



SHOTBLAST ENGRAVING MASK SYSTEMS

HOW TO CALIBRATE YOUR EXPOSURE UNIT

Objective

To reliably produce PrecisionMasks™ with the maximum possible shotblast resistance for a given level of detail.

Light Source

We recommend using a single, metal halide, light source of around 365 - 420 nanometers and 1 - 2 kW, at a distance of 750 - 1000mm from the image.

Calibration

This very simple method gives highly accurate results. The task is to find out what setting your exposure unit requires to **just** give full colour change in the PrecisionMask™ film. You will need a small piece of opaque card.

- a) Expose a small strip of PrecisionMask film for around two minutes (see note 1).
- b) Then cover one end of this strip with opaque card and re-expose for the same time again. Carefully look at the strip in white light, or daylight. If you can see a colour difference between the two areas, go to (c). If there is no colour difference, go to (d).
- c) Repeat the test with a new piece of film, using an increased exposure time.
- d) Repeat the test with a new piece of film, using a decreased exposure time.
- e) Repeat the tests, adjusting the exposure time up or down as required (substantially at first and then steadily narrowing it down), until you are satisfied that you have established the minimum exposure beyond which there is no further colour change. This is your exposure setting.

Notes -

1. The exposure setting will vary from one part of your exposure unit to another. It will be shorter directly over the bulb and longer toward the edges. We recommend staying within a working area of around 400mm radius of the centre and that you calibrate two exposure settings. One at the edge of this working area (the "General" exposure setting), the other at the centre (the "Centre" exposure setting).

2. The exposure settings will vary, depending upon the type of artwork original being used. The clear film from a camera or imagesetter can be disregarded, but you will need to increase your settings by around 15% when using a milky laser film product (easily checked by doing a further calibration through the film).
3. These exposure settings need checking from time to time, particularly if you are doing sensitive work such as halftones or Intaglio, check them:-
 - at least every two months and
 - when you fit a new bulb, or
 - when you change from one batch of film to another (shown by a change in the first four numbers of the batch number).

Using the Results

For general work.....

Use the General Exposure Setting.

For fine detail.....

Reduce the exposure to around 60% of the General Exposure Setting.

For halftones & extremely fine detail.....

Only use the area directly over the bulb for this and reduce the exposure to around 30% of the Centre Exposure Setting. You can go lower than this but the lower the exposure, the thinner the mask that is produced. If you go too low, the shotblasting may penetrate the mask, producing a speckled effect around the engraving.

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