

The Crossover Made Easy

The crossover still causes confusion. It is important to understand that the running of the films for the crossover is to be done **all on one day** in order to eliminate the normal variances that change your QC chart each day. Simply put these are due to:

- Changes in replenishment amounts and variations in # of films run each day
- Oxidation, condensation and evaporation due to length of time processor ran and environmental changes.

By running all the films on the same day during the same time period we are finding the true variation between the “old” and the “new” emulsions. We are then comparing “apples to apples”. The following is a simple way to guarantee it is performed correctly.

Step-by-Step Process to the Perfectly Performed Crossover

1. Perform the processor QC and check that Mid or Medium Density (MD), Density Difference (DD) and Base + Fog (B+F) are w/in limits for the Operating Level (OL) but do not plot these numbers.
 - a. If within limits, now run 4 more from the “old” box and 5 from the “new” box.
2. Average the numbers for the “old” film emulsion for MD, DD and B+F.
 - a. Now plot the “old” averages for MD, DD and B+F as you would normally chart the daily processor QC results.
3. Average the numbers for the “new” average film emulsion MD and DD and B+F but do not plot these numbers.
4. Determine the difference in the averages from the “old” to the “new” emulsion. This will normally result in a higher or lower number for MD, DD but usually stays the same for B+F.
5. Update the chart with the “new” emulsion differences by:
 - a. Adding the difference of the “new” emulsion to the “old” OL if there was an increase in any MD, DD and B+F.
 - b. Subtracting the difference of the “new” emulsion from the “old” OL if there was a decrease in MD, DD and B+F.
6. Finally plot the average of the “new” emulsion films for MD, DD and B+F.
7. You will know you have done this correctly if the “new” emulsion averages plot on the exact same “old” emulsion plot point(s) that you originally plotted in step #4 above.
 - a. If not, check to be sure you correctly marked the “old” plot points first and then the “new” plot points. If these are correct then unfortunately it is usually a mathematical error so you must recheck the math for emulsion averages or differences calculations.

Valuable "tricks of the trade"

- Since there can be differences in emulsion sensitivity even within a single box of film use film from differing parts of the box rather than the first 5 of the "new" box and the last 5 of the "old" box. This means that you would set aside at least 5 sheets from the "new" to use on the day that it is the "old" emulsion.
- Put some type of a marker at the point of this saved film in the film bin so that you know the day has arrived.
- Consider setting aside 10 sheets of film from the "old" emulsion as there may be a reason that you may not want/be able to perform the crossover when you come to the saved 10 films such as:
 - The processor is out of compliance on the day of the crossover and you only had 5 pieces of film left (it happens to the best of us unfortunately)
 - Processor was just or is about to be serviced (this should not cause problems but let us not take a chance.)
 - A holiday is coming up (yeah!) and you are going out of town.

I hope that this will make the next crossover experience one that you will remember more fondly than usual.

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