

# RapidMASK®

**RapidMask Photoresist Film** is a dry process film and one of the most user-friendly photoresist films designed and manufactured by IKONICS Imaging and DuPont®.

No washout required, no adhesive application and an effortless slip sheet and carrier sheet removal, RapidMask High Detail photoresist film will provide a simple, creative and productive sandcarving experience. RapidMask High Detail Film offers:

## HIGH DETAIL

**2 Mil Film (For halftones & light etching)**

- No Washout
- High Detail
- Self Adhesive
- User Friendly

**RapidMask High Detail Photoresist Film:** offers 2 mil thickness and is available in roll and sheet formats.

### STORAGE

- Store packaged film in a dark, cool, dry area.
- Shelf life is approximately 2 years. IKONICS Imaging warrants this product free from defects for 12 months.
- To extend shelf life, film may be refrigerated.
- Do not freeze

### SAFETY CONSIDERATIONS

[REFER TO SDS](#) for safety information. Wear eye and hand protection.

### MATERIALS NEEDED

#### Required

- Phototool
- Exposure Device
- RapidMask photoresist film/masks
- Blast Equipment
- Substrates

#### Recommended

- [Wire Wheel](#)
- [Smart Jig](#)
- [Squeegee](#)
- Dust-free Cloth
- Glass Cleaner

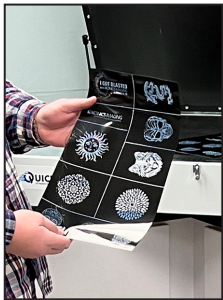


### LIGHT SENSITIVE PRODUCT

RapidMask Film is a light sensitive product, until fully developed (*after step 3*). RapidMask Film has some tolerance to white light, however, it should be used in yellow or safe light conditions for optimum results. Safe light sources include general purpose gold or yellow fluorescent or incandescent lights, red ortho-safe lights, or yellow *bug lights*. If safe light sources are unavailable, white LED room lights are preferable over white incandescent or fluorescent lighting during processing.

**Warning:** Exposure to direct or indirect sunlight will partially or completely expose RapidMask Film.

## STEP ONE: CREATE ARTWORK/PHOTOTOOL



Artwork should be created with a dense black background, with crisp, clean line edges. The highest quality and best value phototools are created by inkjet printing artwork onto specially coated inkjet film. AccuBlack® Inkjet film is recommended.

#### Alternative Technologies for phototool creation:

- Both stat cameras and image setters offer high quality at a premium price.
- Paper positive media like laser printed vellums or Positive FX Drafting Film can be less expensive but offer marginal performance.

**NOTE:** RapidMask Film uses a *photonegative process*, meaning the clear portions of the phototool will ultimately be engraved. **“Clear = Blast”**

Artwork should include at least a 1/4” black border, which will assist in the removal of the carrier sheet and for masking off. For further information and basic instruction on artwork setup and advanced decorative techniques such as back blasting, stage carving, color-filling, and more, visit us online at [ikonicsimaging.com/artwork-s3-faq](http://ikonicsimaging.com/artwork-s3-faq) or scan the code below.



## STEP TWO: EXPOSURE TESTING

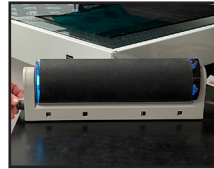
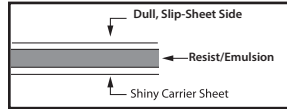
When UV light passes through the clear areas of the artwork, RapidMask High Detail turns BLUE and brittle in those areas. The unexposed film (black area of artwork) remains green and rubbery. DO NOT underexpose RapidMask High Detail. The film must have sufficient exposure energy to become brittle. Since exposure units are not alike, follow the detailed set up instructions to ensure consistent results.

1. Cut several test strips of film (approx. 0.5” × 3”).
2. Place a strip under a clear piece of artwork in the exposure unit so light passes through the artwork first. Start with 90 seconds if using a Letralite.
3. Remove strip of film and note that it turned blue. Now bend it in half with the slip sheet out and crease it. It should make a “snap” sound when creased. If not, more exposure time is needed.
4. Repeat test using a new strip of film adding 10 sec. more exposure for each strip tested. Repeat this test until the film is dark blue and snaps when creased. This is the proper exposure time setting for RapidMask High Detail in your particular unit.

**NOTE:** The slip sheet side can be identified as the “softer” side when scratched with a fingernail, or as the inside layer within the natural curl of a sheet of RapidMask. The carrier side can be identified as the harder, “shiny” side and cannot be scratched with a fingernail.

## STEP THREE: EXPOSE

1. Position phototool and RapidMask film in exposure unit. Place the printed side of the phototool against the dull slip sheet side of the RapidMask film in the exposure unit, so that the phototool is between the light source and the RapidMask film. **HINT:** RapidMask's slip sheet side is duller in appearance than its shiny carrier sheet side.



2. An ultraviolet (UV) exposure unit with a vacuum frame should be used to assure firm contact between the artwork and the RapidMask film during exposure.
3. Be sure to have a non-reflective black backing opposite your UV light source to avoid possible reflection causing overexposure.
4. Expose using the suggested times listed.

## SUGGESTED LIGHT SOURCES & EXPOSURE TIMES

Light Source	Distance	Exposure Time
5 KW Metal	40 in/100cm	40 units
26-1KS (1KW)	18 in/45cm	60 units
Letralite	n/a	1.5-2 min
QuickImage	n/a	60-75 sec

**NOTE:** Exposure times are suggested only as a guide. All exposure times are approximations and will vary based on type of UV light source used, age of light source, and local voltage ranges. Exposure times can also vary based on the type of phototool used. Contact IKONICS Imaging for additional exposure information.

## STEP FOUR: MASK APPLICATION

### CAUTION:

- Used alone, RapidMask is not a suitable film for use with acrylic substrates. The peel after sandblasting is difficult, and becomes more difficult if the film and substrate are soaked in water.
- For applications excluding glass, RapidMask may stain the substrate. The staining appears within 2 hours of film application to the substrate. Testing the substrate is highly recommended.

1. Clean the substrate using a glass cleaner to remove dust and fingerprints. Trim any exposed (blue) edges prior to application. Remove slip-sheet. It is easily removed from the emulsion by separating it with your fingernail or by using the tape method. To use the tape method, apply a piece of tape to the slip sheet side of the film, then gently pull apart.
2. Spray the mask (adhesive side) and substrate with a light mist of water. Place the film on the substrate and when positioned correctly, squeegee the carrier side from the center out to remove the water between the substrate and the film. Squeegee the entire surface well to ensure proper adhesion.

3. The shiny carrier sheet will still be covering the film. Remove the carrier by flicking a corner with your fingernail or an X-ACTO<sup>®</sup> knife. After removing the carrier, press down on the image area with your thumb to ensure firm contact. Pay special attention to anchor fine details and small lettering. Carefully mask all edges. Let sit 15 minutes to optimize adhesion before starting to etch.



**NOTE:** Avoid wrinkles or large air pockets. Air pockets under the film may reduce adhesion, resulting in blow-offs during blasting. If unable to remove air bubble by repositioning, simply pop the bubble with a pin and tape over the pinhole to avoid blast through.

A good transfer may still result if very small bubbles under the film surface. Tiny bubbles typically do not compromise the integrity of the film during blasting.

After removing the carrier sheet, bubbles can be eliminated, and adhesion can be ensured by rolling a wire wheel back and forth over the film's surface.

## STEP FIVE: BLASTING



1. Hold the blast gun 4-6 inches away from the object at an angle perpendicular to its surface. Move the blast gun evenly over the image area to create a smooth, even etch.

2. Recommended maximum pressure for a pressure-pot sandblast system is 20-30 psi. A siphon (or suction) sandblast system should not exceed 40-60 psi.

3. Grit size should be 180 or finer depending on the image detail. Grit size 220 is recommended for doing halftones above 40 dpi. Recommended abrasive media is either pure aluminum oxide or silicon carbide. All manufacturer safety precautions should be closely followed.

4. Recommended blasting temperature is 68°F (20°C) or higher. Blasting in lower temperatures may result in loss of adhesion or blow-offs.

5. When blasting, you will notice the blue areas of the film will lighten and then disappear. Continue blasting until all "blue" areas of the film have disappeared and the desired etched pattern / depth is achieved.

## STEP SIX: MASK REMOVAL

Peel the masking material from the substrate or soak the object in warm/hot water for 10-15 minutes. Fine pieces of masking material can be removed by rolling them off with your fingertips. **CAUTION:** Be careful not to scratch the substrate.

RapidMask<sup>™</sup> is a trademark of DuPont. The information set forth herein is based on data believed to be reliable, however, IKONICS Imaging and the DuPont Company make no warranties express or implied as to its accuracy and assumes no liability license to operate under, or recommendation to infringe any patent.



MADE IN AMERICA &  
DISTRIBUTED GLOBALLY  
FOR OVER 65 YEARS



www.ikonicsimaging.com  
(800) 643-1037

An IKONICS Company  
ISO 9001 Certified