EPM
Eastman Park Micrographics, Inc.

IMAGELINK Diazo Duplicating Microfilms

IMAGELINK Diazo Duplicating Microfilms are fast-speed, non-silver print film designed for creating direct-duplication copies in fiche or roll form from silver or reprintable diazo films.

These films are polyester-based and can be processed in commercially available diazo processors, using either aqueous or anhydrous ammonia vapor at various temperatures and pressures.

Product offerings

IMAGELINK Diazo C Microfilm:

- 1957, 2957, 3957

IMAGELINK Diazo D Microfilm:

- 1956, 2956, 3956

(Blue) Diazo C Features

- Formulated to be developed in aqueous or anhydrous ammonia vapor, producing a blue background
- Designed for duplication of reversal-processed computer output microfilms (COM)
- High visual contrast

(Black) Diazo D Features

- Formulated for pressure development in anhydrous or aqueous ammonia vapors, producing a neutral-black background similar in appearance to silver film
- Designed for document duplication where fast throughput and low contrast are needed
- Excellent reprint characteristics with comparable contrast
- Medium visual contrast

Features

- Direct duplication — positive from positive, negative from negative
- Ultraviolet-blue sensitivity
- Fast printing speed
- Ultra-high resolving power
- Clear polyester base
- Static-resistant backing
- Thin base product offers reduced loading frequency and reduced film storage requirements
- Excellent image stability in readers
- Title stripes, available in a full range of colors and widths, enable fiche identification
- Translucent stripe allows for title reproduction on the next generation copy

Product applications

These films produce negative-appearing copies (clear lines with dark background) made from negative appearing computer output microfilms. They can also be used to duplicate copies of source documents, engineering drawings, and continuous-tone negatives.

- **Diazo C film** produces a blue dye when developed, providing high visual contrast on a reader.
- **Diazo D film** uses yellow and blue dyes to create a black image when developed. These dyes peak in absorption at about 470 and 580 nm, respectively. The blue dye gives visual contrast and the yellow dye controls the contrast of next-generation prints onto this product or other blue-sensitive materials.

See Spectral Dye Density Curves for more detail.

IMAGELINK Diazo Duplicating Microfilms

Photographic Properties

ARMM Speed

- **Diazo C**: 51
- **Diazo D**: 42

Exposure

Expose this film with mercury-arc and xenon-flash lamps (330 to 500 nm range). This film is formulated for use with most high-speed duplicators. It yields typical exposures in this wavelength range using an undpoed mercury lamp of:

- About 2.5 million erg/cm sq. (Diazo C)
- About 3.2 million erg/cm sq. (Diazo D)

This exposure will reduce net density to nearly zero (burn-out density) with recommended processing.

NOTE: Consult the manufacturer of high intensity ultraviolet lamps for safety information pertaining to ultraviolet radiation and ventilation requirements due to ozone generation.

Reciprocity

When using a practical range of exposures, this film has no discernible reciprocity failure.

Image Structure

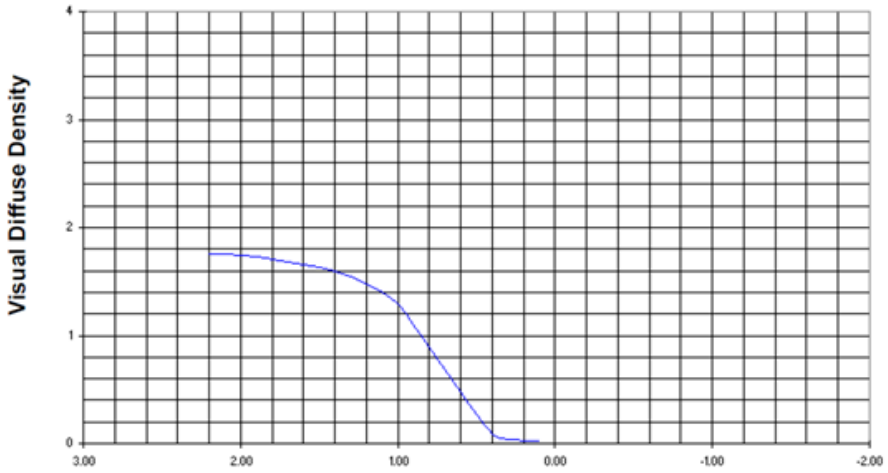
Resolving power, applicable to all recommended processes, as described in ISO 6328-1982 (exception: light source used was a high-pressure mercury arc):

Film	Test Object Contrast	Lines/mm
ISO-RP	1000:1	1250

Diazo C Films: Print

Silver Tablet Diffuse Density

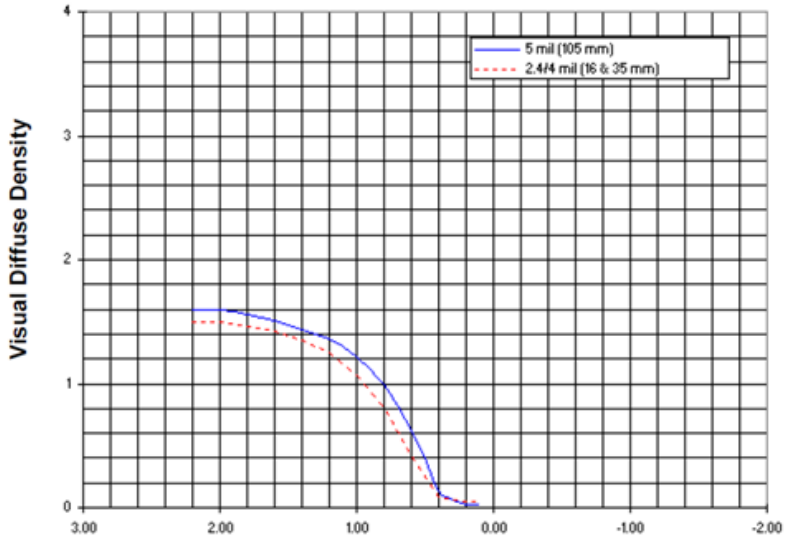
- **Exposure**: Mercury-arc lamp
- **Process**: Anhydrous ammonia, 1 second at 71°C (160°F), OP-50 Bruning Am. Std. Diffuse Visual Density



Diazo D Films: Print and Reprint

Silver Tablet Diffuse Density

- **Exposure**: Mercury-arc lamp
- **Process**: Anhydrous ammonia, 1 second at 79°C (175°F), OP-50 Bruning Am. Std. Diffuse Visual Density



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Our History

Eastman Park Micrographics (EPM) formed in 2011 after the Dallas-based Kofile Inc. purchased Kodak's micrographic business. EPM is headquartered in Dallas, Texas, and markets its products worldwide.

We bring extensive experience in all aspects of document imaging to provide unique expertise in micrographics products and solutions.

Our Mission

- To continue to be the leading supplier of high quality microfilm products and services worldwide
- To expand our portfolio of Reference Archive Solutions

Disclaimer

The sensitometric curves and data in this publication represent product tested under the conditions of exposure and processing specified. They are representative of production coatings and, therefore, do not apply directly to a particular box or roll of photographic material. They do not represent standards or specifications which must be met by Eastman Park Micrographics. The company reserves the right to change and improve product characteristics at any time.

Dye Stability

Final color rendition of the dye is influenced by process conditions such as development temperature, type of ammonia, amount of pressure, etc. A shift in the final color of the film can occur if these conditions vary.

NOTE: Films and sizes are subject to change or may be discontinued without notice. For specific sizes and formats, contact your Document Imaging Systems Media Products representative.

After-Process Information

These films offer excellent resistance to the effects of high humidity, fungi and bacteria. However, image stability is best when this film is stored in the dark and at low temperatures. Use normal handling precautions to avoid scratches and abrasions.

Do not store these films in the same roll or container or in contact with other types of films, such as silver or vesicular films.

Storage Prints

Storage prints are prints that will be used infrequently for viewing (primarily as a record) or for reprinting to generate additional copies.

- Diazo C films meet the image stability limits as specified for ammonia-processed diazo film as a Class B long-term film (outlined in ISO 18905).
- Diazo D films meet the image stability limits as specified for ammonia- processed diazo film as a Class A long-term film (outlined in ISO 18905).

Record films must be stored under "archival" conditions as stated in ISO 18911 and outlined in pertinent ANSI Standards and in IMAGELINK Publication D-31. These conditions include storage at 21°C (70°F) and 15 to 40% relative humidity, air conditioning to avoid temperature and humidity cycling, and stringently clean air. In addition, the film should be stored in the dark in approved light-tight containers. These conditions will extend the film's lifetime to be a minimum of 100 years.

Working Prints

As with other diazo films, working prints on Diazo C film are typically handled and viewed extensively. As such they can degrade due to dirt, abrasion, fingerprints, high temperatures, and image fading associated with extended viewing. Accordingly, no minimum time for usability can be assigned. However, replacement working prints can be readily generated from storage prints, which are made on silver-gelatin films or reprintable diazo films.

IMAGELINK Diazo Duplicating Microfilms

Physical Properties

Nominal thickness on unprocessed film:

Diazo C	Diazo D	Total Film Thickness
1957	1956	4.4 mils
2957	2956	3.6 mils
3957	3956	25 mils

Handling and Storage

- Handle, expose and process under gold fluorescent lights.
- Normal room illumination is suitable for short periods.
- Open the package only when the film is ready to be used, and return the unused film to light-protective storage when duplicating equipment is shut down.
- Store unopened packages of film for up to six months at 21°C (70°F) at 50% relative humidity or below. For longer storage, keep packages at the same humidity at at 10°C (50°F) or lower.
- To avoid fogging and loss of density, avoid prolonged exposure to sources high in ultraviolet radiation, such as sunlight or white fluorescent light.
- To avoid pre-development, avoid exposure to high temperatures and ammonia fumes or other alkaline contaminants.

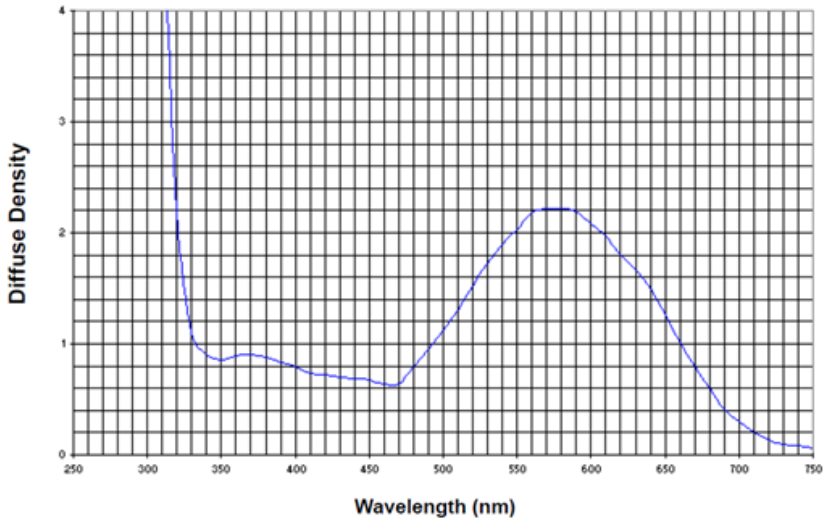
Processing Conditions

Using commercial diazo processors:

- Anhydrous ammonia for about 1 second at a pressure of 483 to 552 kPa (70 to 80 psi) and a temperatures of approximately 60-93°C (140-200°F) for Diazo C microfilms or 66-73°C (150-170°F) for Diazo D microfilms.
- Aqueous ammonia vapor for 10 seconds or longer at ambient pressure and temperatures of approximately 60-93°C (140-200°F) for Diazo C microfilms or 66 - 73°C (150-170°F) for Diazo D microfilms.

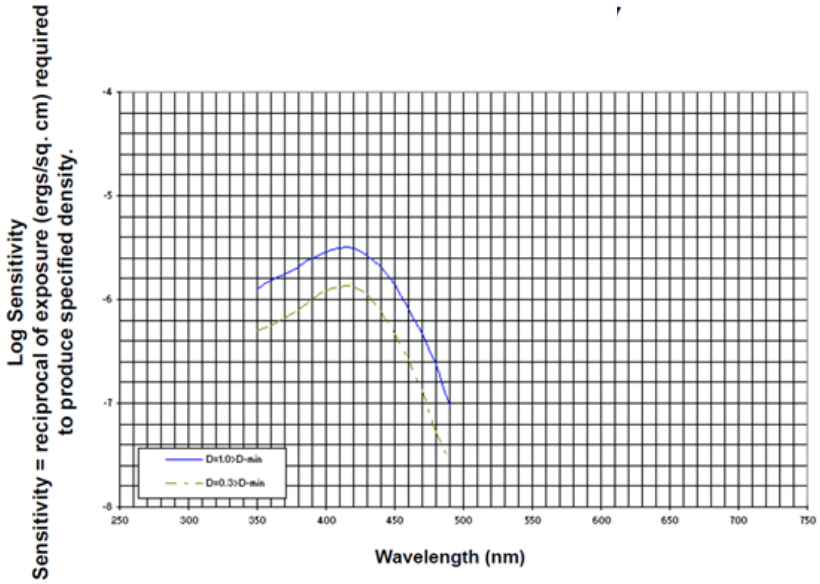
Diazo C Films: Spectral Dye Density

- **Exposure**: None; processed to maximum density
- **Process**: Anhydrous ammonia at 552 kPa (80 psi), 1 second at 71°C (160°F), Am. Std. Diffuse Visual Density



Diazo C Films: Spectral Sensitivity

- **Exposure**: 1 to 390 seconds/20 nm intervals (as required for indicated density)
- **Process**: Anhydrous ammonia at ambient pressure, 9 seconds at 71°C (160°F), Am. Std. Diffuse Visual Density



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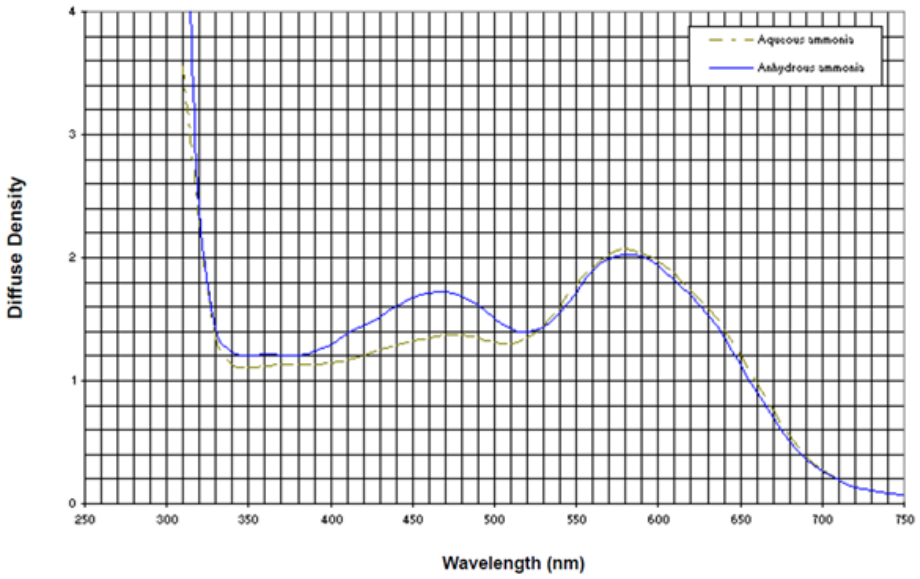
Diazo D Films: Spectral Dye Density



- **Exposure**: 1 to 390 seconds/20 nm intervals (as required for indicated density)
- **Process**: Aqueous ammonia at ambient pressure, 9 seconds at 71°C (160°F), Am. Std. Diffuse Visual Density
- **Absorption of excess ammonia**: For minimum discomfort from ammonia fumes with processors using an aqueous or acidic tray, us an Indicator Stop Bath, diluted 1:5 with tap water. This solution will gradually change from a yellowish to a purplish color as it turns alkaline from excess ammonia, at which time it should be discarded.

  This is not intended to replace existing ammonia-absorption recommendations of equipment manufacturers except in critical applications such as unusual individual sensitivity or a confined processing environment.

Diazo D Films: Spectral Sensitivity