



TECHNICAL DATA SHEET
ACRYLIC POLYMER HEAT POLYMERIZED NOVACRYL®
DPFTPT-070

1 GENERAL PRODUCT INFORMATION

Polymers of methacrylate have become very popular in dentistry because of their easily processing capacity with relatively simple techniques. They have proved to provide the essential properties and the necessary characteristics to be used in oral restorations.

One of their main applications is for total and removable prosthesis, and metallic structures like cap dental, bolts dental that re-establish the patient's chewing, phonetic and aesthetic functions.

These prosthesis are made of artificial teeth that are placed on an acrylic base that constitutes a support to maintain contact with oral tissues. Denture bases and provisional teeth can be made of heat-polymerized acrylic that needs thermal energy to polymerize under the influence of a thermostatic water bath. These resins have some advantages such as dimensional stability, easily handling features, color, and compatibility with oral tissues.

2 INFORMATION ABOUT CHEMICAL COMPOSITION OF THIS PRODUCT

- 2.1 Polymer components: Heat-polymerized Acrylic (Type I).
Poly (methylmethacrylate).
Pigments.
Polyester (If a veined reference is required).
- 2.2 Monomer components: Heat-polymerized Monomer (Type I).
Methyl Methacrylate.
Ethylene Glycol Dimethacrylate.

3 PHYSICAL PROPERTIES

Physical properties of Self Curing polymers Novacryl are measured in New Stetic's Quality Control Laboratory by means of well-gauged high specialized equipment, according to both ISO Standard 20795-1 for Denture Base Polymers.

Creation date		Elaborated by:		Revised by:	
2011-07-12		Technical Analyst of M.D.		Technical Coordinator of M.D.	
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The most relevant physical properties of Self-polymerized polymers are showed in the following chart:

Parameter	Requirement	Experimental result
Absorption	32 $\mu\text{g}/\text{mm}^3$ maximum	18.10
Solubility	1.6 $\mu\text{g}/\text{mm}^3$ maximum	0.8
Flexural strength	65 MPa minimum	70.8
Flexural modulus	2000 MPa minimum	5300
Residual monomer	2.2% (w/w) maximum	0.98

Other physical properties like color, polishing capacity, translucency, and porosity are evaluated qualitatively. These properties are inside accepted limits.

4 USAGE AND APPLICATIONS

Heat-polymerized Novacryll®, The composition of Heat-polymerized (polymer and monomer) is the one that is the one that is used for the making of provisional teeth, crowns and bridges.

The main characteristics of these heat-polymerized acrylic are the following:

- Heat-polymerized acrylics can be molded in complex forms by applying heat and pressure. These two aspects are specifically required for dental use resins.
- They have the essential capacities and the necessary properties to be used in the oral cavity.
- They are easy to manipulate.
- They have enough translucency to give the natural appearance of replaced tissues.
- They do not change their color or their pigmentation through time, even if they are subjected to body temperature.

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5. QUALITY ASSURANCE OF THIS PRODUCT

Acrylic resins are made from the highest quality raw materials through a completely standardized production process which conforms to both ISO Standard 9001 and ISO 13485.

Moreover, in its Quality Control Laboratory, New Stetic verifies the fulfilling of ISO Standard 20795-1 for denture base.

Polymers concerning the quality requisites for the finished product, using specialized equipment.

Water absorption and solubility: The amount of water that can be absorbed by acrylic resins or the amount of weight that they lose when submerged in water is accurately tested. Acrylic is not soluble in saliva or in any other oral fluid.

Porosity: The surface of processed acrylics is free from imperfections and porosity.

Flexural Strength and Flexural Modulus : The degree of distortion suffered by acrylic resins under the occlusion forces that are applied during the use is verified in an Instron Testing Machine. The force supported by a resin until its fracture is also measured. This aspect ensures the good clinical performance of resins.

Translucency: An object placed at the opposite side of the test tube containing acrylic resin must be visible.

Residual Monomer Content: The amount of monomer that remains after the making of a prosthesis must be minimum in order to avoid possible irritations of oral tissues.

5 INSTRUCTIONS FOR USE

The acrylic monomer Heat Polymerized Novacryl®, should be used when reconstituted with acrylic polymer Heat Polymerized Novacryl® and heat polymerized.

INDIRECT METHOD: Temporaries with NOVACRYL® Heat polymerized.

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- The temporary restoration is built on a stone model.
- If necessary, work on the pontic area and abrade the support teeth around 0.5 mm to make them look like crown preparations of a wider diameter. Edentulous spaces and support teeth will be replaced by wax teeth.
- Immerse the model in water at room temperature for 5 minutes.
- Remove model from water and dry superficial water with an air jet.
- Apply vaseline or special plaster-wax separator to spaces to be restored.
- Carve wax teeth and restore teeth morphologically to make passive contact with the oral mucosa. Occlusion of pontics can be achieved by articulating the antagonist model.
- Carefully remove wax restoration from clinical model.
- Make the first addition of plaster, preferably type III plaster (stone-plaster) in a flask, paint corresponding cavities of support teeth with delicate brushstrokes, avoiding bubble incorporation.
- Once carved, place wax restoration in the base of the flask, where type III plaster was added, so that only the lingual part remains inside the plaster. Avoid leaving retention.
- Once plaster is set, apply the NOVAFOIL® plaster separator with a brush. Once dried, use a brush to cover wax teeth thoroughly with plaster, and finish this plaster addition in the other part of the flask. Let it set.
- Immerse in water at 65°C for 1 minute. Separate the parts of the flask and remove wax thoroughly with hot water and detergent.
- Apply the NOVAFOIL® plaster separator to hot plaster and let it dry.
- Select the NOVACRYL® powder shade.

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Acrylic Mixture Ratios

The mixture, by volume, consists of: Three parts of NOVACRYL® Heat polymerized powder plus one part of NOVACRYL® Heat polymerized liquid.

Mixture Preparation

- The polymer is poured over the monomer in the indicated ratios, the mixing is continually made crosswise during 30 seconds approximately in order to ensure the complete incorporation of polymer and monomer particles.
- Cover the mixture to avoid air inclusion until it reaches a plastic stage (when the mixture does not adhere to the spatula or sides of the mixing cup). Next, pack acrylic mixture into the flask.

Pressing

- The material is packed in the flask and a sheet of polyethylene is placed between resin and the model.
- Slowly apply pressure of 1500 psi, remove from press, open flask to remove sheet of polyethylene and trim excess acrylic. Close flask.
- Apply pressure of 2000 psi on flask, to guarantee stability of vertical dimension.

Working time

The material allows a working time from 10 minutes about, depending on the room temperature.

Polymerization: The steps to be followed are

STEP	TEMPERATURE	TIME	MEDIA
N° 1	73° C	90 minutes	Water
N° 2	100° C	30 minutes	Water
N° 3	23° C	30 minutes	Air
N° 4	23° C	15 minutes	Water

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Work Time

This mixture allows a work time of 10 minutes approximately, taking into account the room temperature of the site.

Polishing

- The anatomy and contour are developed as required by standard technique. Place the NOVACRYL® restoration carefully on support teeth and adjust the occlusion.
- When the fit and occlusion are satisfactory, cement the NOVACRYL® restoration. After cementing, check the occlusion again.
- If incisal characterization is desired, apply NOVACRYL® incisal in layers, simulating tooth enamel.

Shades: NOVACRYL® tooth shades (59, 62, 65, 66, 67, 69, 77, 81 and incisal)

6 COMMERCIAL PRESENTATIONS

NOVACRYL®, Heat- polymerized

POLYETHYLENE BOTTLES: 30 g, 40g bottle; 60g bottle (Box per 196 bottles); 125g bottle (Box per 100 boxes); 250g bottle (Box per 30 bottles); 500g bottle (Box per 24 bottles); 1000g bottle (Box per 15 bottles), 2,5 kg. Wide variety of veined and smooth pink shades.

POLYETHYLENE DRUM of heat-polymerizes acrylic powder per 10 kg, 20kg, 25 kg (unit)

METALLIC DRUM of heat- polymerized acrylic powder per 125kg (unit)

KIT: Cardboard Box with a 1000g bottle of powder acrylic and 500 ml of liquid acrylic (12 KIT).

KT: Cardboard Box with a 500g bottle of powder acrylic and 250 ml of liquid acrylic (24 KIT).

KIT: Cardboard Box with a 250g bottle of powder acrylic and 110 ml of liquid acrylic.

KIT: Cardboard Box with a 125g bottle of powder acrylic and 110 ml of liquid acrylic.

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KIT: Cardboard Box with a 60g bottle of powder acrylic and 55 ml of liquid acrylic (36 KIT).

KIT: Cardboard Box with a 30g bottle of powder acrylic and 15 ml of liquid acrylic

NOVACRYL® Heat- polymerized Liquid

AMBER GLASS BOTTLES: 15 ml, 30 ml, 55ml bottle (Box per 150 bottles); 110ml bottle (Box per 100 bottles); 250ml bottle (Box per 50 bottles); 500ml bottle (Box per 25 bottles); 1000ml bottle (Box per 12 bottles).

METALLIC DRUM of heat - polymerized acrylic liquid per 200 L (unit).

POLYETHYLENE DRUM of heat - polymerized acrylic liquid per 1 gallon (4 unit).

KIT: Cardboard Box with a 1000g bottle of powder acrylic and 500 ml of liquid acrylic (12 KIT).

KT: Cardboard Box with a 500g bottle of powder acrylic and 250 ml of liquid acrylic (24 KIT).

KIT: Cardboard Box with a 250g bottle of powder acrylic and 110 ml of liquid acrylic.

KIT: Cardboard Box with a 125g bottle of powder acrylic and 110 ml of liquid acrylic.

KIT: Cardboard Box with a 60g bottle of powder acrylic and 55 ml of liquid acrylic (36 KIT).

KIT: Cardboard Box with a 30g bottle of powder acrylic and 15 ml of liquid acrylic



7 EXPIRATION DATE

Veracril®, Opti-cryl® heat - polymerized Powder: Four (4) years.

Veracril®, Opti-cryl® heat - polymerized acrylic Liquid: Two (2) years.

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8 STORAGE AND CONSERVATION MEASURES

- Storage: Keep this product in a cool and well-ventilated place (air in or around such place).
- Keep it away from any flame or spark source. Do not smoke.
- Keep it away from heat and direct sunlight.
- Avoid contact with oxidants, acids, bases, and polymer initiators.
- Do not store for long periods of time.

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