

TECHNICAL DATA SHEET

SELF-CURING ACRYLIC RESINS VERACRIL®, OPTICRYL® DPFTPT-018

1 GENERALITIES OF THE PRODUCT

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. The main characteristics of self-curing are the following:

- This product allows an optimum working time for its manipulation.
- It does not require heat treatment for its polymerization process.
- It allows an easy polishing to recover its gloss.
- The polymer-monomer ratio is used as indicated in order to avoid the possible vertical and linear contractions of the acrylic structure.

2 INFORMATION ABOUT COMPOSITION

2.1 Components of polymer (type II):

Poly (methylmethacrylate).

Pigments.

Polyester fibers (only for pink color).

Fluorescent additive (only for tooth color).

2.2 Components of monomer (type II):

Methyl methacrylate.

Ethylene glycol dimethacrylate.

Chemical initiator (amine type).

3 PROPERTIES OF THE PRODUCT

Physical properties of the product are measured in the quality control laboratory by means of specialized equipments according to ISO standard 20795-1 for denture base polymers. The most relevant physical properties of the device are showed in the following chart.

Parameters	Requirements	Average experimental results
Absorption	Not higher than 32 $\mu\text{g}/\text{mm}^3$	20.37
Solubility	Not higher than 8.0 $\mu\text{g}/\text{mm}^3$	3.66
Flexural strength	60 MPa minimum	62.20
Flexural modulus	1500 MPa minimum	1702.52
Residual monomer content	4.5% maximum (in weight)	3.46

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

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4 USES AND APPLICATIONS

Self-curing acrylic resins are used for the fabrication and repair of different types of dental rehabilitation to restore the patient's functionality and esthetics. The applications are as follow:

- Repair of denture bases.
- Fabrication and repair of temporary teeth and bridges.
- Fabrication and repair of orthodontic and orthopedic appliances.
- Fabrication and repair of individual trays.

5 QUALITY ASSURANCE OF THE PRODUCT

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

Moreover, in the quality control laboratory the requirements of ISO Standard 20795-1 for Denture Base Polymers are checked for the finished product using specialized equipment. The most representative quality characteristics are the following:

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 Universal 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.

6 INSTRUCTIONS FOR USE

First, the dentist makes an impression of the patient's oral cavity. The technologist in the dental rehabilitation laboratory fabricates the dental restoration according to the patient's dental model. The technologist prepares the acrylic mass with a combination of acrylic resin polymer and monomer, then it is packaged, the mixture is curing, and finally the denture base is polished.

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Acrylic mixture ratios

Weight ratio: Two parts of polymer + one part of monomer.

Volume ratio: Three parts of polymer + one part of monomer.

For more information consult the instructions for use.

7 COMMERCIAL PRESENTATIONS

Veracril®, Opticryl®, self- curing powder:

Polyethylene bottles: 30g bottle, 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). Wide variety of veined and smooth pink shades.

Polyethylene drum of self-curing acrylic powder per 10 and 20kg (unit).

20 kg - Polyethylene bag, box double wall reinforced of heat-curing acrylic powder (unit).

Metallic drum of self-curing acrylic powder per 125kg (unit).

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

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

Kit: Cardboard Box with a 250g bottle of self-curing acrylic powder and 110 ml of self- curing acrylic liquid.

Kit: Cardboard Box with a 125g bottle of self-curing acrylic powder and 110 ml of self- curing acrylic liquid.

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

Kit: Cardboard Box with a 30g bottle of self-curing acrylic powder and 15 ml of self- curing acrylic liquid.

Kit: 4 bottles of self-curing acrylic powder per 40 g and 2 bottles of self- curing acrylic liquid per 55 ml.

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Kit: 8 bottles of self-curing acrylic powder per 40 g and 2 bottles of self-curing acrylic liquid per 55 ml.

Veracril®, Opti-cryl®, self-curing liquid:

Amber glass bottles: 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 self-curing acrylic liquid per 200 L (unit).

Polyethylene drum of self-curing acrylic liquid per 1 gallon (4 unit).

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

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

Kit: Cardboard Box with a 250g bottle of self-curing acrylic powder and 110 ml of self-curing acrylic liquid.

Kit: Cardboard Box with a 125g bottle of self-curing acrylic powder and 110 ml of self-curing acrylic liquid.

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

Kit: Cardboard Box with a 30g bottle of self-curing acrylic powder and 15 ml of self-curing acrylic liquid.

8 STORAGE AND PRESERVATION CONDITIONS

- Keep the product at a temperature not exceeding 30 °C.
- Keep it away from any flame or spark source, heat and direct sunlight.
- Do not smoke.
- Avoid contact with oxidants, acids, bases, and polymer initiators.

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