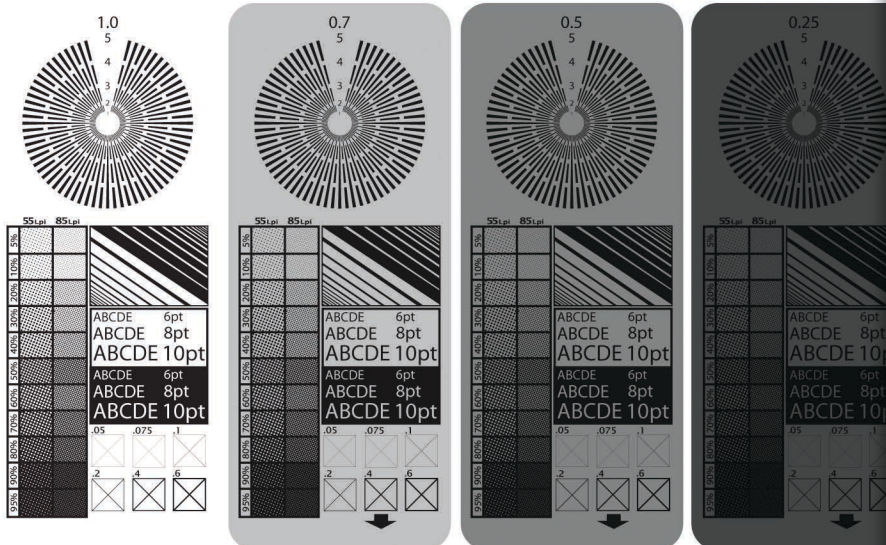


Chemical Consultants Inc. Exposure Calculator



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Direct stencils and capillary film are fully exposed when the area between

Chemical Consultants Inc. Exposure Calculator Tool.

The CCI exposure tool will help you to verify proper Resolution and Exposure of your stencil. This exposure tool uses neutral density filters that will give you one shot calculation to narrow down your exposure times. The filters give you four different exposure percentages of 70%, 50%, 25%, 10% and a fifth area of 100% or 1.0 of normal clear film. These five columns will help you find your proper calculation for correct exposure.

Instructions For Use:

- 1.) Coat and dry the test screen, if doing multiple tests use two or three screens per mesh count with the same coating technique. Record the test parameters: mesh type, tension, emulsion type, coating type, stencil thickness, RZ value, type of exposure lamp, and distance of lamp from test screen.
- 2.) Place the CCI exposure tool on the substrate side of the screen, noting the side of the film that says "Expose from this Side" and place that side on the screen that would be facing the glass and the light source.
- 3.) Expose the screen at twice the estimated exposure time.
- 4.) Develop and wash-out the image area from both sides of the screen with normal tap water. Note that there will be areas in the image in the different boxes that are milky in color and are under exposed. For Diazo sensitized emulsions look at the squeegee side to verify the correct density box that has **No Color Change**. For SBQ "Pure Photopolymer" emulsion use the squeegee side to determine the correct color of the density boxes. The SBQ emulsions will be narrower and harder to see the columns than the Diazo sensitized emulsions. Evaluate the steps, look for the box that has **No Color Change** and it looks the same color as the area on the screen around the calculator. This step is fully exposed.
- 5.) Dry the screen.

6.) Look at the Resolution of the stencil in the area that has **No Color Change**. Determine the area with the best range of halftone in the 85 and 55 line boxes. Look at the dots from 5% to 95%. Make sure that they are open and all there. Look at the center of the wheel in the top of the graphic, make sure that it is not closed up or washed off. Use these factors along with the **No Color Change** area and determine the optimal exposure factor.

7.) When you have determined the column in the calculator that has the best image and is close to the **No Color Change** area, then look at the top of the column and use the factor # to determine your next test. For example: if the **No Color Change** area is at the .5 column then multiply the exposure time used by .5 and repeat steps 1 through 5 and RETEST.

8.) When looking at the colored columns that has the **No Color Change** column, the column with **No Color Change** should come back left into the 1.0 column or 100% normal film. If it has analyze the halftones and the wheel to see if the Resolution is correct. If the Halftones are open you have found your correct exposure. If the halftone is closed then readjust the exposure 5% or 10% less time to open the closed halftone and RETEST until the resolution is correct and the **No Color Change** column is in the same area. If the Resolution is correct and the **No Color Change** column are in the column as the Resolution then you have found the correct exposure.

Keep track of your exposure times by establishing a time for each coating technique and for each mesh count and mesh color, All of these things will change the expose time. Establish a correct exposure so that you can repeat it time and time again for proper stencil making.

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