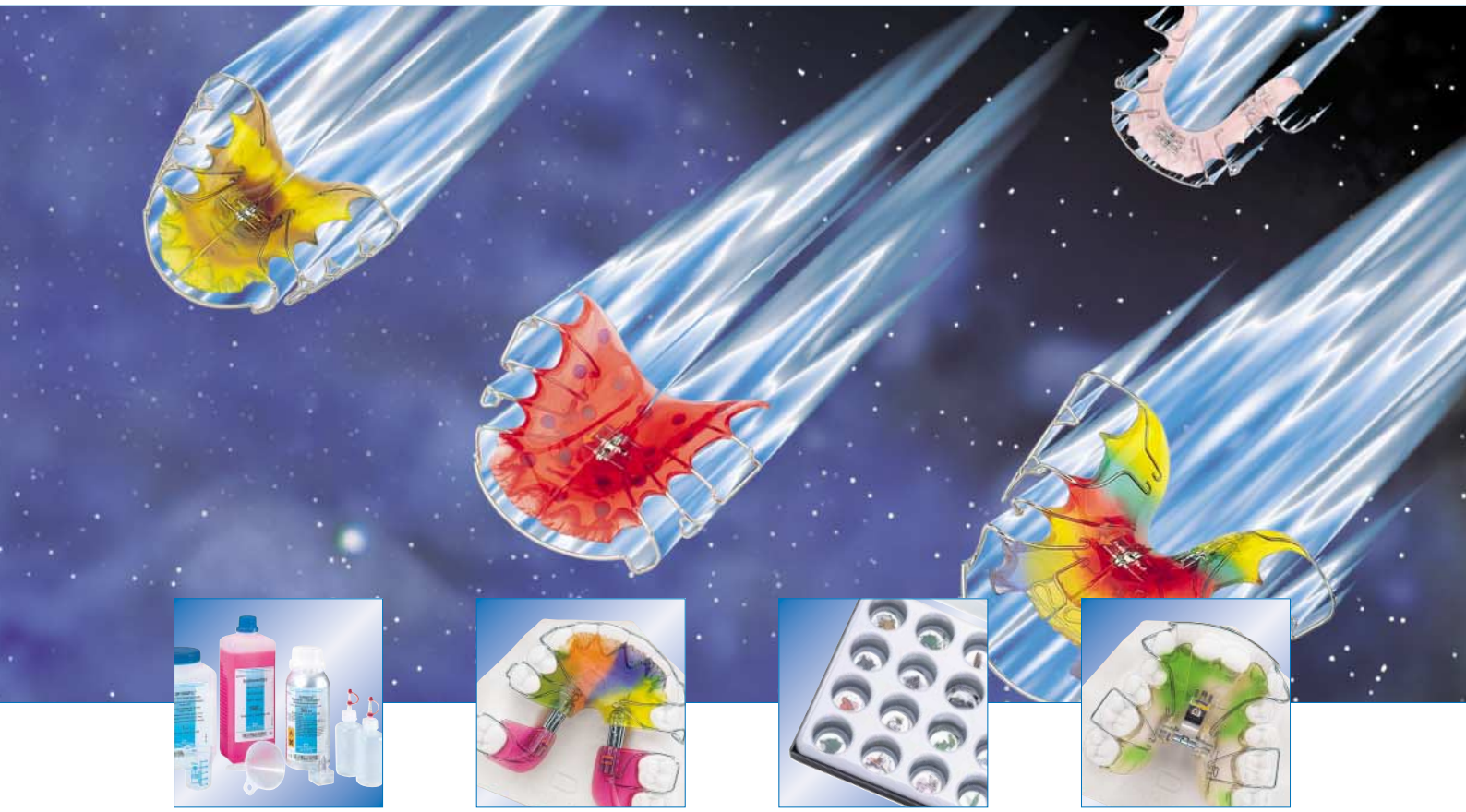


Orthocryl®

Brings more color to life

DENTAURUM

Orthocryl® – The systematic way to success

Orthocryl® is a two-component, cold cured acrylic for orthodontic appliances.

Its two components are Orthocryl® powder (polymer) and the Orthocryl® liquid (monomer). Careful processing of the two components and the use of different colors permit the simple and economical fabrication of individualized orthodontic appliances.

Many different colors and effects

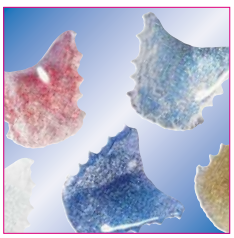
Endless creativity

The Orthocryl® Acrylic colors range from classic shades to modern, funky neon colors. There are various glitter effects which can be used and attractive, novel picture designs. You can let your creativity run wild and provide your patients with a unique and individualized orthodontic appliance they will enjoy.

Scientifically tested

Safety for user and patient

Orthocryl® has been extensively tested, both in a polymerized form as used by the patient and the grinding particles generated during processing. Impressive results proved that this orthodontic acrylic is biologically safe. Orthocryl® is non-toxic, does not cause irri-tation of the mucous membrane and does not contain any mutagenic properties. It has excellent biocompatible qualities.

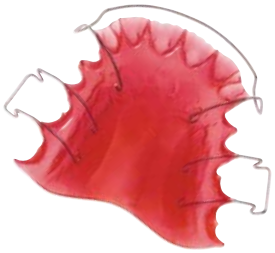


High stability

Easy processing

It is the selection of raw materials and the particular mix of particle size within the Orthocryl® powder which give the acrylic its stability. This has been repea-tedly proven in various tests especially in comparison with other competitive products. The user therefore benefits from quick and easy processing.

Excellent shrinkage characteristics



Best possible fit

It was possible to reduce the shrinkage of the Orthocryl® 2-component cold cured acrylic (powder = polymer,
liquid = monomer) to an absolute minimum. Therefore, Orthocryl® guarantees an unbeatably accurate fit.

Long processing times

Stress-free

The processing times of Orthocryl® have been set so that the technician can work comfortably without
feeling rushed and under time pressure. Better and more effective working results can be achieved quickly through this advantage in every day laboratory life.

Consistant top quality

Reliable results

The many years of manufacturing experience and the very careful, unconditional selection of raw materials are fact enough to reassure the technician he can always depend on the top quality certificate "Made in Germany".

Orthocryl® – Instructions for Processing

Fixing the wire elements

Placing the expansion screw

Sealing the model

Application of Orthocryl® liquid

Orthocryl® is a cold-cure resin that can be processed either by the spray-on (salt & pepper) or moulding technique.

The following steps are required before applying Orthocryl® to the model.

Fixing the wire elements

The wire elements are fixed to the buccal side of the model using adhesive wax. The wire elements should project about 0.5 mm above the model.

Placing the expansion screw

Shorten the lower side of the expansion screw holder to a length of approximately 1-2 mm and fix the screw to the model with Thermowax or cut a groove in the model and insert the lower side of the expansion screw holder into the groove. To avoid pressure points, fill the hollows between the groove and the holder using Thermowax.

Avoid trapping air bubbles in the resin!

To achieve this, place the dry model in water at a temperature of between 40-46°C/104-115°F for about 10 minutes before sealing it. Do not leave the model in the water longer than 15 minutes, otherwise the plaster surface will begin to disintegrate and form a deposit on the surface of the Orthocryl®!

Sealing the model

Sealing the model with a separating medium ensures that the surface of the polymerized Orthocryl® is smooth. Apply a few drops from a dispensing bottle directly onto the soaked stone model (preferably while it is still slightly moist) and brush the drops over the surface. Wires, screws etc. can be dried with compressed air after approx. 30 sec. The acrylic can then be applied.

Always wear gloves when you are working with Orthocryl®, and ensure that the room is well ventilated!

Spray-on (salt & pepper) technique

Using a gentle to and fro movement, apply the Orthocryl® powder to the palatal and lingual surfaces and then wet it immedi-ately with Orthocryl® liquid. When applying powder and liquid, hold the model in a horizontal position.

Apply only as much liquid as the powder can absorb!

As soon as the resin mass becomes too „wet“, add more powder. The special spray bottles for the powder and liquid allow the two components to be applied with maximum care and accuracy.

The appliance can be personalized by using „neon powder“ or by adding coloured liquids or Disco Glitter (all of which involve no risk to health) to the powder. Cartoon characters and other fun images increase the attractiveness of the orthodontic appliances.

Spray powder onto the finished product. This has a „blotting paper" effect, and any excess liquid will be absorbed. This prevents the mass from collapsing and ensures a perfect fit.

Before placing it in the pressure vessel, a scalpel can be used to make a saw cut for the expansion screw. This makes it easier to separate later.

Blotting-paper effect

Saw cut for expansion screw

Making an activator

The models are embedded in plaster in the correct position (functional occlusion) on the fixator. Once the wire elements have been made and fixed in the correct position, the upper and lower jaws are formed by the spray-on technique. Form the occlusion surfaces and join the models on the fixator. When closing the fixator, ensure that the telescopic arm rests correctly on the occlusion lock. In this way an increase in occlusion is avoided. Fill the junction area between upper and lower jaws with liquid and powder. Finally, scatter more powder on the finished product.

Curing

Wait for one full minute after completing the resin mass. Then place the model for curing in the Polyclav® (pressure vessel) containing water at between 40-46°C/104-115°F. Maintain a pressure of 2.2 bars (30 p.s.i.) for 20 minutes.

Polymerisation in a pressure vessel should not be interrupted during the first 12 minutes with Orthocryl® and 8 minutes with Orthocryl® EQ if possible to prevent the formation of microporosity.

Moulding technique

The moulding technique is especially suitable for making bimaxillary appliances.

Mixing ratio

Mixing ratio

In this process, the Orthocryl® is mixed at a ratio of

2.5 parts powder to 1 part liquid

in a mixing bowl to form a dough-like mass. For a large activator, approximately 25 ccm of powder and 10 ccm of liquid are required.

Swelling phase

After about 5-7 minutes (3-5 minutes with Orthocryl® EQ), in a covered dish (or at high room temperatures possibly sooner) the resin mass can be applied directly to the model.

Modeling

First, cover the wire elements with resin. Then place the pliable resin mass on the model and work it into shape.

Covering the wire elements with resin

Orthocryl® – Instructions for Processing

Forming and wetting

Shaping the inner cavity

Closing the fixator

Placing the model in the Polyclav®

Before joining the models on the fixator, the occlusal surfaces must be wetted with Orthocryl® liquid. When closing the fixator, ensure that the telescopic arm rests correctly on the occlusion lock (in this way an increase in occlusion is avoided). Then tighten the locking screw and smooth and complete the model. Cut off any excess material with a scalpel.

Modeling can be done for as long as the „dough" feels cool. Depending on the temperature of the room, the time available for working the resin is about 10 minutes. After this, its pliability decreases and polymerization begins. Place the model in the pressure vessel immediately.

Curing

Once the model is fully formed, place it immediately in the Polyclav® pressure vessel filled with water between 40-46°C/ 104°-115°F and maintain a pressure of 2.2 bars (30 p. s. i.) for 20 minutes (for 15 minutes with Orthocryl® EQ).

Polymerisation in a pressure vessel should not be interrupted during the first 12 minutes with Orthocryl® and 8 minutes with Orthocryl® EQ if possible to prevent the formation of microporosity.

Practical hints

- For filling in undercuts, we recommend our special Thermo-wax (Order No. 120-170-00). This prevents the resin from becoming cloudy.
- If the appliance does not fit correctly, too much liquid has been used. For this reason, the last stage of the spray-on technique must be the addition of more powder. This prevents excessive shrinkage.
- Neon resins are not evenly colored. If this „marble" effect is not desired, it can be avoided using the dough-mixing technique.
- The expansion screw is easier to open immediately after completion of polymerization.
- When adding the sealing agent, do not wet the wires.
- The correct proportion of Disco Glitter is approximately 1/4 to 1/2 teaspoon for 50 g of powder.
- When the spray-on technique is used, the pictures can be included directly following the first layer.

Storing of Orthocryl® acrylics

Powder/Polymer: 10 years, sealed at room temperature

Liquid/monomer: The shelf life is at least 24 months if stored in the unopened bottle at a temperature not exceeding 25°C/77°F. Store the opened bottle in a laboratory refrigerator. Do not store with foodstuffs. Protect from contamination and direct sunlight as this may cause premature polymerization.

Hints for reducing the remaining monomer content

To reduce the remaining monomer content the completed appliance should be immersed int water for three days, if possible, before the patient uses it. The watering has the effect that the remaining monomer is reduced to values similar to those of heat-curing synthetic resins. Should this not be possible, it is recommended that the patient also places the appliance into water, during the tim it is not worn.

Excerpt from article "Beitrag zur biologischen Beurteilung kieferorthopädische Kunststoffe" in "Fortschritte der Kieferorthopädie 2000, 61 246-257 (No. 4)."

Hints for the hygiene

Appliances should be cleaned regularly and stored in water when not in use to prevent problems with hygiene. This procedure prevents crack corrosion or brown discoloration of the wire components.

Availability

The complete delivery program is listed in our orthodontic catalogue (Order-No. 989-781-00).

Training courses

More efficiency through technical expertise

Experienced instructors teach participants the skills required for the easy making of orthodontic appliances. Materials and equipment are perfectly adapted for one another and facilitate working procedures.

We offer the following courses in the orthodontic field of "removeable appliances":

- **Basic orthodontics, part I**
  Course target: fabrication of plate appliances
- **Basic orthodontics, part II**
  Course target: fabrication of bimaxillary appliances.

In addition, we hold courses on a number of specialized subjects such as Fränkel devices, Hansa devices, the Herbst® appliance and the Schaneng flexible forward thrust double plate system.

For further information on our training courses, write to us or call us at the following address:

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For questions regarding the application of our products, please contact our orthodontics department.

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- we reserve the right to make changes -

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