

## USER GUIDE CASTAPRESS

Powder: ID#HDACPP / Liquid: ID#HDACPV



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### Preface

The following user guide contains instructions for dental technicians for treating Castapress for manufacturing, expanding or repairing a dental prosthesis base. Castapress plastic is intended exclusively for professional dental work. Castapress is treated using conventional dental methods and instruments. The user guide describes safety and environmental aspects regarding the monomer. A safety data sheet for the monomer is indicated on the [www.udscanada.com](http://www.udscanada.com) web site and is available from your local dealer. The user guide indicates transferable instructions for the prosthesis wearer on cleaning the prosthesis.

#### 1. Introduction

Castapress is used for dental prostheses based on polymethylmethacrylate. Examples are full, partial and frame prostheses. The technical instructions we provide in this guide should be followed closely by the user. Deviations from these instructions, no matter how minor, may have a negative effect on the intended result and will not guarantee the quality of the result.

#### 2. Description and effect

Castapress is a 2-component plastic system. The plastic system is formed by a polymer and a monomer. The polymer is a powder, the monomer a fluid. The polymer is the colour component, the monomer is colourless. The combination of polymer and monomer is converted into a hard finished product by a self-initiating (chemical) process that is accelerated by added heat. The finished product has a Charpy impact strength of  $\pm 10.3 \text{ kJ/m}^2$  (unnotched), a flexural strength  $\pm 78 \text{ Mpa}$  and a flexural modulus of  $\pm 2224 \text{ Mpa}$ . After treatment in accordance with the user guide, the finished product contains an initial monomer residue of  $< 3.5 \%$ . Castapress complies with ISO 20795-1 and is CE-certified.

#### 3. Counter-indication

Allergic reactions in wearers to dental prosthesis base plastic are rare. Monomer or additive remnants in the prosthesis base are reduced as much as possible by correct treatment of the plastic. Deviation from the indicated treatment has a negative effect on the chemical and physical quality of the base plastic. Ask a physician for a diagnosis in the event of an allergic reaction.

#### 4. Risk and safety ( R + S ) phrases for monomer

Monomer contains methylmethacrylate: • Highly flammable. • Irritating to eyes, respiratory system and skin. • May cause sensitisation by skin contact. • Keep out of reach of children. • Keep container in a well-ventilated place. • Keep away from sources of ignition – no smoking-. • Do not breathe vapour. • Avoid contact with skin. • Do not empty into drains. • Take precautionary measures against static discharges. • Wear suitable gloves. • If swallowed, seek medical advice immediately and show this container or label.

#### 5. Storage conditions, use-by date and transportation

Store the monomer in a cool, dark environment. Store the polymer in a cool, dry environment. Close the packaging properly after each use. The plastic components have a use-by date indicated on the product label. After the use-by date, the plastic components are no longer guaranteed in terms of treatment. Transportation of monomer is restricted by regulations on transporting hazardous materials. Polymer can be freely transported.

#### 6. Pre-treating prosthesis elements

Roughen the base side of plastic prosthesis elements before setting them up. Treat the base side of hard plastic prosthesis elements additionally with monomer or a contact fluid (e.g., Acrybond).

#### 7. Pre-treating cuvette

**Tip:** always work on fresh plaster surfaces. - Use at least class III plaster for the plaster model. Open the casting cuvette. Place the plaster model with the wax prosthesis in the casting cuvette. Close the casting cuvette. Fill the casting cuvette with duplicating gel suitable for the plastic casting technique. Allow the gel to cool in the casting cuvette. Carefully remove the plaster model with the wax prosthesis from the gel. Poke casting channels in the gel to prevent the formation of potential air chambers. Remove the wax prosthesis from the plaster model. Remove modelling wax from the plaster model and prosthesis elements with clean boiling water. Saturate the plaster model with cold water and insulate it with alginate separation fluid (e.g., Divosep). Re-place the prosthesis elements in the gel. Brush monomer or contact fluid on the base side of plastic prosthesis elements. Put the plaster model back in the gel and close the casting cuvette.

#### 8. Treating times for plastic

The following mixing, dough and dough working times apply for a material and ambient temperature of  $22^\circ\text{C}$ . A lower or higher temperature will have a delaying or accelerating effect, respectively, on the following times.

mixing time: 20 seconds	Castapress dough time: 9 minutes	Castapress dough working time: 3 minutes
plastic treating time is 12 minutes		

#### 9. Plastic mix ratio

volume : 1 ml monomer / 2.4 ml polymer  
weight : 0.95 g monomer / 1.5 g polymer

Determine the monomer dose by volume and the polymer dose by weight. These methods of determining doses are the most accurate for the two different components.

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(continued)



### 10. Mixing plastic

- **Precautions:** wear personal protective gear, avoid contact of monomer with skin, extract monomer vapour. – Use a sealable bowl with a spout made of chemical-resistant plastic, ceramic, porcelain, glass or stainless steel to mix the components. Shake monomer before use. Measure both components in proportion. Pour the monomer into the bowl first and the polymer second. Mix the monomer and polymer powder gently for 20 seconds.

### 11. Casting plastic

- **Precaution:** wear polyethylene or powder-free latex gloves. – Hold the bowl a short distance away from the casting opening of the casting cuvette. Start pouring out the plastic. Immediately after beginning to pour, raise the bowl, pouring in a thin trickle. Any air bubbles in the tin trickle can then escape. After filling the casting cuvette with plastic, let the casting cuvette rest until the surface of the plastic loses its liquid gloss and a film forms. Place the cuvette in a pressure pan for polymerisation. The total treating time for the Castapress mixture is 3 minutes.

### 12. Polymerising plastic

Fill the pressure pan with hot water. The casting cuvette must be in the water for at least  $\frac{3}{4}$  of its height. Keep the water in the pan at a constant  $50 \pm 5^\circ\text{C}$ . Place the casting cuvette with plastic in the pressure pan. Close the pan and set it to a pressure of  $2\frac{1}{2}$  bar. Let the prosthesis polymerise in the pressure pan for 30 minutes, then open the pressure pan, remove the casting cuvette and remove the plaster model with the prosthesis from the casting cuvette. Remove the prosthesis from the plaster model.

wait for film to form	start in water at $50 \pm 5^\circ\text{C}$	30 minutes at $50 \pm 5^\circ\text{C}$
polymerisation time is 30 minutes		

### 13. Finishing plastic

Finish the plastic with milling, sanding, grinding and polishing instruments. Carry out the actions in gradation from coarse to fine.

### 14. Trouble-shooting

Phenomenon	Possible cause	Solution
- plastic is porous	- high monomer dose - large volume of plastic - insufficient pressure on plastic - dry plaster	- reduce monomer dose - interrupt heat supply - check pressure build-up - saturate plaster with sufficient water
- plaster remnants on plastic / plastic turns white after finishing	- defects in separation layer - low water temperature in pressure pan	- improve separation method - bring water temperature in the pressure pan to the prescribed value
- excessive shrinkage / blackening around prosthesis elements	- high monomer dose	- reduce monomer dose
- insufficient adhesion of plastic to prosthesis elements	- hard elements (e.g., composite) - brief contact between element and plastic in plastic phase	- roughen base side of element - use contact fluid
- plastic turns white after a period of wearing	- incorrect prosthesis cleaning method	- instruct wearer on correct prosthesis cleaning method

Differences in colour nuance may occur due to production in batches of the raw material and product. Different mixing proportions of monomer and polymer also cause colour differences in the final results.

### 15. Plastic and packaging waste

Treat monomer remnants and empty monomer packaging as chemical waste. Polymer remnants and polymer packaging are not environmentally harmful. Deliver plastic and packaging waste to a collection point for waste material.

### 16. Instructions for cleaning prosthesis

Instruct the prosthesis wearer directly or indirectly to clean the prosthesis twice a day with cold water, mild soap and a soft brush. If a prosthesis cleaner is used (preferably one with a natural basis), instruct the wearer to follow closely the instructions for the cleaner. Discourage the use of hot water and unsuitable cleaners or methods as these will cause irreversible damage to the prosthesis.

### Distributor

Unique Dental Supply Inc. | 1-888-532-0554 | [www.udscanada.com](http://www.udscanada.com)

### Manufacturer

Vertex-Dental B.V.  
Johan van Oldenbarneveltlaan 62  
3705 HJ Zeist  
The Netherlands

Tel. : +31 30 69 767 49  
Fax : +31 30 69 551 88  
E-mail : [info@vertex-dental.com](mailto:info@vertex-dental.com)  
Web site : [www.vertex-dental.com](http://www.vertex-dental.com)

### Explanation of symbols on labelling



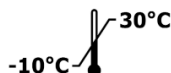
: Notified Body ; SGS United Kingdom



: Batch number of product



: Manufacturer



: Temperature



: Keep away from sunlight



: Consult instructions for use



: Use-by date



: Keep away from moisture

