the entry hole, and inject case.

FINISHING

1. MATERIALS:

- a. Scraper or Bard Parker knife.
 - b. Nylon cutoff disc.
 - c. Two "3 x 1/4 x 1/4 " rubber Cratex wheels. (#304 fine)
Shape one to a V shape and the other to a U shape.
Use the round shape wheel for peripheral trimming and thinning.
Use the V shape wheel to trim lower anterior sections and where necessary.
 - d. Use 7/8 rubber impregnated wheels for refining areas.
 - e. Use tapered stones for festooning.
 - f. Use rubber point wheels to smooth out festoon areas.
 - g. Carbide burrs of choice for Flexite M.P. and Northerm only.
DO NOT USE CARBIDE BURRS ON FLEXITE SUPREME OR FLEXITE PLUS!
- * Any combination of materials may be used and some omitted depending on technician skill. **SEE PAGE 13 FOR MORE DETAILS.**

2. SUGGESTED METHOD OF FINISHING:

- a. Use nylon disc to cut off sprue.
- b. Trim to borders, and round out with cratex wheel.
- c. Check for undercuts (should have been blocked out in design) and trim back if necessary.
- d. Smooth with sandpaper roll when finishing Flexite M.P. and Northerm; rubber points or clasp polishers for Flexite Supreme and Flexite Plus.

Note: Some technicians, finish entire case with rubber wheels.

3.
 - a. Use separator that doesn't peel, either Degussa or Flexite Acrylic Foil Separator.
 - b. Two coats.
 - c. After opening case, put into ultrasonic cleaner with plaster stone remover and it will come out clean.
 - d. Use econo discs to cut off sprues. (You may cut off sprues before you put in cleaner.)
 - e. Do not use carbides to finish. Use as much rubber as possible, or at least finalize with soft rubber wheels.

POLISHING

- ** Flexite M.P. and Northerm can be finished and polished in conventional method. Flexite Supreme and Flexite Plus require a final step of rubber pointing with a clasp polisher to create a glaze effect before polishing. We recommend a flour pumice prior to our green compound for the ultimate hi shine. DO NOT USE COARSE PUMICE!
ALL SCRATCHES MUST BE REMOVED BEFORE HIGH SHINING!
USE FLEXITE LIQUID POLISH FOR FINAL LUSTER.**

THE SECRET OF A GOOD HIGH SHINE

- A. **A Smooth wax up is imperative!**
 1. Purchase low odor mineral spirits at Home Depot and apply to wax up with cotton.
 2. Smooth out with a Viva paper towel. Then use cotton & soap water to high shine wax up.

- B. **For Finishing, use acylic trimmers** to finalize the surface. Do not use carbide burrs. **(Dedeco Acrylic Trimmer #5102)**

- C. **Rubber point entire surface with cratex clasp polishers.** A sheen will develop. **(Dedeco Red Flexies Clasp Polishers #4594)**

- D. Prepare a **fine flour pumice.**
(Or any new compound)

- E. **Apply slight pressure to rag wheel** while pumicing and note quick results.

- F. Use our **Green Bar Matchless Polish** compound for pre shine, then finalize with **Flexite liquid Polish.**

HOW TO FINISH FLEXITE GUARD

Flexite Guard is an elastomer and cannot be finished in conventional methods. The procedure is as follows:

- A. Cut and trim with a large Econo cutter (nylon disc).
- B. Take a felt wheel commonly used to polish chrome and roughen up the surface to soften slightly.
- C. Start trimming the peripheral surface and shape.
- D. For flat surfaces, use a rotary motion.
- E. Wash off with soap and water. (Lava soap preferably)

Repairs and Additions to Flexite Plus, Ultra, Supreme & M.P.

Non Flasking quick cure method

- *Our Nylons can be added to and relined without flasking in non flexing areas.*
- *The Flexite Company developed translucent add-on powder that matches the underlying nylon plastic perfectly by incorporating the right amount of pink or ethnic color.*

A) Roughen the area or section where acrylic is to be added. We suggest you use a paper roll and put in minor grooves with a square #563 burr.

Blow off and leave stubborn fibers in place. They will be absorbed and dissolved by the bonding agent. This technique is recommended for relining lower saddles or adding teeth in non-flexing areas.

B) Apply Flexite bonding agent (Aron Alpha 221) to the roughened surface and allow it to dry.

C) Prepare two dappen dishes. Select "Rapid Set" color of choice and fill one dappen dish with Rapid Set powder and the other with a quick cure monomer.

D) Apply with a brush. After build up, put the partial into a pressure pot for approximately (7) minutes at 140 degrees fahrenheit.

For Relines:

After coating the surface with the brush method, pour powder into the liquid and mix until it thickens slightly. Then add the acrylic to the saddle.

Flexite M.P. Repairs:

Flexite M.P. can be added to and relined with our Rapid Set Pink acrylic powder and our Flexil silicone. ***With Flexite M.P. no bonding agent is required for the Rapid Set powder.*** A bonding agent is required for Flexil or silicone soft liner.

Adding Flexil Silicone to Flexite Supreme, Plus and Ultra:

- 1) Apply #221 bonding agent to roughened surface.
- 2) Repeat steps A, B, and C above.
- 3) Roughen the acrylic surface and follow the Flexil Kit instructions.

TECHNIQUE FOR RE-INJECTING A CLASP OR SECTION TO FLEXITE

Flexite Plus, Flexite Supreme, Flexite Ultra and Flexite M.P. can be re-injected to itself. Flexite Supreme, Flexite Plus and Flexite Ultra are nylons. Nylons require our special Flexite Repair Liquid to allow the proper bonding.

Flexite M.P. does not require a bonding agent. A dab of monomer is recommended before closing the flask.

Repairs are prepared in the usual manner. Open flask without putting into boiling water for any length of time. Boil out wax but (**Do Not Cook**). Use Low Odor Mineral Spirits (solvent) to clean the section to be added to.

Rubber wheel joint areas for smooth continuity.



RE-INJECTING A CLASP AND TOOTH TO A PARTIAL

Flexite Plus, Supreme, Ultra and M.P. can be re-injected to itself.

Flexite M.P. no bonding agent is required.

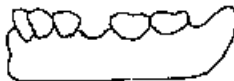
Flexite Plus, Supreme and Ultra Flexite Plus Repair Liquid is required to allow the proper bonding.

Before closing Flask and re-injecting, blow out excess Flexite Plus Repair Liquid. Flexite Plus Repair Liquid required good ventilation!

A. Existing partial. 2nd bicuspid to be extracted.



B. Tooth extracted.



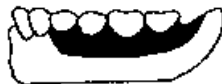
C. Cut off clasp and hollow out buccal saddle.
Keep periphery intact!



D. Completed wax up.



E. Finished partial.



How to Repair a Fractured Lower Partial

Some strange things do happen. A patient complained her dog chewed her denture when she inadvertently left it on the bathroom sink. *WHAT TO DO?*

Do not attempt to repair the fractures. If you can, pour a model from the broken denture and duplicate the original. Here is the procedure:



- A. Cut bar section completely off.
- B. Hollow out lingual, carry to necks of teeth.
- C. Do not touch buccal periphery or clasp.
- D. Wax lingual completely with one sheet of baseplate wax.



- E. Keep low at periphery.
- F. Taper to entry hole of flask.
- G. Invest and flask as usual.
- H. Increase temperature 5-10 degrees for additions or add some additional minutes to oven time.



- I. Trim back creating new lingual area.

Temperature Chart For Flexite Oven

	<u>Fahrenheit</u>	<u>Heating Time</u>
<u>PLUS</u>	485 DEGREES	20-25 MINUTES
<u>SUPREME</u>	515-520 DEGREES	25-30 MINUTES
<u>M.P.</u>	515-520 DEGREES	25-30 MINUTES
<u>NORTHERM</u>	500 DEGREES	30 MINUTES
<u>GUARD</u>	450 DEGREES	15 MINUTES
<u>ACETAL</u>	475 DEGREES	15 MINUTES
<u>ULTRA</u>	520 DEGREES	22 MINUTES

INJECTION PRESSURE: 150-175 LBS. For all PLASTICS

Do not leave injected cases in the flask overnight! Bench cool for 7 minutes. Momentarily run cool water over flask and open immediately.

Temperature Chart For Flexite System With Built In Heater

	<u>Fahrenheit</u>	<u>Heating Time</u>
<u>PLUS</u>	475 DEGREES	14 MINUTES
<u>SUPREME</u>	530 DEGREES	30 MINUTES
<u>M.P.</u>	520 DEGREES	25 MINUTES
<u>NORTHERM</u>	520 DEGREES	20 MINUTES
<u>GUARD</u>	425 DEGREES	12 MINUTES
<u>ACETAL</u>	475 DEGREES	15 MINUTES
<u>ULTRA</u>	520 DEGREES	22 MINUTES

INJECTION PRESSURE: 150-175 LBS. For all PLASTICS

Do not leave injected cases in the flask overnight! Bench cool for 7 minutes. Momentarily run cool water over flask and open immediately.

TROUBLE SHOOTING CHART FOR FLEXITE PLASTICS

<u>TROUBLE</u>	<u>POSSIBLE CAUSES</u>	<u>REMEDY</u>
Short incomplete	Wrong temperature	Check Chart for Correct Temperature.
	Cold Flasks	Check lamps for proper heat. Flasks should be hot to the Touch.
	Improper Sprues	Use sheet of base plate wax for sprue. See page 10 in manual.
	Waxup Too Thin	Check areas where wax stretches in palate.
	Not enough Pressure	175 lbs max. pressure for all plastics.
	Left in oven too long	Check proper time in oven.
Color Change	Overheating	Bring Oven Down to Proper Temp. Check proper length of time in oven.
Bubbles	Overheating	Reduce Temperature or Time.
Streak or Separations	Silicone Grease on Entry Side of Cartridge.	Do not put silicone near entry hole carry only to crimp on cartridge. Occasionally boilout steel chambers.
Raised Bites	Matrix Transfer Not Accurate.	Check Carefully. Cut away stone where interfering with bite.
	Check Metal to Metal Contact on Flasks.	Use Stone for Investing. Follow Instructions in booklet, pge 8 Ditch stone around edges to make sure upper and lower flasks are flush.
	Using 1/2 & 1/2 plaster/stone	Correct by using all stone.
Teeth Popping out	No Diatorics present	Create Diatorics. See page 6

TECHNIQUE COMPARISON OF METAL TO CAST THERMOPLASTIC

<u>STEEL</u>	<u>THERMOPLASTIC</u>
1. Blockout & design.	1. Blockout & design.
2. Duplicate model.	2. Duplicate model.
3. Pour refractory model. (silicate)	3. Pour duplicate model. (stone)
4. Copy design on to duplicated model.	4. Copy design on to duplicated model.
5. Wax skeleton frame.	5. Transfer teeth & wax entire partial.
6. Sprue.	6. Sprue.
7. Invest in high heat refractory investment in ring.	7. Invest in injection flask.
8. Burn out in oven.	8. Boil out & put under lamps.
9. Cast metal into hot mold with casting machine.	9. Heat thermoplastic cartridge in oven to become fluid. Inject with injection machine.
10. Cool down several minutes.	10. Cool down several minutes.
11. Open & sandblast.	11. Open & walnut blast & put into ultra sonic cleaner.
12. Finish & polish.	12. Finish & polish.

PLEASE NOTE:

The process is exactly the same for a cast metal and a cast thermoplastic. The lab fee to the dentist for a cast thermoplastic is comparable to that of a cast metal partial. An investment of several thousand dollars and a 14 hour seminar is required. Unlike the regular acrylics, cast thermoplastics require sophisticated injection equipment.

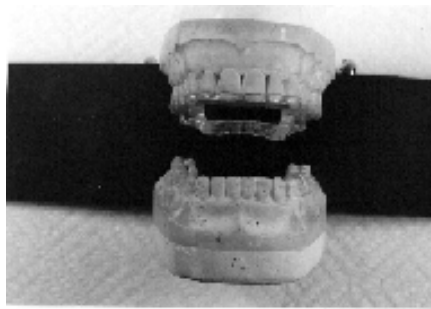
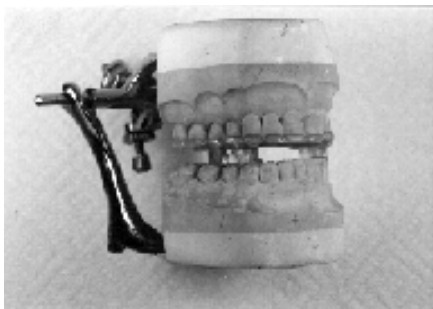
An article from the Journal of Prosthetic Dentistry, showing the palatal lesions from metal castings, indicated why there is a need for cast thermoplastics which are bio-compatible and far more comfortable for the patient, especially the elderly. Dentist are turning more and more to this modality to satisfy their patients.

MOST COMMON PROBLEMS IN FULL DENTURE CONSTRUCTION

<u>PROBLEM</u>	<u>CAUSE</u>	<u>REMEDY</u>
Lisping	Restricted anterior arch, usually on lower.	Set anterior out further. create more tongue room. hollow lingual of dentures.
Clicking	Open vertical	Have patient say "emma", Mark off 2 points, and close 3 mm. Reset teeth accordingly.
Patient can't swallow	Denture (usually lower) is extended too far distally.	Reduce pad area & shorten lingual oblique muscle area.
Denture tips in post dam area when patient bites.	Post dam inadequate or in wrong area.	Have patient say "ah", mark off vibrating line and transfer to base. Add compound to post dam area and test with orange stick.
Denture drops on rt. when pt. bites on left, or when pt. bites on left the rt. drops.	Posterior rolls are short & do not go completely into vestibule.	Add stick compound to posterior roll working opposite sides & testing with orange wood.
Lower pops up or upper drops when mouth is opened wide.	Overextension.	Two corrective options: 1. Have patient grit teeth with lips parted & feel with pinky, then check with mouth mirror & reduce accordingly. 2. Open mouth wide & check muscle attachments & reduce accordingly.
Sore spots	Faulty occlusion sharp peripheries, overextension.	Have patient mill in dentures with mill in paste, round out & roll all adjusted areas. Pumice for optimum results.

FLEXITE - ONE PIECE ANTI-SNORING STRAP DESIGN

- (1) Bite is to be in slight protrusive or tip to tip depending upon age of the patient. Dentist should determine opening and protrusive. Older patients require larger vertical openings. Articulate models from dentist.
- (2) Block out undercuts on upper and lower. Provide spacing on lingual of bicuspid or grind out later for lateral movement. The fit on lower bicuspid is to be passive.
- (3) Duplicate models and re-articulate. (two articulations)
- (4) Wax upper full palate. We will cut it back after processing to a horse-shoe shape.
- (5) Wax lingual strap on duplicated model. Extend waxup onto bicuspid occlusals. Build up to occlusion to create two opposing flat surfaces on the bicuspid regions.
- (6) Inject upper and lower strap separately. Do not connect.
- (7) After processing, polish completely — sand both occlusals and lute together with Rapid Set Clear powder. Put in pressure pot and complete finishing and polishing. Seat on original articulation for final adjustments.
- (8) If doctor wants a tryin to check position, lute the upper to lower lightly with pink acrylic. When he makes final adjustments, cut out the pink and replace with Rapid Set clear.



Manufacturers Recommended Impression Technique For Flexite Distal Extension Partial

In today's busy practice, many dentists schedule short visits for a primary impression with the intention of having the lab construct a custom tray for the second visit. At that time the final impression is taken.

The problem is that during the first visit in most instances, the musculature in the lingual has not been compressed adequately nor is the pad area fully covered. The custom tray cannot make up for the discrepancy but is nevertheless used for the final impression resulting in the following:

- (a) Unnecessary post insertion relines.
- (b) Unnecessary adjustments and appointments.
- (c) Unnecessary expense for a custom tray.
- (d) Patient losing confidence.
- (e) Unnecessary 2nd visit for final impression.

Manufacturers Recommended Technique:

- (1) Select accurate stock tray.
- (2) Put soft green compound in warmer and heat to proper temperature.
- (3) Insert into tray only in edentulous area and compress slowly.
- (4) Trim away any compound that may overlap on to teeth.
- (5) Check reproduction of pad and lingual areas; soften and reinsert if necessary.
- (6) Spray adhesive on to compound surface and allow to dry.
- (7) Mix heavy body alginate into tray and take impression.

Time Saving Method:

Purchase Mor-Tite compound from Home Depot. It comes in strips and can be handled like a putty. Soften it in warm water and shape it to fit in edentulous areas (free end saddles especially). Continue from step 3.

QUALITY CONTROL CHART

DESIGN:

Options Partial Upper Horseshoe, Palatal Strap, Circular Bar,
Full Palate, Partial Lingual Strap, Nesbits

Critique Poor Design Good Design Acceptable
Not Acceptable

INSERTION and RETENTION:

- Too Difficult
- Passive
- Not Sufficient

BORDERS:

- Over extended into undercuts
- Too Sharp
- Rounded
- Proper bead in periphery

CLASPS:

- Too heavy or wide
- Not tapered properly
- Check for adequate space provided in tooth next to clasp

FINISH:

- Neat finish around gingivals of teeth
- Festoon (optional)
- Poor– Not Acceptable

POLISH:

- Good high shine
- Improve
- Not Acceptable

ARTICULATION:

- Bite Check

INSTRUCTIONS FOR CLASP-EZE

FLEXITE SUPREME READY MADE CLASPS

Using a small flame: (Option #1)

A small flame attached to your bunsen burner is all you need. Brush your flame up and back, but never directly on the plastic. Wrap around buccal of tooth and hold momentarily in place. Cut excess off clasp and brush flame tailpiece section; press into place. Roughen tailpiece and dovetail for retention. A plaster index may be used to hold buccal allowing access to the retention area easier.

Using the electric R.I.S. self-contained heat gun: (Option #2)

The R.I.S. modified heat gun is designed to maintain a level of hot air that will not burn or damage the clasp. The heat gun will reach operating temperature immediately. A small removable tip allows you to direct the flow of air into interproximal areas. Heat clasp until it becomes limp. Adapt to buccal and hold for a moment. Cut off excess and finish adapting tailpiece section. A plaster index may be used to hold buccal section in place.

To tack to a steel mesh or acrylic case, do the following:



Prepare tail by flattening out and dovetailing slightly. Add #221 Aron Alpha cyano-acrylate to the tail (top & bottom). Let dry and brush on with Rapid Set acrylic powder and any fast cure monomer.

Procedure for Injecting to Clasp-eze Clasps:

- A. Survey abutments, block undercuts, duplicate model, contour clasps and dovetail tailpiece. Shorten tip a few millimeters if you want a heavier clasp.
- B. Wax palatal area as usual but extend onto shoulder of clasp for extra strength.
- C. Invest in lower half of flask, paint **Denture Sep Insulating Paste** on clasp to protect clasp before adding stone in second half. (Denture Sep Available from American Dental Supply)
- D. Do not put flasks in boiling water for the usual 7 minutes. If you have a pre-warmer, put flasks on top until wax is softened. If you must put the flask into boiling water, no more than 2-3 minutes. **Do not cook for 7 minutes.** Flush out wax as usual.
- E. Suggest using **Home Depot's No Odor Mineral Spirits** and **Dow's "Fantastic"** all purpose cleaner for boilout procedure.

Please Note: No bonding agent is required to bond Flexite Supreme to Clasp-eze. **Bonding agent (#221 Aron-Alpha) is used to bond Clasp-eze to Acrylic only.**

Flexite Company 40 Roselle St. Mineola, N.Y. 11501
Phone: (516) 746-2622 Toll Free: (866) FLEXITE Fax: (516) 741-8147
E-Mail: LeeSoroca@aol.com WEBSITE: www.flexitecompany.com

CARTRIDGE SIZE AND COLOR CHART

FLEXITE SYSTEM SIZE: (1 + 3/32 INCH)

SMALL (1.5 INCHES)
MEDIUM (2.5 INCHES)
LARGE (3.5 INCHES)
X-LARGE (4.5 INCHES)

VALPLAST SIZE: (1 INCH)

SMALL (1.75 INCHES)
MEDIUM (2.75 INCHES)
LARGE (4 INCHES)

FLEXIPLAST-POLYPRESS SIZE: (7/8 INCH)

9 GRAM SMALL (2 INCHES)
16 GRAM MEDIUM (3.5 INCHES)
20 GRAM LARGE (4.5 INCHES)
24 GRAM X-LARGE (5 INCHES)

ACETAL TOOTH COLOR
PLASTIC FOR CLASPS
AVAILABLE IN ALL
NEW HUE SHADES

Recommendations:

Small: Nesbits and Additions.

Medium: For Most Partials, TMJ's, Bruxism Appliances and Anti Snoring Devices.

Large: For Full Dentures, Partials with Large Vertical Openings and Multiple Saddles.

X-Large: For Larger Full Dentures.

FLEXITE M.P. (Acrylic) (For Full Dentures, TMJ's, Bruxism Appliances & Anti Snoring Devices.)

PINK
LUCITONE PINK
CLEAR -(Super Clear)
COE BROWN ETHNIC
TOOTH COLOR SHADES 59-62-61-65-66-67-69-77-81

FLEXITE PLUS (NYLON) FLEXIE PLASTIC FOR PARTIALS

DARK PINK
LIGHT PINK
TRANSLUCENT PINK
BROWN ETHNIC
PURPLE HUE MAHARRY
COE ETHNIC MODERATE

FLEXITE SUPREME (NYLON) CAST LIKE PLASTIC FOR PARTIALS

DARK PINK
LIGHT PINK
ETHNIC BROWN (Lighter of two ethnic colors)
COE 22 ETHNIC
NATURAL (CLEAR WITH SLIGHTLY LESS CLARITY THAN FLEXITE II -STRONGER THAN FLEXITE II)
TOOTH COLOR SHADES: 61-62-65-66-67-69-77-81

FLEXITE ULTRA (NYLON) REPLACES FLEXITE II

CLEAR

FLEXITE GUARD (SOFT RUBBER BASE PLASTIC) FOR SPORTS MOUTH GUARDS

PINK (Formerly known as Pro-Guard)
BLUE
NATURAL COLOR

NORTHERM (STYRENE ACRYLONITRILE COPOLYMER) (ACRYLIC FREE FULL DENTURES)

PINK
CLEAR
COE BROWN ETHNIC

DON'T TAKE YOUR PLASTER DEPT. FOR GRANTED

BY SOL SOROCA, C.D.T. - PRESIDENT, THE FLEXITE COMPANY

After having tried a new laboratory, a dentist friend remarked that he anticipated quality work from this lab because of the neatness in which his dies, models and articulations were returned to him.

No matter how skilled your top technicians are, the finished product loses something when returned on sloppy, broken models. If there should be a slight problem, due to an error caused by the dentist, you have no way of showing the discrepancy.

Pouring stone models is the first thing a student technician learns. Yet it is the most abused area in the lab. In the seminars that I give to technicians, who are becoming acquainted with the injection system, I spend ample time stressing the importance of mixing stone at least 2 minutes to eliminate all the dry spots and attain the maximum crushing strength. This is especially important in the injection process because trial packing is eliminated. Flasking in stone is critical in order to reproduce the wax-ups perfectly. This phase can be compared to investing for metal castings. Give the same care to investing your partials and fulls as you would if you were investing a crown.

Paying attention to detail as well as a good mix will pay off in results. You will have less finishing around the teeth and you will be less apt to have open bites. Your finished product will look professional. I use a slightly thinner mix for topping the second half in the investment flask because I want a flowing mix that will fill all the interproximals without voids. However, I will add an extra minute to the spatulation period. Usually 3 minutes (some stones may vary in terms of setup time. So a trial effort may be necessary.)

Do not use vaseline. Use a good plaster stone separator to separate the top half of the flask. Your reproductions around the gingivals will be greatly improved and you will eliminate the time spent burring out discrepancies.

Summary

By stressing the importance of mixing stone or plaster properly, your lab will:

1. Increase accuracy.
2. Speed the flow of work.
3. Produce cleaner tissue side reproductions in conventional or injected dentures.
4. Keep accounts from leaving because of poor quality.
5. Ultimately increase business and profits.

Helpful

Hints and

Designs for

FLEXITE



THE FLEXITE COMPANY
Mineola, New York 11501

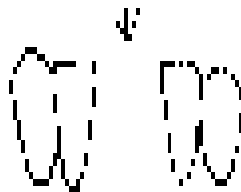
ESTABLISHING PATH OF INSERTION AND TILT FOR ALL THERMOPLASTIC PARTIALS

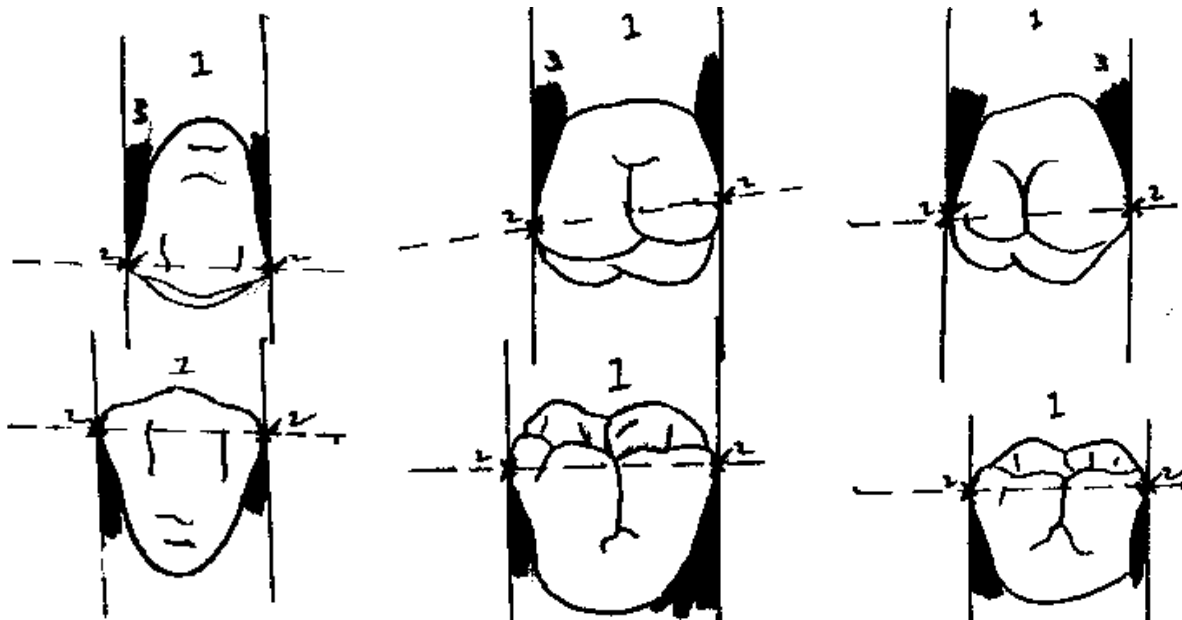
I. ACHIEVING PATH OF INSERTION:

- a. Draw longitudinal line through long axis of abutement teeth.
- b. Adjust base so that lines are perpendicular to table.
- c. Observe abutement teeth and tilt till undercut on proximal wall is minimized.
Proximal wall will be used as reciprocation and the mesial buccal for retention.
- d. When using a Roach type clasp, a distal undercut is permissible.
- e. When extending clasps as in a double clasp, the interproximal is utilized for retention.

II. a. Aesthetics #1

- b. Priority is given to the most anterior abutement by tilting tooth to create undercut near gingival.
- c. When anteriors are to be replaced, tilt is determined by path of insertion of anterior teeth being replaced.

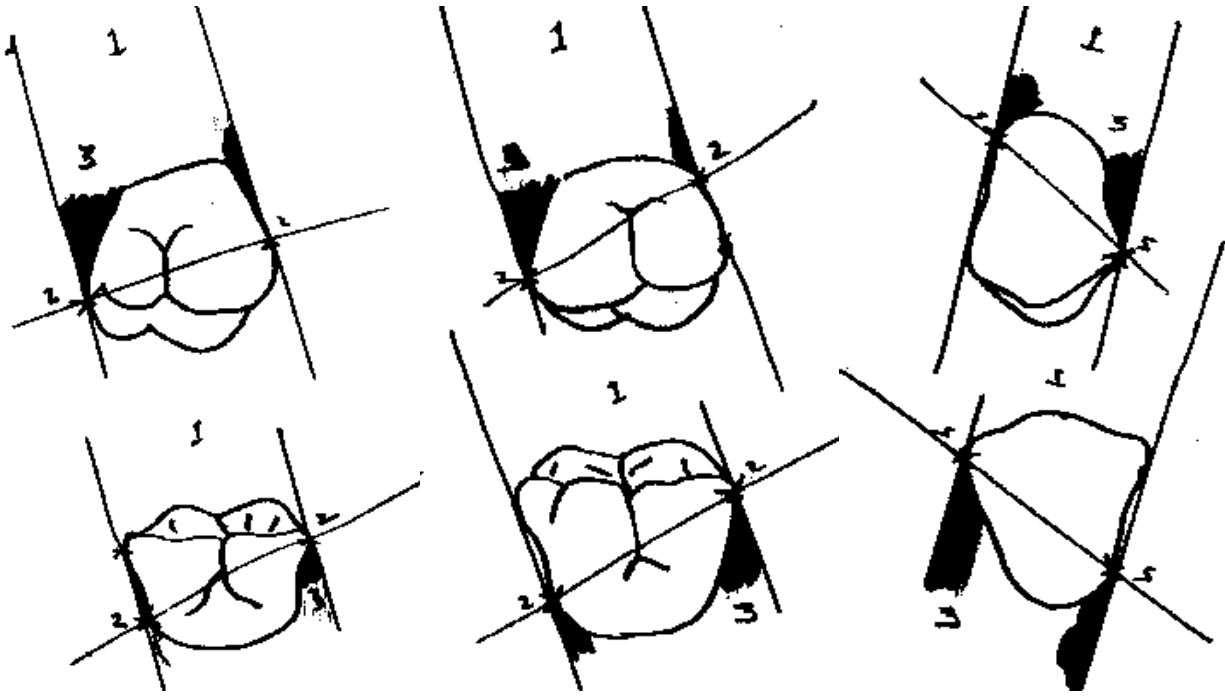




Illustrates path of insertion

Note:

1. Straight up and down tilt of surveyor.
2. High survey line at contact.
3. Darkened areas denoting blockout areas.

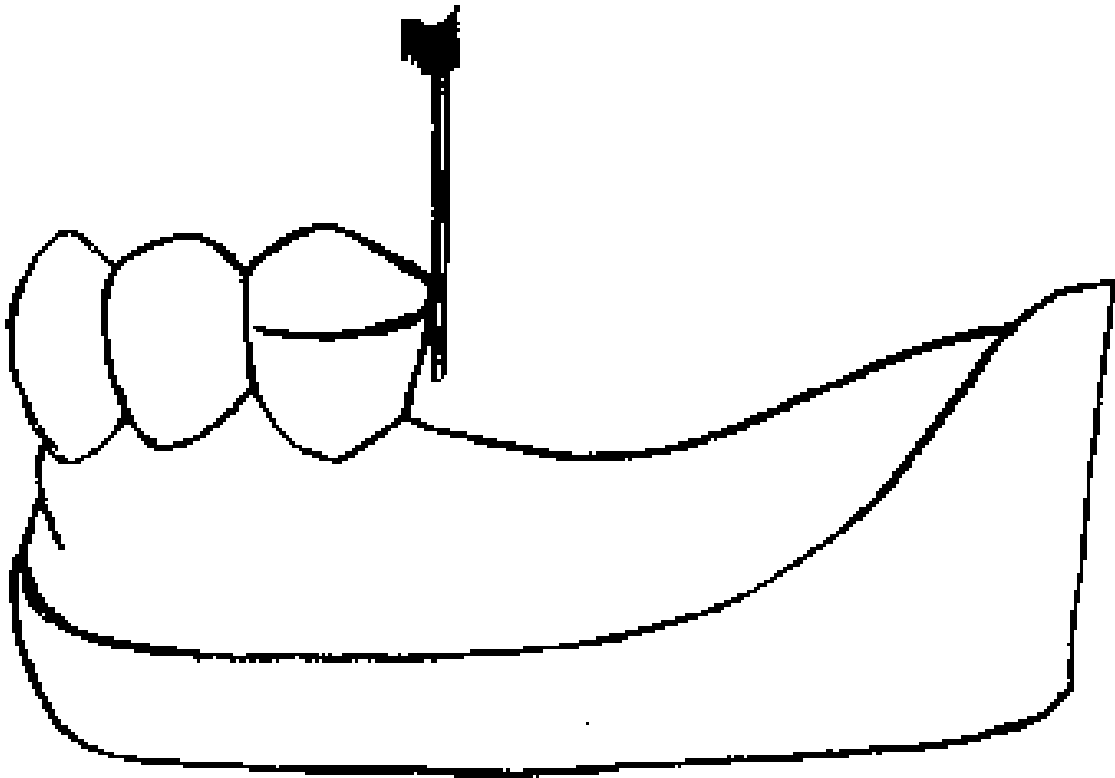


Illustrates by tilting platform how a new survey line creates different conditions.

Note:

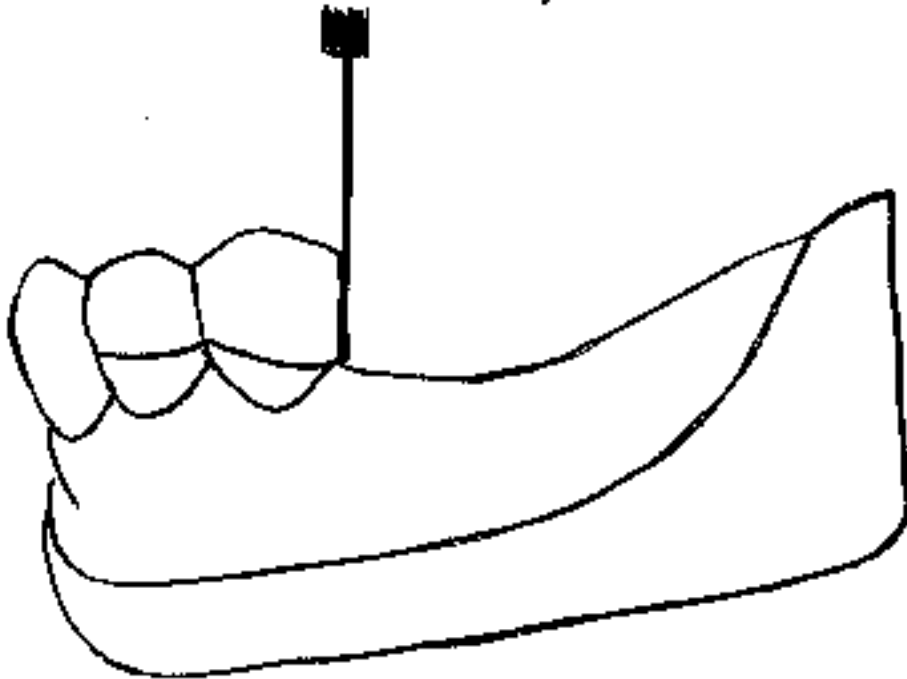
1. More favorable tilt.
2. Survey line lower and closer to gingival.
3. Blockout areas.

EXAMPLE



START OUT WITH STRAIGHT UP & DOWN TILT.

EXAMPLE

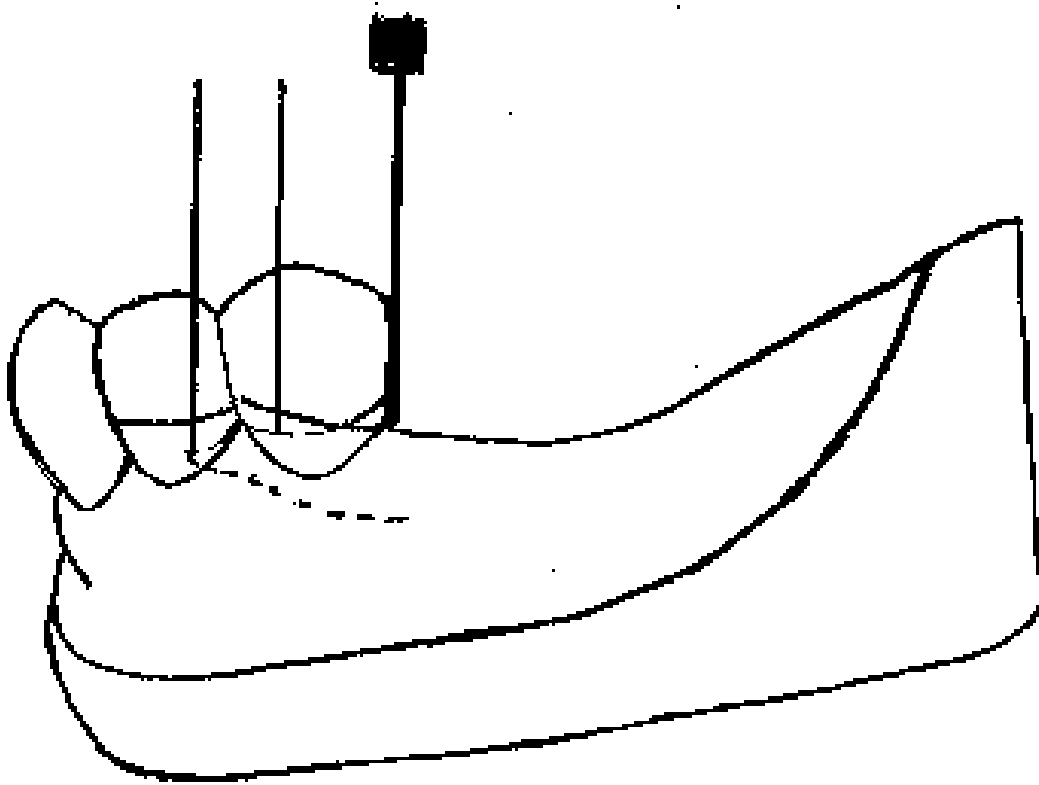


ALWAYS TILT ANTERIORLY UNTIL YOU
GET THE BROADEST CONTACT.

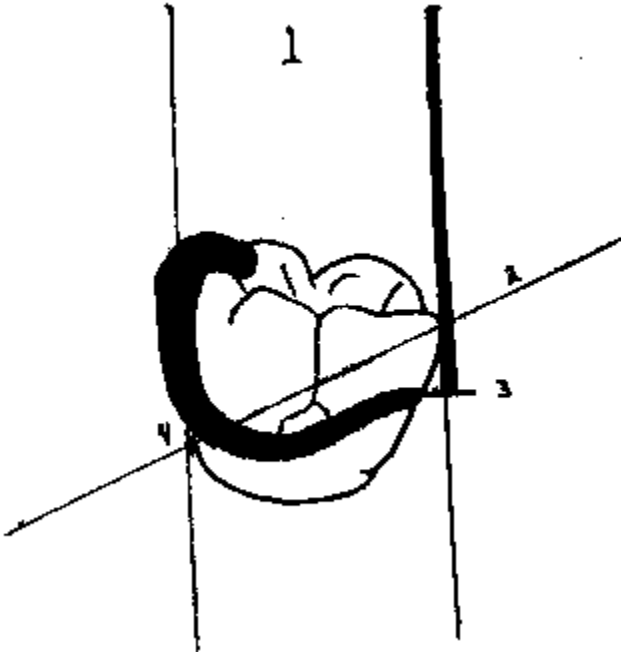
RETENTION SHOULD BE PASSIVE, EASY
TO INSERT AND EASY TO REMOVE:
BUT ALWAYS RETENTIVE!

THERE SHOULD BE NO STRESS.
TECHNICIAN CHECKING OUT PARTIALS
SHOULD EMPHASIZE THIS!

EXAMPLE:



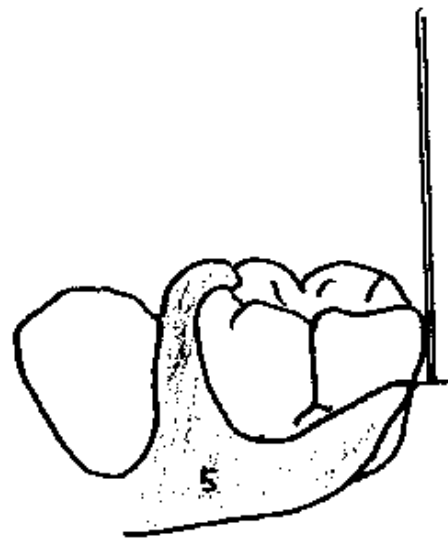
CLASP OUTLINE



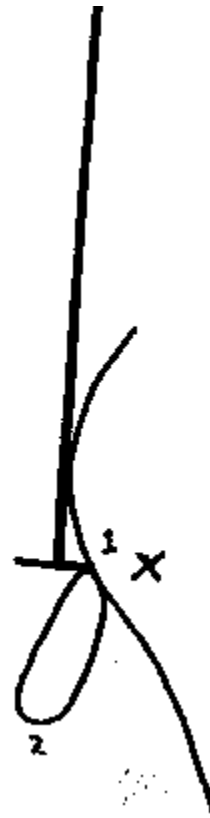
Illustrates simple Bonwell clasp.

Note:

1. Tilt
2. Survey line
3. Undercut gage
4. Elimination of undercut in upright rest position by tilting of the molar until favorable tilt is obtained.
5. Similarity of Flexite clasp.



Illustrates using Flexite arms engaging gum mucosa areas. Though we do not recommend overall usage of arms engaging the mucosa, there are conditions that indicate the use of this retention.

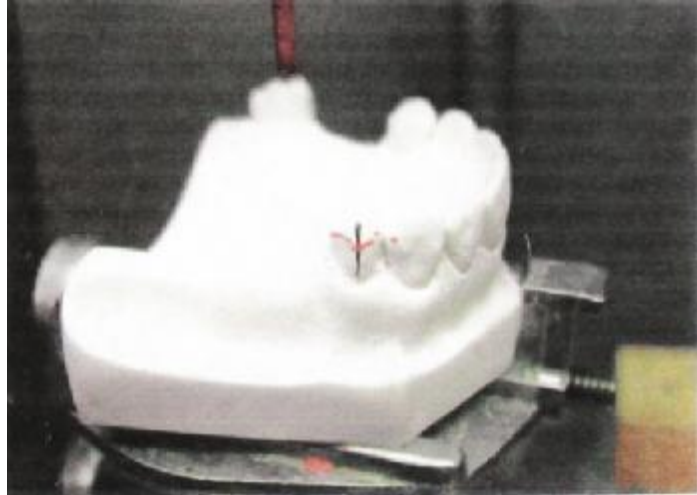


Note:

1. Point of contact with gauge.
2. Note "teardrop" type of roll at bottom of retentive arm. Bottom is rolled so that there is minimum irritation to the mucosa upon insertion.

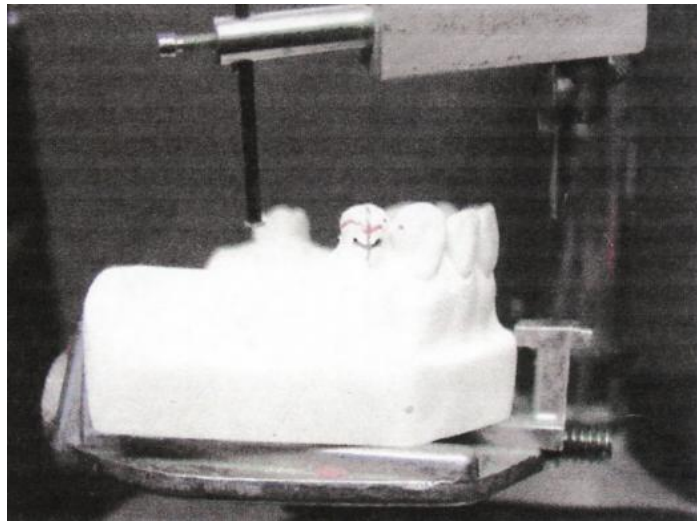
How To Accurately and Consistently Place A Roach Clasp On A Partial

Starting from the center of the buccal, draw a line through the long axis of the tooth.



Use undercut gauge to reference the two points with a pencil and connect.

Note: This principal applies to cast metal partials as well.



You have now determined where the top of the clasp should be and also how far to extend the top portion of the clasp. Many chrome labs use the roach clasp forms and have a tendency to extend it too far mesial and distally resulting in a malfunctioning roach clasp.

The clasp should end where the two reference points are.

ROTATIONAL DESIGN

THE JOURNAL OF PROSTHETIC DENTISTRY

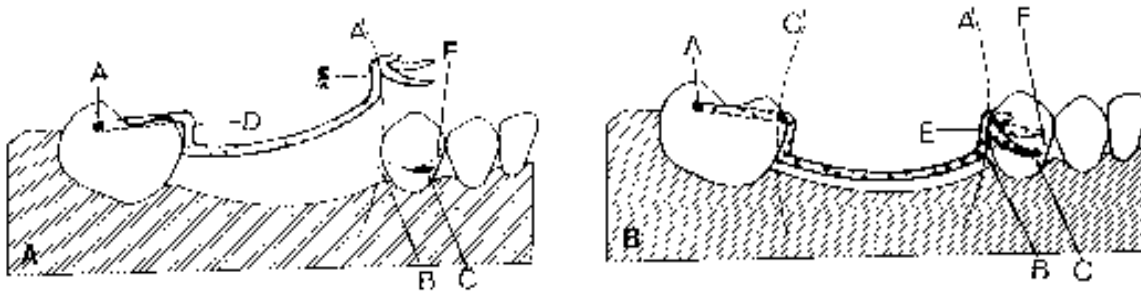


Fig. 1. A, Diagrammatic seating of category I framework eliminating posterior clasps, *A*, Rotational center; *D*, minor connector serving as rigid retentive element; *E*, minor connector of conventional clasp requiring relief *B* defined by arc *A'*; *F*, Survey line; and *C*, retentive clasp tip. (From Krol AJ, Jacobson TE, Finzen JC. Removable partial denture design, an outline syllabus. 4th ed., San Rafael, Calif.: Indent, 1990, with permission). **B,** Diagram of framework seated. *C'*, Arc, which demonstrates path of dislodgment of rigid retentive element indicating its effectiveness in providing retention. (see Fig. 1, A, for key to other letters.) (From Krol AJ, Jacobson TE, Finzen JC. Removable partial denture design, an outline syllabus. 4th ed. San Rafael, Calif.: Indent, 1990, with permission).

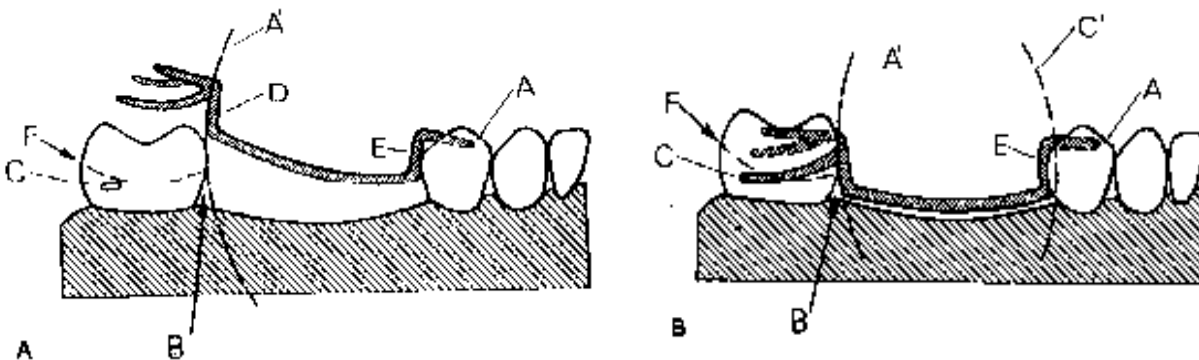
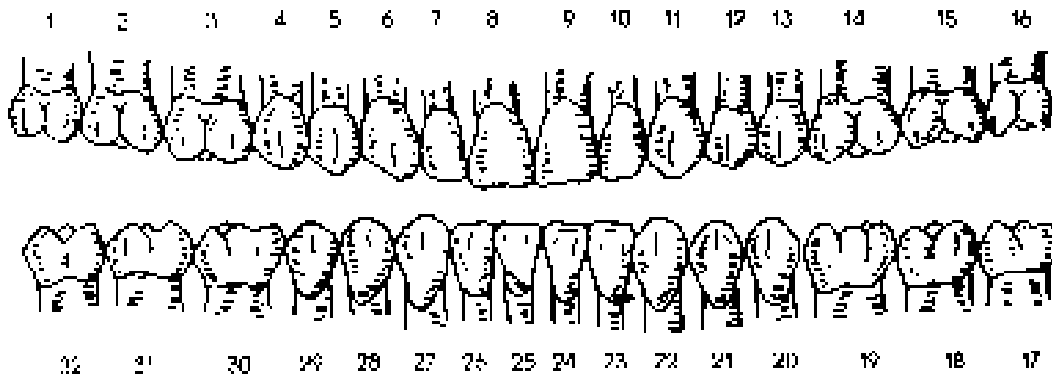


Fig. 2. A, Diagrammatic seating of category I framework eliminating anterior clasps. *A*, rotational center; *E*, minor connector serving as rigid retentive element; *D*, minor connector of conventional clasp requiring relief (*B*) defined by arc *A'*; *F*, survey line, and *C*, parallel position of retentive clasp tip. **B,** Diagram of framework seated. *C'*, arc, which demonstrates path of dislodgment of *E*, indicating its effectiveness in retention provided its gingival extension engages adequate undercut. (see Fig. 2, A for key to other letters.)

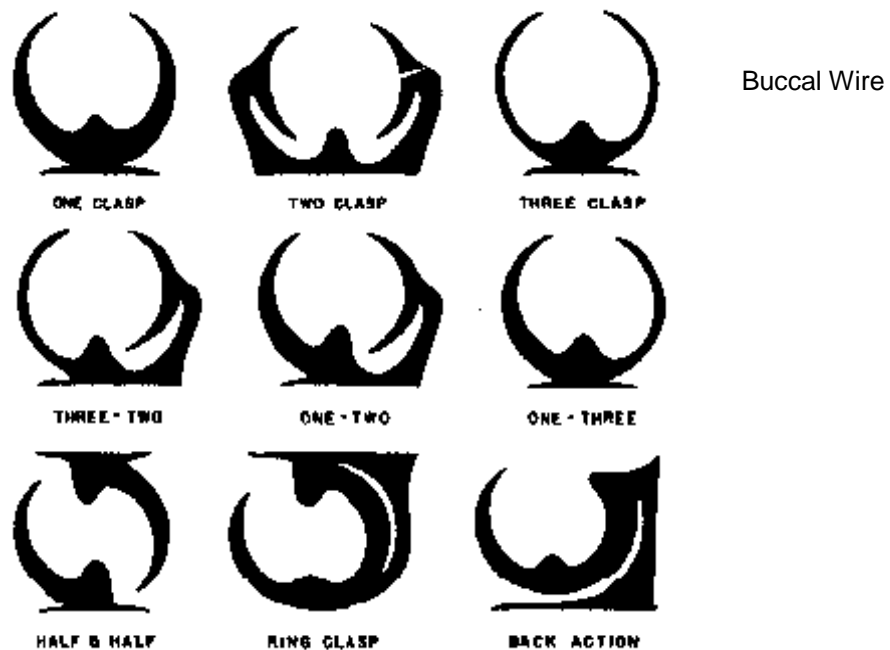
Universal System of Tooth Identification

Maxilla



Mandible

CONVENTIONAL CLASP CHART



FOR MORE SOPHISTICATED CLASPS CONSULT YOUR LABORATORY