

**USER GUIDE
RAPID SIMPLIFIED**

Heat Cure Powder: ID# HDARSP / Heat Cure Liquid ID# HDARSV



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Preface

The following user guide contains instructions for dental technicians for treating Rapid Simplified for a dental prosthesis base. Rapid Simplified plastic is intended exclusively for professional dental work. Rapid Simplified 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 web site and is available from local dealers. The user guide indicates transferable instructions for the prosthesis wearer on cleaning the prosthesis.

1. Introduction

Rapid Simplified is used for dental prostheses using the plastic pressing technique, based on polymethylmethacrylate. Examples of prostheses are full and partial 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

Rapid Simplified is a 2-component plastic. 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 added heat. The finished product has a Charpy impact strength of $\pm 11.3 \text{ kJ/m}^2$ (unnotched), a flexural strength of $\pm 85 \text{ MPa}$ and a flexural modulus of $\pm 2367 \text{ MPa}$. After treatment in accordance with the user guide, the finished product contains an initial monomer residue of $< 1.5 \%$. Rapid Simplified 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 II plaster for embedding the wax prosthesis in the cuvette. Insulate plaster from plaster with alginate separation fluid (e.g., Divosep). Heat the cuvette in water at $\pm 70^\circ\text{C}$ long enough so that the modelling wax is plastic enough for the cuvette to be opened. Take the base plate and modelling wax away immediately after opening the cuvette. Immediately after taking away the base plate and modelling wax, spray the plaster in the cuvette with clean boiling water to remove modelling wax remnants. Allow the plaster to cool to room temperature and brush alginate separation fluid onto the plaster surface.

8. Treating times for plastic in plastic phase

The following mixing, dough and dough working times apply for a material and ambient temperature of 22°C . A lower or higher temperature will have a delaying or accelerating effect, respectively, on the following times.

mixing time: ½ minute	dough time: 15 minutes	dough working time: 30 minutes
plastic treating time is 45 minutes		

9. Plastic mix ratio

volume : 1 ml monomer / 3 ml polymer

weight : 0.95 g monomer / 2.3 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.

- **Dosage example:** take 8 ml of monomer and 18.4 g of polymer for the average upper or lower prosthesis. -

10. Mixing plastic

- **Precautions:** wear personal protective gear, avoid contact of monomer with skin, extract monomer vapour. – Use a sealable bowl 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 ½ minute. Seal the bowl and let the mixture rest for 15 minutes. The mixture will have reached the dough stage at the end of the rest period.

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11. Applying plastic in cuvette

- **Tip:** test pressing is recommended, using polyethylene foil ± 25 µm thick. - **Precaution:** wear polyethylene or powder-free latex gloves. – Take the plastic dough out of the mixing bowl and knead it a few times. Fill the prosthesis cavity in the cuvette with the dough, slightly to excess. Close the cuvette. Place the cuvette in a brace. Place brace with cuvette under a press. Slowly press the cuvette shut. Stop pressing when the cuvette halves touch. Close the brace and remove it along with the cuvette from the press. The total working time for the dough is 30 minutes.

12. Polymerising plastic

Fill the polymeriser with a generous quantity of water. Set the appliance's thermostat to 100°C and switch on the heat supply. Wait until the water in the appliance has reached 100°C. Place the brace with the cuvette in the polymeriser.

- For prostheses with average thickness; maintain a 100°C temperature for 20 minutes. -

- For extremely thick prostheses; switch off the heat supply and wait for 15 minutes. Then turn the heat supply on again and wait until the water reaches 100°C again. Maintain this temperature for 20 minutes. -

After the polymerisation cycle, switch off the heat supply to the appliance. Lift the brace with the cuvette out of the appliance. Let the brace with the cuvette cool to room temperature on the workbench; do not force the cooling process. (For overnight polymerisation, let the brace with the cuvette cool in the polymeriser.) Remove brace, cuvette and plaster from the prosthesis.

start in water at 100°C	(interrupt heat supply for 15 minutes for extremely thick prostheses)	20 minutes at 100°C
polymerisation time is 20 minutes minimum		

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 - short dough time - large volume of plastic - insufficient pressure on plastic	- reduce monomer dose - increase dough time - interrupt heat supply - check pressure build-up
- bite raising	- high polymer dose - long dough time - no test pressing	- reduce polymer dose - reduce dough time - use test pressing
- plaster remnants on plastic	- high monomer dose - short dough time - defects in separation layer	- reduce monomer dose - increase dough time - improve separation method
- plastic turns white after finishing	- high monomer dose - short dough time - defects in separation layer - talc from gloves	- reduce monomer dose - increase dough time - improve separation method - wash talc off gloves
- excessive shrinkage / blackening around prosthesis elements	- high monomer dose - short dough time	- reduce monomer dose - increase dough time
- 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


Manufacturer

Vertex-Dental B.V.
Postbus 10
3700 AA Zeist
The Netherlands

Tel. : +31 30 69 767 49
Fax : +31 30 69 551 88
E-mail : info@vertex-dental.com
Web site : www.vertex-dental.com

Explanation of symbols on labelling


 : Notified Body ; SGS United Kingdom

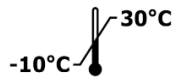
 : Batch number of product

 : Manufacturer

 : Keep away from sunlight

 : Consult instructions for use

 : Use-by date



: Temperature



: Keep away from moisture