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TECHNICAL DATA SHEET
SELF-CURING ACRYLIC RESIN NOVACRYL®
DPFTPT-056

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.

Novacryl® is a self-curing acrylic resin used for the fabrication or repair of provisional restorations as crowns and bridges. Offering a wide variety of colors that are adapted to the physiognomy of each patient.

The polymerization is chemically activated by the addition of a tertiary amine to the liquid component. In this case, the use of thermal energy is not necessary.

2 INFORMATION ABOUT COMPOSITION

2.1 Components of the polymer (type II):

Poly (methylmethacrylate).
Pigments.
Fluorescent additive.

2.2 Components of the monomer (type II):

Methyl methacrylate.
Ethylene glycol dimethacrylate.
Chemical initiator (amine type).

3 PROPERTIES OF THE PRODUCT

Physical properties of self-curing polymers Novacryl® are measured in quality control laboratory by means of specialized equipment according to ISO Standard 20795-1 Denture Base Polymers. The most relevant physical properties are showed in the following chart.

Parameters	Requirements	Average experimental results
Absorption	Not higher than 32 µg/mm^3	17.59
Solubility	Not higher than 8.0 µg/mm^3	3.09
Flexure strength	60 MPa minimum	63.88
Flexural modulus	1500 MPa minimum	1611
Residual monomer content	4.5% maximum (in weight)	3.19

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

The product is used to fabrication and repair of provisional teeth, crowns, and bridges. The main characteristics to allow these 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 contractions of the acrylic.

5 QUALITY ASSURANCE OF THE PRODUCT

The acrylic resin is made of high 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 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 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.

6 INSTRUCTIONS FOR USE

First, the dentist makes an impression of the patient's oral cavity. The technologist in the dental rehabilitation laboratory fabricates or repairs the provisional teeth according to the patient's dental

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model. The technologist prepares the acrylic mass with a combination of acrylic resin polymer and monomer, then it is packaged and finally polished to a shiny surface.

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 refer to instructions for use.

7 COMMERCIAL PRESENTATIONS

POLYMER:

- Polyethylene bottles: 30, 40 and 60 g (box per 200 bottles), 125 g (box per 100 bottles), 250 g (box per 40 bottles), 500 g (box per 24 bottles), 1000 g (box per 15 bottles), and 2.5 kg. Wide variety of teeth shades.
- Polyethylene drum of powder per 10, 20 and 25 kg.
- Metallic drum of powder per 125 kg.

MONOMER:

- Amber glass bottles: 15, 30 and 55 ml (box per 150 bottles), 110 ml (box per 100 bottles), 250 ml (box per 50 bottles), 500 ml (box per 25 bottles), 1000 ml (box per 12 bottles).
- Metallic drum of monomer per 200 L.
- Polyethylene drum of monomer per 1 gallon (box per 4 unit).

Kits:

Cardboard Box with a 1000 g bottle of powder acrylic and 500 ml of liquid acrylic (12 Kit).
Cardboard Box with a 500 g bottle of powder acrylic and 250 ml of liquid acrylic (24 Kit).
Cardboard Box with a 250 g bottle of powder acrylic and 110 ml of liquid acrylic.
Cardboard Box with a 125 g bottle of powder acrylic and 110 ml of liquid acrylic.
Cardboard Box with a 60 g bottle of powder acrylic and 55 ml of liquid acrylic (36 Kit).
Cardboard Box with a 30 g bottle of powder acrylic and 15 ml of liquid acrylic.

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.