

## Some Issues on Micrographics

by Ronald Archer

"micrographics"  
"reprographics"  
"microfiche"

These words sound impressive and sometimes have a mystical ring to them but what is the true and basic meaning of these words? "Micro" means small or little and "graphics" means pictures. "Repro" - according to Webster's Dictionary, means "a clear sharp proof made from a letterpress printing surface to serve as a photographic copy for a printing plate." Graphics, as I said before, is a picture. Common usage of the word reprographics is "making copies from originals".

So to remove the mystique from this subject, we are looking at ways and means of "making little pictures". Now you must admit that the term Micrographics Advisor has a much more impressive ring to it than - "Advisor on little pictures". This confusion of terminology and embellishment of the language, however, is continued and encouraged by the industry which makes and sells the equipment for "making little pictures". They use terms like:

<u>Micrographic Laboratory</u>	What is really meant is a room or a series of rooms, where pictures are taken and film is processed.
<u>Microfiche</u>	A 4x6 inch (or 105x148 mm) piece of film with photographically reduced pictures on it.
<u>Microform</u>	A generic term covering the whole family of microfilm.
<u>Resolution</u>	The sharpness and clarity of a picture.
<u>Density</u>	The opacity or darkness of the background.
<u>60 frames or 98 frames</u>	The total number of pictures which can be contained on a microfiche. Generally, the pictures are arranged either in 12 rows and 6 channels or in 14 rows and 7 channels.

The following terms are used when referring to film: archival or silver halide, diazo and vesicular. These terms refer to film type or to the processing of the film.

Essentially micrographics is a simple, inexpensive method of document delivery or the moving of information from a repository to a user, in an efficient and inexpensive manner. Why is it that a photocopy is usually considered a one-time only, throw away copy but a microfiche must be considered as a sacred piece of art-work to be handled with extreme care and stored under ideal conditions?

Principally, you are representatives of Documentation Centres and your objective is to get information to the institution or user in the most efficient and inexpensive manner. If you were representing an Archives, whose objective it was to collect and share a Nation's heritage, and you possessed the one and only copy of Livingston's Diary, or something of similar value, then yes you would be concerned that the film you produced was going to last forever. You would have to take the necessary (and expensive) steps to ensure that your film process and storage facility is "Archival". However your objective should be to produce an inexpensive alternative to a photocopy.

Before a micrographics program is launched, one must be very clear on two major points:

- A. What is the ultimate purpose of the product? Is it to replace a photocopy and therefore a "throw away" item? Or is it to replace a source document which means it has to have an indefinite lifespan?
- B. What is the volume of material to be microfiched or microfilmed? (This includes the current backlog of material to be filmed as well as the anticipated annual throughput.)

Let us take a moment to look at some statistics. Following a recent enquiry, I was able to ascertain that the cost of a complete small laboratory that produces jacket microfiche in Canada is about 20,000 CAD.

If we consider a backlog of 5,000 documents, and an annual through-put of 1,000 documents, with each document representing an average of 25 to 30 pages; then we need to produce one microfiche per document or 5,000 microfiche to take care of the backlog and 1,000 microfiche for the annual through-put.

If jacket microfiche are used, filming must be done on 16mm roll film which comes in 100 ft. rolls. Each 100 ft. roll contains roughly 2,500 frames. So for the backlog we will have 5,000 documents X 30 pages = 150,000 frames divided by 2,500 frames/100 ft. roll = 60 rolls of film.

The same calculation can be used for the annual through-put. 1,000 documents x 30 pages = 30,000 frames divided by 2,500 frames/100 ft. roll = 12 rolls of film. So to do the backlog and one year's throughput requires 72 rolls of film.

This figure, divided by 47 weeks in the year (allowing for holidays, sick leave, etc.) means using roughly  $1\frac{1}{2}$  rolls of film per week and, in following years, it will be one roll of film per month. In relation to investment cost, we are looking at 20,000 CAD as the capital investment for the equipment, divided by 72 rolls of film or 6000 microfiche. This works out to 278 CAD per roll of film or 3.33 CAD per microfiche. What does this prove?

When you are asking IDRC, or another donor, or your own administration, to purchase a complete micrographic laboratory you are asking for a major capital investment - in many countries the 20,000 CAD figure is unrealistic and the real cost is much greater - and you are asking for this investment to process a small number of documents.

To some degree, I am playing devil's advocate in stating these points because I still believe that microfiche can be an efficient and inexpensive form of document delivery. There are some alternatives however, which could reduce the capital cost and which should be considered before launching a full microfiche program:

1. Use of a local service bureau to do all or some of the work - for instance to do the processing.
2. Sharing equipment with other institutions in the same city.

Now, let us consider normal operating costs. If the equipment has been obtained in the form of a gift, and the question of capital cost is no longer a concern. Essentially, operating costs involve supplies -- film, chemistry and microfiche jackets -- and labour. Since labour costs are so variable around the world, I will disregard this and simply look at operating costs in relation to supplies. Using the same basic statistics as above and using Canadian supplies costs, the operating costs are as follows. Seventy-two rolls of film at 8 CAD per 100 ft. roll and 2 CAD/roll for chemistry or the equivalent of 10 CAD per roll for film and chemistry. This totals 720 CAD.

To make microfiche you need 6000 microfiche envelopes at 30 CAD per 1000 or 180 CAD for the total. To make 6000 microfiche costs a total of 900 CAD or .15 CAD per microfiche. The cost of .15 CAD to duplicate 98 pages is quite different to the cost of photocopying 98 pages with the additional benefit of being able to send it in a first class envelope.

With regard to the question of user aversion to microform, it is said that some 85 percent of users don't like to use microfiche. I agree. If you ask me which I prefer, I would choose a photocopy anytime. But I would not choose a photocopy if:

- a) I do not have a choice;
- b) I can get the information in a week instead of a month;
- c) I get charged more for a photocopy (by manyfold) than a microfiche; or
- d) I know I can get a good quality paper print from the microform.

The Canon Company has recently brought out a new plain paper reader-printer at a very reasonable price -- in Canada about 3,500 CAD -- very reliable and relatively maintenance free. This is the Canon PC 70 reader-printer. Other companies are beginning to follow Canon's lead in this area and, in the near future, I expect we will see many more reasonably priced, low volume, plain paper reader/printers on the market.