HOW MANY MICROFILM IMAGES IN A LEGACY COLLECTION?

by Dave Westcott
Director, Imaging Services Sales

Crowley’s Digitization Services bureau often receives inquiries as to the cost of digitizing a microfilm collection. The most common first reply is, “It depends.” While this can be frustrating when looking for a quick answer, it becomes quickly evident that each microfilm collection is unique and more information is needed to ensure any type of quote accuracy.

HARD QUESTIONS
With an average tenure of fifteen years each in the preservation and digitization industries, the Crowley staff is well-positioned to work with collection holders to determine the variables that will affect the digitization project scope.

Questions about the collection will include:

• microfilm format (cine, comic, simplex, duplex)
• film size (16mm, 35mm)
• reduction ratios
• roll length (100’, 215’, 1,000’, others)
• and a myriad of other technical factors

The answers will help to qualify and quantify the collection’s number and types of microfilm images.

It’s not uncommon for microfilm collection managers and purchasing officials to be unaware of the specifications required for accurate collection assessment. The primary responsibilities of these positions are to either manage the physical collection (inventory, storage, access) or to develop a request for quote (RFQ or RFP). Neither may have the information needed to supply the technical specifications required for an accurate digitization estimate.

RELATIVELY) EASY ANSWERS

The step-by-step process below has been utilized by Crowley to help clients better identify their microfilm collection with technical description, types and quantities as the first step towards making the decision to digitize.

STEP 1: FILM WIDTH
Most microfilm widths will either be 16mm or 35mm when measured from left to right across the film with a millimeter ruler. With a standard ruler, the 16mm film measures approximately 0.63’; the 35mm measures approximately 1.38”.

STEP 2: FILM THICKNESS/REEL LENGTH
This step determines the number of linear feet on the reel, a critical step in estimating image counts. If this information is not immediately known, an inexpensive method to determine film thickness and the resulting reel length is with a digital thickness gauge, also called a micrometer. These can be purchased online for under $20.00*.

Using the gauge or the information provided, determine if you have thin-base film (2.5 mil) or the thicker base film (5 mil) to determine reel length.

Thin base (2.5 mil/.0025) = 215’ in length
Thick base (5 mil/.005) = 100’ in length

*Price subject to change.
Microfilm reduction ratio measures how many times the microfilm camera and lens reduced the original document at the point of creation to obtain the resulting micro-image on the microfilm. It’s worth noting that over the 75-year span since microfilm creation came into commercial use, capture equipment has evolved. Better camera lenses and finer grain film, coupled with improved technology, have allowed much higher reduction ratios than the traditional 24x. Although the “standard” ratio to image count may be 24x to 2500 images per reel, it cannot always be assumed.

STEP 3: FILM TYPE

Simplex microfilms (sometimes referred to as “one-up”) contain one row of images across the width of the microfilm. Duplex or Duo (“two-up”) microfilm contains two images side-by-side.

STEP 4: PUTTING IT ALL TOGETHER FOR AN IMAGE COUNT

Assuming the image count per reel is not already known, we can marry the information from the above steps to accrue a good image count estimate.

Example: Steps to determine the number of images on a typical roll of 16mm microfilm.

1. Determine the film thickness (2.5 mil or 5 mil) to establish the reel length of a 100’ or 215’
2. Assume for this example the reel is a 2.5-mil thick film, giving a film length of 215’
3. Next, assume the film type is simplex
4. Measure a one-foot length and count the number of images. In the below image, the film has 27 images within a one-foot length.
5. Assume approximately 3’ of blank leader and 3’ of blank trailer (blank film is used for threading the camera and later, the microfilm reader). In actuality, you should measure the leader as it may differ from roll to roll.
6. Determine the true reel length (215’ reel minus 3’ leader minus 3’ trailer = 209’ of film)
7. Multiply the 209’ by 27 (the number of images estimated per foot on this reel)
8. There are roughly 5,643 images on the roll.

Note: There are other microfilm thicknesses and reel lengths, but for the most part legacy collections contain 100’ or 215’ reels. Your Crowley representative can help answer additional reel length questions.