

INSTRUCTIONS

ImagePro[®] Super

PHOTO RESIST FILM

ImagePro[®] Super is one of the most user-friendly photo resist films on the market today. With its popular white-light tolerance, wide exposure latitude and inherent durability, you'll be on the way to sandcarving success in no time.

ImagePro Super is perfect in most climate temperature conditions with the exception of high humidity areas where ImagePro[®] Red is the preferred photo resist. The pliable quality of ImagePro Super makes it an ideal product when working on curved surfaces and sandcarving in cool, dry temperatures. Furthermore, ImagePro Super requires no blotting, which makes the entire process that much more efficient.

ImagePro[®] Super photo resist film is available in 3 and 5 mil thicknesses, and is available in both rolls and cut sheets.

- Excellent Pliability for Curved Surfaces
- Tremendous Durability in Cool, Dry Areas
- Wide Exposure & Development Latitude
- User Friendly
- White Light Tolerant
- Detailed Resolution
- Environmentally Safe

MATERIALS NEEDED

Required

Exposure Device
Washout Equipment
Adhesive
Blast Equipment

Recommended

Contact IKONICS Imaging for a list of recommended equipment and supplies.

SAFETY CONSIDERATIONS

Refer to MSDS for safety information.

LIGHT SENSITIVE PRODUCT

ImagePro[®] Super film is a light-sensitive product. Although it has some tolerance to white light, for optimum results it should be used in yellow or safe light conditions. General purpose gold or yellow fluorescent or incandescent lights, red ortho-safelights or yellow bug lights can also be used. Contact IKONICS Imaging for information on safe lights.

STORAGE

- Store packaged film in a cool, dry area.
- Do not refrigerate.
- Shelf life is indefinite. IKONICS Imaging warrants this product free from defects for 12 months.

ARTWORK DEVELOPMENT

1. Generate positive or negative artwork. For best results, artwork should have dense black areas, with crisp, clean line edges. Film or paper positives are acceptable.
- Acceptable **film positive media** includes AccuArt[™] brand water resistant inkjet film, stat camera or image setter. Film positives or negatives are recommended for halftone artwork (35-45 dpi). Transparencies are not recommended.
- Acceptable **paper positive media** includes vellum or Positive FX Drafting Film output by a laser printer or professional photocopier.

Please note that results may vary based on equipment, toner quality, and media used. A toner enhancement spray, such as UltraBlack, will increase the density of the artwork resulting in a higher quality mask.

Front Blast — Positives or negatives should be right-reading emulsion (toner) side up.

Back Blast — Positives or negatives should be right-reading emulsion (toner) side down.

FILM EXPOSURE

1. Place the ImagePro Super, shiny side away from the exposure unit light. The dull, or the emulsion side will be facing towards the exposure unit light.
2. Place the photo tool with the toner, ink, or emulsion side down on top of the dull side of the ImagePro Super film.
3. Expose. See suggested light sources and exposure times chart.
4. Once exposure is complete, remove from the exposure unit.

HELPFUL HINTS

1. A vacuum or compression frame should be used to assure firm contact. This will keep light from getting under the black areas of your photo tool.
2. Overexposure will cause a long, difficult washout. Overexposure will happen quickly with fine lines.
3. Underexposure will cause the image to washout prematurely resulting in detail loss.
4. Be sure to have a non-reflective black backing opposite your UV light source to avoid possible reflection causing overexposure.

Suggested Light Sources & Exposure Times (all thicknesses)

Light Source	Distance	3 mil	5 mil
5 KW Metal Halide	40 in/100 cm	10-15 sec.	15-25 sec.
26-1K	18 in/45 cm	30-50 units	45-60 units
Letralite	n/a	60-90 sec.	90-120 sec.
QuickImage	n/a	7-15 sec.	7-15 sec.

IMAGE DEVELOPMENT

Hand-held devices:

1. Position the exposed ImagePro Super in an upright vertical position with the emulsion (dull) side of the film facing outward. Commonly used support plates are white clipboards; metal covered with white contact paper using magnets to keep the film in place, or lighted washout booths fit with a film clamping system. Backlit booths with UV safe lights or white backgrounds make it easier to see when ImagePro Super is fully developed.
2. Washout the film with warm water up to 120°F (49°C). The warmer the water, the faster the washout.

3. Spray using even strokes until the image area develops clear. Do not concentrate on one area as distortion of the image may occur.

HELPFUL HINTS

1. Washout times are influenced by the amount of detail in the artwork. The finer the detail, the longer the washout.
2. Washout times are also influenced by the water temperature and the amount of water pressure used. The warmer the water and the higher the water pressure, the faster the washout

FILM DRYING

1. Remove excess water from ImagePro Super to accelerate the drying times. This can be accomplished by using pressurized air.
2. At room temperature, ImagePro Super will dry in 20-40 minutes. Once dry, ImagePro Super will be uniform in color and should not be tacky to the touch. High humidity may extend the drying time to 30-60 minutes.

3. For faster drying times, use the PB500 Dryer. The PB500 Dryer will dry four sheets of ImagePro Super in approximately 10 minutes.

Note: At 100°F (49°C), drying will take approximately 10 minutes.

ADHESIVE APPLICATION

IKONICS Imaging Application Adhesive is water-soluble and can be applied by brushing it directly onto the substrate.

1. Apply a thin, even coat using a foam brush.
2. The adhesive has a white, milky color during application and dries to a clear finish. Drying takes approximately 10 minutes.
3. After the adhesive turns clear, there is an approximate two hour window to apply the mask to the adhesive before loss of tack occurs.
4. Apply the mask to the adhesive. Use a squeegee or roller to prevent large wrinkles or air pockets under the mask.

5. Once the mask is placed on the adhesive coated area, bonding between the mask and substrate will improve over time. Object(s) can sit overnight or for days without causing tack deterioration.
6. Store adhesive with the cap/spout closed at room temperature. To prevent contamination, never pour used adhesive back into the container for re-use.

HELPFUL HINTS

1. To completely eliminate the adhesive step, try one of our self adhesive products: RapidMask™, UltraPro™ Blue, or UltraPro™.

IMAGE TRANSFER

After applying the mask, check for the following prior to blasting:

1. Avoid wrinkles or large air pockets. Air pockets under the mask may cause lack of adhesion resulting in blow-offs during blasting.
2. A good transfer may result in very small bubbles on the mask surface which will not interfere with either the transfer or the blasting.
3. Apply pressure to the back of the mask to assure firm contact of the mask to the adhesive.

4. Carrier Removal
 - a. Apply pressure to the mask to assure firm contact to the substrate.
 - b. Flick a corner of the mask to loosen the carrier sheet. Remove.
 - c. Check for any large air pockets. Air pockets under the mask can affect adhesion and may result in blow-offs during blasting.
 - d. Pop any large air bubbles with a pin and tape over the area to avoid blast through.
 - e. Tape non-stenciled area with masking tape to prevent unwanted etching.

SANDCARVING

1. Hold the blast gun approximately 4 – 6 inches away and perpendicular to the object. Move the blast gun evenly over the image area to create a smooth, even etch.
2. When using a pressure-pot system, such as the CrystalBlast 3624, the recommended blasting pressure is 25-35 psi for 3 mil and up to 40 psi for 5 mil.

3. When using a siphon system the recommended blasting pressure is 60-80 psi.
4. Recommended abrasive is 180 or finer depending on the image detail. Aluminum oxide and silicon carbide are most commonly used.
5. For stagecarving or deep carving, use ImagePro Super 5 mil.
6. Recommended blasting temperature is 68°F (20°C) or warmer.

MASK REMOVAL

ImagePro Super is a water soluble product. Soaking in warm water is a very fast way to remove the mask with little risk of damage to the substrate. This method is the preferred method for large production runs. An alternative method is to peel the mask from the substrate. The majority of the mask can be peeled up in one large

piece. Fine pieces, such as centers of letters, can be removed by rolling them off with your fingertips or water. This is the preferred method for small production runs or for applications where water cannot be used.

United States Patent No. 5,427,890
United States Patent No. 5,629,132
Canadian Patent No. 2,041,521



IKONICS Imaging, 4832 Grand Ave., Duluth, MN 55807, USA
PHONE 218-628-2002 TOLL FREE 800-643-1037 FAX 218-628-2064
E-MAIL info@ikonicsimaging.com WEB www.ikonicsimaging.com