

## 87030 & 87031 BEVA® 371

### Directions for Use:

These instructions for use are based on publications by Gustav Berger regarding the many applications of Gustav Berger's Original Formula 371, which is abbreviated as BEVA® 371 in the text below. All work with BEVA® 371 products should be carried out in a well-ventilated room.

### 1. Preparation of the adhesive:

Remove approximately 1/8 (125 ml) of a fresh 1 liter can of BEVA® 371 and make up with approximately the same amount of aromatic solvents or xylene (as a drying retarder) or a mixture of both solvents. This will give a 37% solution. Cover the can, do not seal, and heat in a water bath until the solution is clear and liquid. Stir occasionally.

In this form, BEVA® 371 is the standard adhesive for doubling and can be applied to either the old canvas or the new picture support. The best way to apply the adhesive is with a lambskin roller. The roller can be dipped directly into the BEVA® can or picked up from the ink roller tray. After use, the excess BEVA® 371 can be scraped from the roller directly into the BEVA® can. For storage, the roller is removed from the handle and placed in an aromatic solution. If the roller is used frequently, it can be wrapped in thin hostaphan film to prevent it from drying out. By using all the remnants, there is almost no waste, even the storage solution can be reused.

### 2. Preparation of the painting:

The painting can be prepared for doubling as follows. Depending on the condition of the painting, the following steps may be necessary (order as follows):

- secure the painting layer
- remove the painting from the stretcher frame, lay out the stretcher edges flat
- consolidate loose layers of paint
- glue cracks and close holes, putty. In case of poor previous putties, remove the old varnish and correct the putties.
- If necessary, varnish the painting to protect it.
- Place the painting with the painting layer down on a plate with silicone-coated paper. Tape the stretching edges to the board to prevent the painting from shifting. Carefully remove canvas knots, nubs, and weave irregularities with a scalpel, do not sand.
- Flattening deformations of the painting surface
- Depending on the desired penetration depth, either coat the back of the painting with BEVA® 371 or spray it with an 8-10% BEVA® solution (in aromatic solvents and/or toluene 1:3 or 1:4). Allow to dry overnight.

In order to avoid unnecessary exposure to solvent vapors, work with BEVA® 371 is best carried out under a fume hood or with an appropriate respiratory protection mask..

### 3. Preparation of textile back:

Some operations in the preparation of the painting require drying periods. During these breaks, the doubling canvases can be sprayed with BEVA® 371 and primed in this way.

Berger uses the following layered construction:

- A "sandwich" construction of fine, flexible, synthetic material, e.g. Dacron polyester. The finer and more uniform the fabric, the better.
- a hostaphan film (Melinex) intermediate layer (optional)
- a carrier fabric

While the "sandwich" structure and backing fabric can be prepared, stored and cut to size as needed in stock well in advance of use, the hostaphan film interlayer should be prepared just prior to use.

#### **4. Preparation of the "sandwich" structure and the support fabric:**

The fine polyester fabric should be lightly pinned to a large screen and sprayed with a thin BEVA® 371 solution from both sides. Allow to dry.

The backing fabric is prepared similarly, with the difference that only the side to be bonded is sprayed with BEVA® 371.

#### **5. Preparation of the intermediate layer**

Cut a piece of heavy hostaphan film (125-150 µm thick), about 5-7 cm larger than the painting.

The hostaphan film serves as an intermediate layer, which provides enough stiffness to protect against deformation and also a good moisture barrier.

The cut piece is lightly stapled to a plate covered with siliconized paper.

The intermediate layer is coated with a closed layer of BEVA® 371. Since the hostaphan film does not absorb the BEVA® 371, this layer dries in about 15 minutes. The hostaphan film is then turned over and the reverse side is also coated with BEVA® 371.

The dry Hostaphan film is placed on clean cardboard. The painting is placed on top with the image layer facing up. The painting outline is marked on the hostaphan film with a thin foil pen. The painting is removed and an additional line is drawn about 3 mm inside the outline.

The intermediate layer is now cut according to the inner outline, i.e. slightly smaller than the painting. Since painting canvases are often somewhat irregular, it is best to cut the hostaphan film with scissors. This should be done just before doubling to avoid soiling the hostaphan foil.

#### **6. Vorbereitung der Klebung:**

The low-pressure heating table should be carefully cleaned. It should be noted that when working on the heating table, any unevenness, whether of the table or in one of the layers to be bonded, will be visible during doubling. Therefore, before bonding, each layer must be inspected for impurities.

- The procedure is as follows:
- - Cover the table with hostaphan film approximately 25-40 µm thick. Hostaphan film is preferred over silicone-coated paper, as the latter rarely stays flat on the heating table. (Experienced users can omit this step as the BEVA® 371 will not penetrate the canvas if used properly).
- - Place the doubling screen on the hostaphan film or heating table with the BEVA® 371 coated side facing up.
- - Place the dry, cut interlayer on the doubling screen and align it precisely.
- - Using the heating spatula, lightly glue two adjacent corners of the intermediate layer to the doubling screen to prevent slipping.
- - Place the "sandwich" layer on top of the intermediate layer. Using a pencil or chalk, copy the outline of the intermediate layer onto the "sandwich" layer. Starting from the center, smooth the surface with both hands.
- - While the painting is still attached to the board, cut the four corners of the basting edges, aligning the painting within the marked outline on the "sandwich" layer. If it is impossible to cut the tacking edges, marking points can be placed to show the exact position of the corners.
- - place the painting on the "sandwich" layer with the painting layer facing upwards and align it with the help of the marking points. Press lightly to accurately align the layers together.
- - Place vent valves around the corners of the painting.
- - Cover the entire layer structure with the membrane, apply vacuum



- Do not heat the table immediately! Before doing so, the layer structure should be checked again, this time "under pressure". A better vacuum can be achieved in the cold state, the air can escape more easily.
- Heat the table to a total surface temperature of the painting of 65°C (150°F). Place at least 5 flat thermometers for each corner and center, and for each heating element of the table. Please do not rely on electronic thermostats and/or contact thermometers!
- Cool slowly under vacuum to at least 85-90°F (35-40°C). Research by Russell and Berger has shown that rapid cooling places too much stress on the painting.

In this doubling structure, a porous layer alternates with an air-impermeable layer. Good air escape and uniform pressure distribution within the layer structure are thus made possible. In this way, even a slight negative pressure can be used to achieve uniform doubling. In the above process, the use of a membrane is not absolutely necessary. The vacuum can be adjusted so that the individual layers of the laminate are joined together without the need to apply pressure to the painting surface.

**Important:**

It is essential to use silicone paper above and below the areas to be bonded. BEVA® 371 adheres to Teflon, to hostaphan film and to all other surfaces. Paintings must not be mounted directly with BEVA® 371 on rigid picture supports, in such applications an intermediate layer of fine mesh is essential.

**Removal of BEVA® 371 doubling:**

The painting is placed on a heating table, aromatic solvents are sprayed on the back or applied with a brush. The back of the canvas is covered with hostaphan film. The heating table is preheated to about 50-55°C (120°F). After 5 minutes, check whether the doubling can be removed. If not, the procedure described above is repeated. When the BEVA® 371 has softened sufficiently, the doubling can be easily removed without stressing the old canvas. For a larger painting, the doubling removal should be carried out in sections.

References::

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