myerson HotShotElite®

handheld clasp injector

Instruction Manual

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section 1~general description

Congratulations on purchasing a myerson **HotShotElite** handheld clasp injector (US Patent No.7303392). This unique piece of laboratory equipment is incredibly light, extremely durable, and is specially designed for creating flexible clasps in under thirty (30) minutes. Your myerson **HotShotElite** can also be used to make temporary crowns and bridges, as well as unilaterals. The melting temperature is easily programmable, so you can use the myerson **HotShotElite** with all three of myerson's state-of-the-art thermoplastic materials: myerson **DuraFlex** for tissue-coloured claps, myerson **VisiClear** for clear flexible claps, and myerson **DurAcetal** for tooth-coloured clasps, & much more.

section 2~components

The components included with the myerson **HotShotElite** handheld clasp injector may vary, but what follows are three standard assortments offered by myerson.

Description	Professional Kit 120v - EG-0102 230v - EG-0102-1	Advanced Kit 120v - EG-0101 230v - EG-0101-1	Basic Kit 120v - EG-0100 230v - EG-0100-1
myerson **HotShotElite** handheld clasp injector	√	√	√
Power Cord	√	√	√
Injection Sleeve & Nozzle	3	3	1
Injection Rod	√	√	√
Filler Funnel AP-0203	√	√	√
Measuring Cup AP-0208	√	√	√
Elite Injector Stand EG-0203	√	√	√
Lockable Case AP-0200	√	√	√
Putty Tool EG-0208	√	√	√
Heat Resistant Gloves AP-0207	√	√	√
CDM Extra Hard Putty A&B AP-0220	√	√	√
CDM Thermoplastic Model Separator (1oz) MS-0200	√	√	√
TMS Swabs (10) MS-0202	√	√	√
TMS Trays (10) MS-0201	√	√	√
Variety Pack VP-0100	√	√	
myerson VisiClear Single Shots 6-Pack VC-0201			√
Investing Stone (25 lb) INVSTONE-25LB	√		
Large Injection Ring AP-0228	√		
Small Injection Ring AP-0226	√		
Injection Tray AP-0225	√		
Injection Tray Clay AP-0229	√		
Stone Tool AP-0227	√		
Polishing Kit FN-0200	√		
Universal Stone (5 lb) UNISTONE-5LB	√		
Elite Sleeve Stand EG-0204-1	√	√	

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section 3 ~ storage & handling

The myerson **HotShotElite** handheld clasp injector should be stored in a cool dry place. The device should not be used in an environment exceeding 40°C(104°F). Keep all combustibles away from device while in use. Standard forms of transport are acceptable for this device. If outer packaging appears damaged, please contact the manufacturer.

After unpacking the myerson **HotShotElite** handheld clasp injector, place device on clean dry surface. Insert the power cord into the receptacle on the side of the device and plug the other end into a grounded outlet. **DO NOT TURN THE DEVICE ON AT THIS TIME**. Depending on the appliance that is to be created, certain procedures must be followed. The device should be allowed to cool for at least 1 hour before being placed back into the lockable case.
See included appliance procedures.

section 4 ~ basic operation

To turn on device, press the rocker switch located on the side of the device. The control panel will illuminate indicating the device is on. At this time the device begins to heat up. Caution should be taken to avoid burns. Heat resistant gloves should be used at all times while the device is on. To set the melt temperature, press the Scroll Key once. The controller will display “SP1” (Set Point 1). Use the Up or Down keys to adjust the setting to the desired temperature.
Once the temperature is reached, press the Up and Down keys simultaneously to return the display to the process temperature.
The Scroll key can also be pressed to cycle through the available menus until the process temperature is displayed. After use, turn off the device and unplug from the electrical outlet.

Scroll Key

section 5 ~ preventative maintenance & cleaning

Use only approved materials in the myerson **HotShotElite** handheld clasp injector. The use of materials other than those recommended by myerson may cause the device to fail and will void the manufactures warranty. **See Section 15 for warranty information.**

Keep melting chamber and sleeves free from dirt and other foreign debris to prolong the life of the device. Periodically clean the device with a damp rag and mild soap solution. **Before cleaning, turn off device and unplug from electrical outlet.**

After injection, remove rod then sleeve and let cool completely. Separate the injection nozzle from injection sleeve and remove remaining material. Excess material should easily slide out of injection sleeve. If material remains, use a waxing spatula or similarly shaped instrument to push the material free. Any remaining residue should be removed prior to next use.
Be careful not to damage either the interior or exterior threads when cleaning.

section 6 ~ service & repairs

For service and repair of the myerson **HotShotElite** handheld clasp injector, please call your myerson distributor, nearest myerson office or go to **www.myersontooth.com**. **Do not attempt to repair this device. Myerson, LLC is not responsible for damage to the device or any injuries associated with attempting to repair this device.**

section 7 ~ declaration of conformity

We declare under our sole responsibility that this product is in conformity with standards or standardization documents: EN61010-1:2001 “Safety requirements for electrical equipment for measurement, control and laboratory use. Myerson is an ISO 13485 certified manufacturer.

section 8 ~ important safety warnings

When using the myerson **HotShotElite** handheld clasp injector, always follow basic safety precautions to reduce the risk of accidental injury due to burns or electrical shock.

Wear long sleeves, long pants, heat-resistant gloves, and safety goggles when using the device. Do not expose heat-resistant gloves to hot areas for extended periods of time.

Keep out of the reach of children. Do not place device where cord can be tripped over. Keep the device away from flammable material. It is normal for the device to become quite warm during use. Do not leave device unattended with the power on.

The myerson **HotShotElite** handheld clasp injector is for indoor use only. Do not use outdoors or in wet or damp locations. **Never immerse device in water or other liquids. Use only on a clean, dry work surface.** Excessive dust and dirt will reduce the life of the device.

Use only recommended accessories and materials with this device. Using materials other than those recommended by myerson, LLC may result in accidental injury and permanent damage to the device.

When not in use, device should be stored in a dry secure location out of the reach of children.

Manufacturer assumes no responsibility for consequential or indirect damages from the use of this product.

Burn Hazard

Caution/Warning

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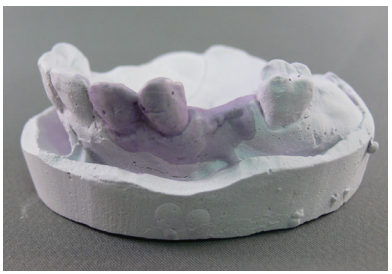
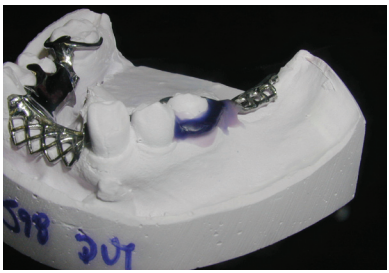
section 9 ~ adding a myerson DurAcetal clasp to a cast metal removable partial denture framework

The following procedure outlines the steps necessary to create myerson **DurAcetal** clasps on a cast metal framework.

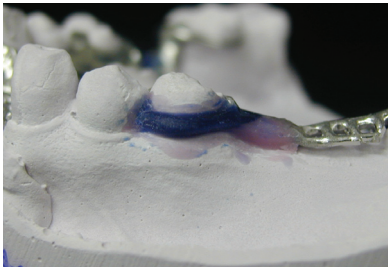
1. Using CDM brand Thermoplastic Model Separator paint the area on the model where the clasp will touch. Be sure to wear eye protection and use proper air ventilation. Avoid skin contact. Once separator has dried, place partial framework on the model.



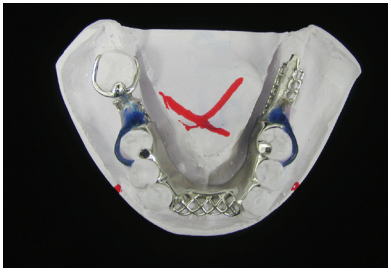
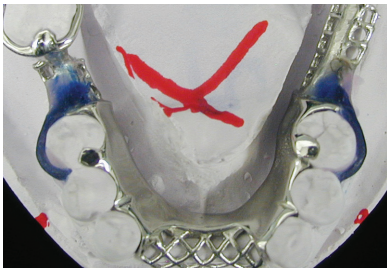
2. Wax clasp using 12 gauge sprue wax. Wax connection to framework incorporating two or three squares of meshwork.

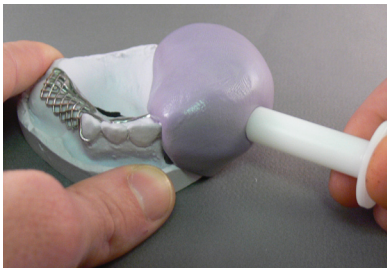
3. Trim excess wax away. **Clasps should be as close to 2mm x 2mm as possible.** This size is important to ensure complete injection of the **DurAcetal**.

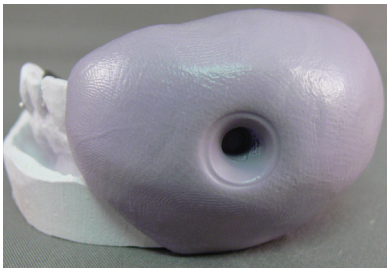



4. Using a black felt-tip marker, place dashes on the facial and tongue or roof area of the model. When aligned, these dashes correspond to the tip of each clasp.

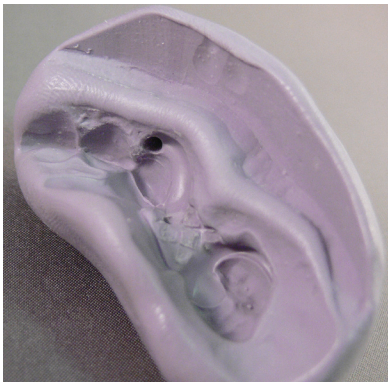
5. Mix one scoop of CDM brand Extra Hard Putty A with one scoop of putty B. Mix the putty until consistent. Place the putty on the occlusal surface and work down over the buccal and lingual covering the clasp. When the putty is in place, observe the lines created in step 4 to estimate where the tip of the clasp is. Using the Elite Putty Tool, indent down to the base of the tool. Repeat this step when creating two clasps making sure the first putty matrix is set as not to move or warp it.





Make sure to use the recommended amount of putty
The putty has two purposes:
To act as a matrix to form the clasp and insulate the area and hold in heat If the putty matrix is too small, the matrix can flex and move, and may not keep the injection area at the proper temperature. Using enough putty is essential to ensure complete injections.

6. Remove the putty and drill a sprue hole from outside to inside using a #8 2mm bur. Drill your sprue hole in through the indention of the putty tool and out through the other side trying to come as close as possible to the tip of the clasp. If you come out ahead of the clasp tip, just make a channel from the hole to the tip of the clasp. Make sure the channel is 2mm by 2mm. Where the clasp joins the frame work, drill a hole out through the putty coming out the lingual side. This is a vent hole and is very important to ensure a proper injection.



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7. With the putty matrix removed, boil off the wax from the model and partial.
8. After all the wax has been removed, put the putty matrix and the model into a heating oven set at 235°F (113°C) for 8 minutes.

Do not place the model/ appliance in a heater set at a temperature any higher than 235°F (113°C), some dental materials (acrylic) will begin to degrade at temperatures higher than 235°F (113°C).

9. With the Injection Sleeve removed from the device, turn on the myerson **HotShotElite**. To set the Melt Temperature, press the Scroll Key once until "SP1" reads on the display. Use the up or down keys to adjust the Melt Temperature to 392°F (200°C). Pressing both the up and down keys simultaneously will return the display to the process temperature. See Section 4 for more information about setting the Melt Temperature.
10. **Allow the device reach the set temperature before proceeding.**
11. If using DurAcetal from a 225g bottle, measure out 8 grams of **DurAcetal** (10ml mark on the measuring cup). If using a Single Shot, pour the entire contents of the Single Shot into the Injection Sleeve. Using the filler funnel, pour the **DurAcetal** into the Injection Sleeve.

    INJECTION SLEEVE MUST BE AT ROOM TEMPERATURE BEFORE FILLING.

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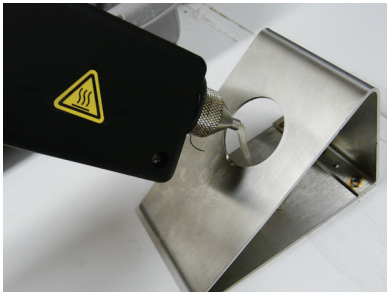
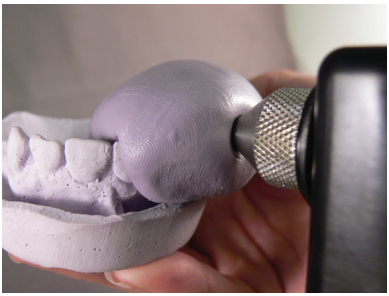
12. To load the device, slide the filled injection sleeve into the end of the device. Then rotate the sleeve clockwise until the sleeve locks into place. Place the loaded gun on the supplied base as shown. Set a timer for 8 minutes and allow the injector to heat undisturbed.

13. When the timer sounds, place the Injection Rod into the back of the injector with the teeth facing down. Push the rod into the injector until it contacts the molten material. Squeeze the trigger and discharge the aerated molten material onto the supplied injector base until the ring on the injection rod reaches the back of the injector. For safety reasons, expel molten material on to Elite injector stand only. The material will not stick and is easily removed once cooled. Allow the material to fully cool before removing and wear supplied safety gloves.
DO NOT ATTEMPT TO REUSE INJECTED MATERIAL.
This process is important to keep aerated material from becoming part of the final clasp or appliance.

14. After priming the myerson **HotShotElite** for injection, use the supplied gloves to clear off the tip of the injector with your finger. If material bulges from tip after cleaning, pull back on the injection rod about 3mm. This will take the pressure off the material and keep it from bulging out the tip. **A bulge from the injector tip can cool quickly and possibly plug the sprue during injection. Pay attention not to allow a plug to form. This may cause an incomplete injection.**



15. Take the model and putty out of the oven, place the tip of the injector into the putty indent and squeeze the trigger once and hold the trigger in the pulled position keeping pressure on the injection for 5 seconds. Do not repeatedly pull the trigger. **IF CREATING A SECOND CLASP ON THE SAME PARTIAL, REMOVE THE INJECTOR FROM THE PUTTY, CLEAN THE TIP, AND ALLOW THE INJECTOR TO SIT FOR ONE MINUTE. THEN INJECT THE SECOND CLASP FOLLOWING THIS SAME PROCEDURE.**



16. Expel the remaining material onto the Elite gun stand and remove the rod. While wearing heat resistant gloves, remove sleeve and nozzle from gun and place on metal stand to cool. Refer to Section 5 for more information regarding cleaning of the sleeve and nozzle. Let the model bench set for about 10 minutes or until the model is cool to the touch.

17. Section the putty matrix using a thin bladed knife. Cut a section of the putty with the knife and using an instrument, pry off the pieces of the putty until all the putty is removed.

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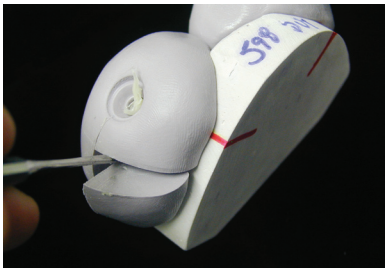
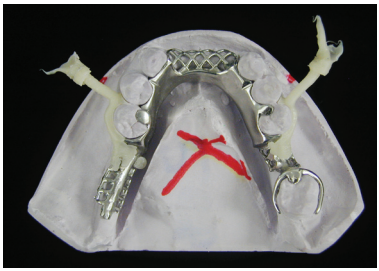
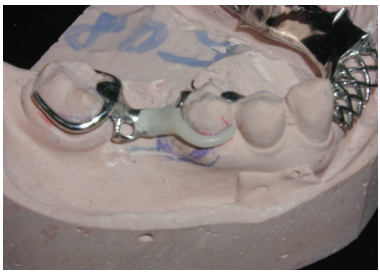


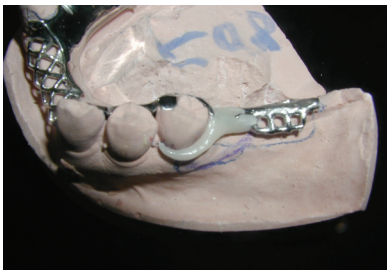


18. Finish and contour the clasp to the desired length and thickness using CDM brand Finishing Bur Kit, not included in any kit.

19. See Section 14 for tips on finishing and polishing.

20. Notice the size, shape, and tapering of the finished clasp.





To learn more about injecting **DurAcetal**®, go to **www.myersontooth.com.**

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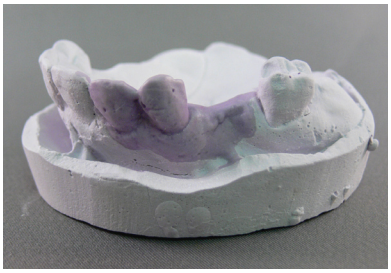
section 10 ~ adding a myerson DurAcetal Clasp to an existing removable partial denture

The following procedure outlines the steps necessary to create **DurAcetal** clasps onto an existing removable partial denture.

1. Using CDM brand Thermoplastic Model Separator paint the area on the model where the clasp will touch. Be sure to wear eye protection and use proper air ventilation. Avoid skin contact. After the separator dries, place the partial on the model.



2. Mark where the clasp will connect to the partial. Using a #8 round bur (2mm) drill into the partial and exit the partial on the lingual side. A counter angle will help the clasp lock into the partial.

3. Wax the clasp and create the putty matrix as previously described in section 9.

Next, follow steps 4 thru 18 from Section 9 for injecting a myerson DurAcetal Clasp.

Section 11 ~ creating provisional crowns & bridges with myerson DurAcetal

For step-by-step instructions on fabricating on provisional crowns and bridges using your myerson **HotShotElite**, go to **www.myersontooth.com.**

section 12 ~ unilaterals

For step-by-step instructions on fabricating on unilaterals using your myerson **HotShotElite**, go to **www.myersontooth.com.**

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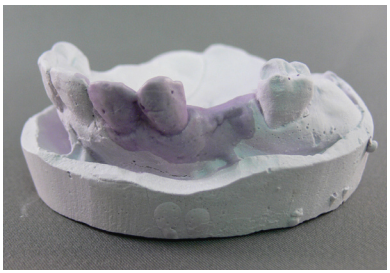
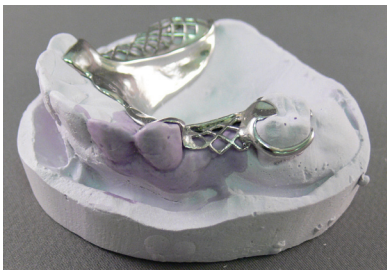
Section 13 ~ myerson VisiClear or myerson DuraFlex flexible clasps to metal framework

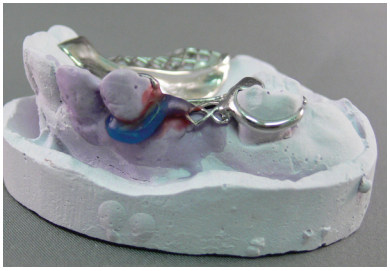
Myerson **VisiClear** and myerson **DuraFlex** have been specially designed for creating strong yet flexible clasps using the myerson **HotShotElite** handheld clasp injector. The following is the procedure for creating **VisiClear** clear clasps or **DuraFlex** tissue-coloured clasps onto a metal framework.

1. Using CDM brand Thermoplastic Model Separator paint the area on the model where the clasp will touch. Be sure to wear eye protection and use proper air ventilation. Avoid skin contact. After the separator dries, place the partial on the model.

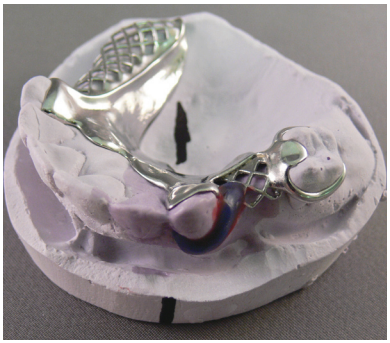




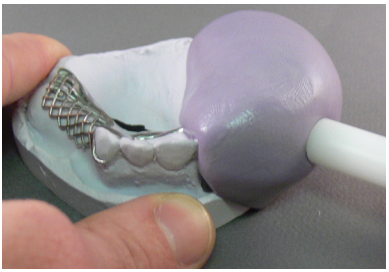
2. Create the clasp using 12 gauge sprue wax. Place the wax down at the gingival. Using a hot spatula, seal the sprue wax to the model and extend the wax down onto the tissue. This will give the clasp stability. Once you are done waxing, make surethe clasps are 2mm by 2mm. Wax connection to framework incorporating two or three squares of meshwork.

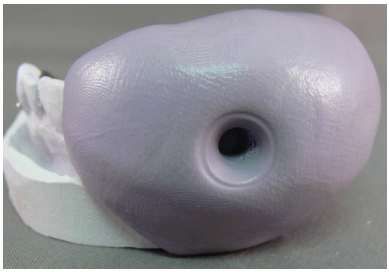


3. Mark the model where the tips of the clasps are located using a marker. Mark a line on the front of the model and on the palate or tongue side. These lines will help once the putty is on the model, later you will have an idea where the tips of the clasps are.

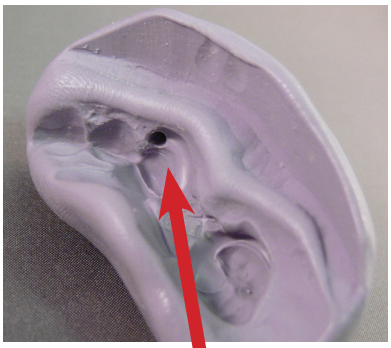


4. Mix one scoop of CDM brand Extra Hard Putty A with one scoop of putty B. Mix the putty until consistent. Place the putty on the occlusal surface and work down over the buccal and lingual covering the clasp. When the putty is in place, observe the lines created in step 3 to estimate where the tip of the clasp is. Using the Elite Putty Tool, indent down to the base of the tool. Repeat this step when creating two clasps making sure the first putty matrix is set as not to move or warp it.

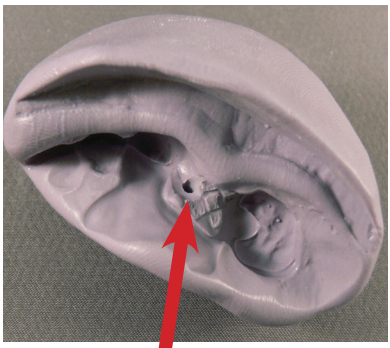




5. Remove the putty and drill a sprue hole from outside to inside using a #8 2mm bur. Drill your sprue hole in through the indention of the putty tool and out through the other side trying to come as close as possible to the tip of the clasp. If you come out ahead of the clasp tip, make a channel from the hole to the tip of the clasp. Make sure the channel is 2mm by 2mm. Where the clasp joins the framework, drill a hole out through the putty coming out the lingual side. This is a vent hole and is very important to ensure a proper injection.

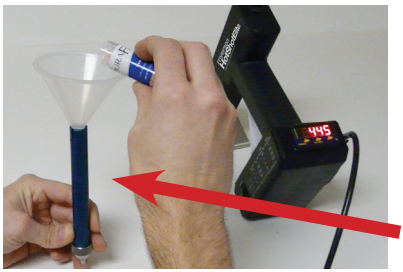


Sprue Hole



Vent Hole

6. With the putty matrix removed, boil off the wax from the model and partial.
7. After all the wax has been removed, put the putty matrix back on the model and place the assembly into a heating oven set at 235 °F (113°C) for four minutes.
8. With the Injection Sleeve removed from the device, turn on the myerson **HotShotElite**. To set the Melt Temperature, press the Scroll Key once until “SP1” reads on the display. Use the up or down keys to adjust the Melt Temperature to 446°F (230°C). Pressing both the up and down keys simultaneously will return the display to the process temperature. See Section 4 for more information about setting the Melt Temperature.
9. Allow the device to reach the set temperature before proceeding
10. Using the filler funnel, pour the entire Single Shot of myerson **VisiClear** or myerson **DuraFlex** into the Injection Sleeve (we recommend you use silver Injection Sleeve with VisiClear and the blue Injection Sleeve with **DuraFlex**).
    Do not use any Injection Sleeve for more than one type of material; contamination may occur.
    INJECTION SLEEVE MUST BE AT ROOM TEMPERATURE BEFORE LOADING THE MATERIAL.



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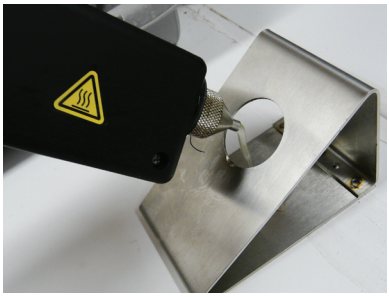
11. To load the device, slide the filled injection sleeve into the end of the device. Then rotate the sleeve clockwise until the sleeve locks into place. Place the loaded injector on the supplied base as shown. Set a timer for 4 minutes and allow the injector to heat undisturbed.

12. When the timer sounds, place the Injection Rod into the back of the injector with the teeth facing down. Push the rod into the injector until it contacts the molten material. Squeeze the trigger and discharge the aerated molten material onto the supplied injector base until the ring on the injection rod reaches the back of the injector. For safety reasons, expel molten material on to Elite injector stand only. The material will not stick and is easily removed once cooled. Allow the material to fully cool before removing and wear supplied safety gloves.
DO NOT ATTEMPT TO REUSE INJECTED MATERIAL
Note: This process is important to keep aerated material from becoming part of the final clasp or appliance.

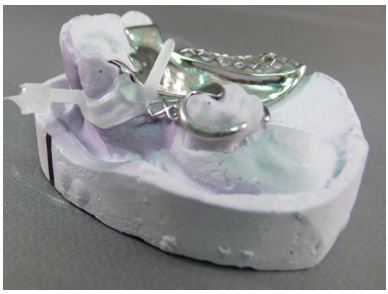


13. After priming the myerson **HotShotElite** for injection, use the supplied gloves to clear off the tip of the injector with your finger. If material bulges from tip after cleaning, pull back on the injection rod about 3mm. This will take the pressure off the material and keep it from bulging out the tip. A bulge from the injector tip can cool quickly and possibly plug the sprue during injection. Pay attention not to allow a plug to form. This may cause an incomplete injection.

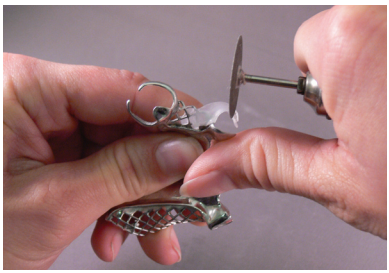
14. Take the model and putty out of the oven, place the tip of the injector into the putty indent and squeeze the trigger once and hold the trigger in the pulled position keeping pressure on the injection for 5 seconds. Do not repeatedly pull the trigger.
IF CREATING A SECOND CLASP ON THE SAME PARTIAL, REMOVE THE INJECTOR FROM THE PUTTY, CLEAN THE TIP, AND ALLOW THE INJECTOR TO SIT FOR ONE MINUTE. THEN INJECT THE SECOND CLASP FOLLOWING THIS SAME PROCEDURE.

15. Expel the remaining material onto the Elite injector stand and remove the injection rod. While wearing heat resistant gloves, remove sleeve and nozzle from injector and place on metal stand to cool.
Refer to Section 5 for more information regarding cleaning of the sleeve and nozzle. Let the model bench set for about 10 minutes or until the model is cool to the touch.

16. Section the putty matrix using a thin bladed knife. Cut a section of the putty with the knife and using an instrument, pry off the pieces of the putty until all the putty is removed. Notice the button of material on the lingual side. This if from the vent hole created in step 5 of this section.



17. Finish and contour the clasp to the desired length and thickness using the CDM Brand Finishing Bur Kit (not included in any **HotShoElite** Kits)



18. See Section 14 for tips on finishing and polishing.

19. The finished appliance is now ready for try in.

section 14 ~ finishing & polishing

Myerson offers several products that make it quick and easy to finish and polish thermoplastic materials.

The **Finishing Bur Kit** includes all the necessary burs to trim and contour a thermoplastic appliance.

- The diamond disc is used for removing the sprues and eliminating flashing or other unwanted material.
- The #8 round bur is used when creating sprue holes as well as any area where 2mm x 2mm is critical.
- The egg shaped burs work great for bulk reduction and fine tuning of **DurAcetal** frameworks or **DuraFlex** partials.
- The reversed cone bur and diamond saucer bur can be used for fine details the other burs can't create.

The **Polishing Kit** was designed to decrease the time it takes get an appliance ready for try in. Working from yellow to red to blue to green, the appliance will become increasingly smooth. Finish off the appliance with the rag wheel and a small amount of Fine Scratch Remover for that high shine. (See our current catalog for details, Item No. FN-0200))

section 15 ~ warranty & returns

Myerson offers a one (1) year limited warranty against defects in material and workmanship. If you would like to submit a product for warranty return, please contact a myerson distributor or myerson. Include only the defective product submitted for warranty replacement; also include a letter describing in detail the problem, date of purchase of the product, as well as a return address and contact name. Myerson, LLC is not responsible for return shipment costs. Myerson will refurbish or replace product found to be defective of material or workmanship.

If after the one (1) year warranty you are experiencing a problem with a product, please contact a myerson distributor or myerson.

Section 16 ~ technical data

- Power Supply 120v model: 120VAC 50/60Hz 2.0A;
  230v model: 230VAC 50/60Hz 2.0A
- Max Melting Temp: 460°F (237°C)
- Weight 12lbs (7.26 kg)
- Mains Fuse rating 2A 250V 5x20mm Fast Acting

section 17 ~ troubleshooting

Symptom	Possible Cause	Solution
Unit does not turn on	Fuse is blown.	Replace fuse with 2A 250V (5x20mm)
	Power cord not fully inserted.	Check to ensure power cord is properly inserted into the device.
Difficulty inserting injection sleeve into the unit	Thermoplastic material has leaked into the heating chamber.	Unplug unit and allow unit to completely cool. Use a pointed instrument to remove the material from heating chamber.
Discolored material upon injection	Injection sleeve was left in the unit after injection.	Remove the injection upon injection sleeve after expelling remaining material from sleeve.

myerson®
Cosmetic Dental Materials

section 18 ~ notes

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Cosmetic Dental Materials

myerson
the tooth company

more to myerson than teeth

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Premium quality teeth hand-crafted to be virtually indistinguishable from natural teeth

myerson DB PLUS
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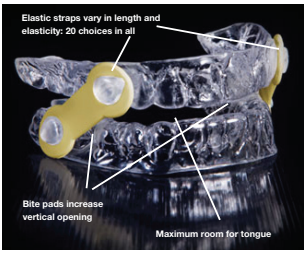
myerson VisiClear
clear clasps & frameworks

myerson DurAcetal
durable cosmetic appliances

myerson ema®
...Sleep Better



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You could be using the EMA Custom oral appliance for the treatment of sleep related breathing disorders. EMA's patented design uses interchangeable elastic straps attached to pressure-formed custom upper and lower trays, which allow the gradual advancement of the mandible until treatment is successful. EMA is available to medical and dental professionals through authorized dental laboratories.

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