

What is film resolution and how can I affect it?

Film resolution is the ability of optical systems and photo-materials to render visible fine detail of an object. It is a subjective measurement of finest detail that can be recorded by a micrographic system (camera, film, processing). While looking through the microscope, the inspector identifies the smallest pattern in which the five lines constituting the pattern can be distinguished in both directions (vertically and horizontally).

Some things that may affect film resolution include:

- The contrast of the original document or target
- Poor quality original document or target (wrinkled, torn, or dirty)
- Environmental conditions (temperature and humidity)
- The imaging system used to capture or retrieve the document or target (dirty optics, improper mechanical operation) or poor contact between master and duplicating film during duplication
- Resolution loss during film duplication or printing. There is always some loss in resolution from one generation to another. Maximum loss should not exceed one pattern per generation (Film to film, film to paper).

Note: Never use a copy of a resolution target for filming, always use an original.

