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Film Materials, Formats, and Processes

Archives in Motion
Tirana, 17–28 October 2016
Albanian Cinema Project

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Observations

- 16 mm
- black and white
- reversal
- silent
- cellulose diacetate



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Common Film Formats

professional formats

- 35 mm, Super 16

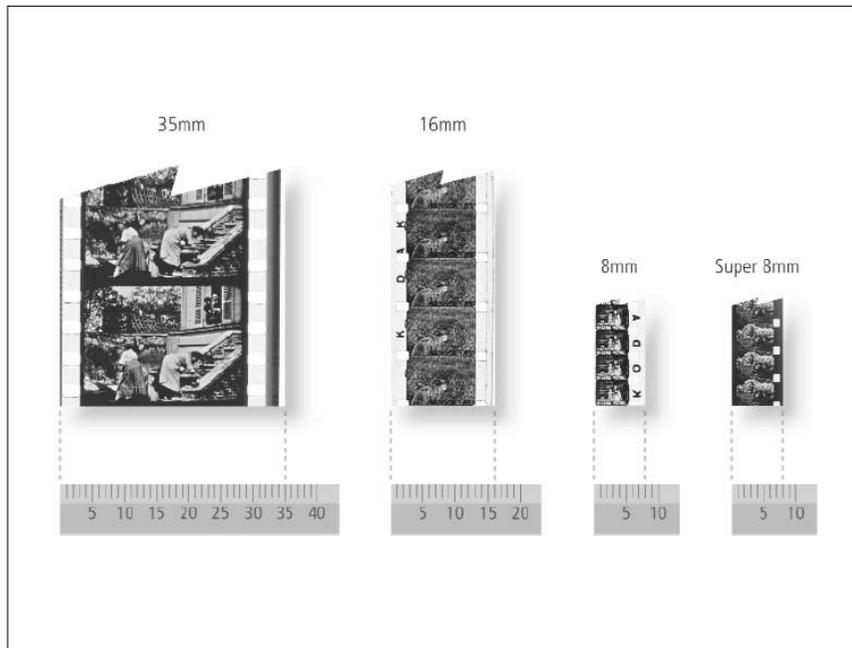
universal format

- 16 mm

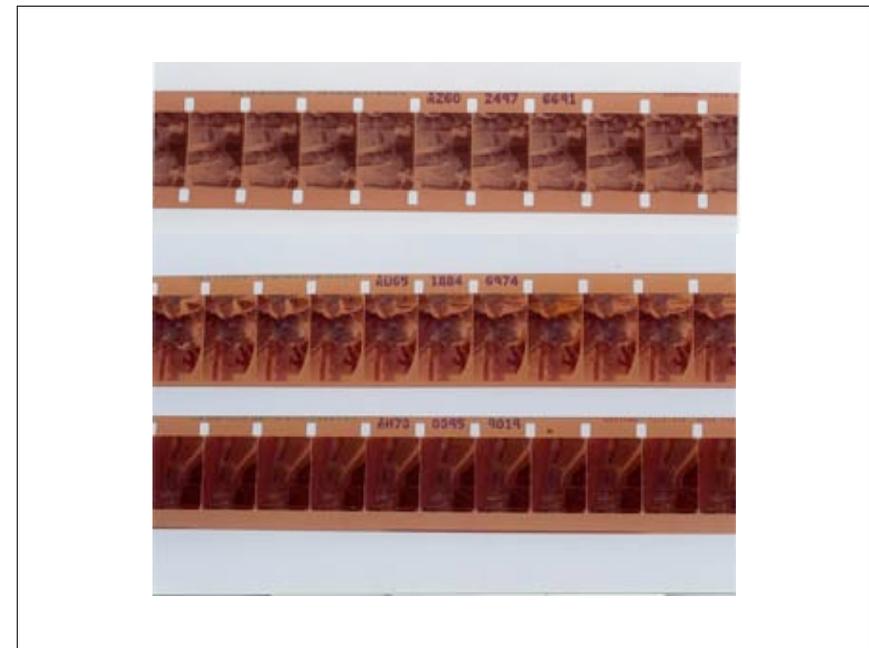
amateur formats

- 9.5 mm, 8 mm, Super 8

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Common magnetic formats

Audio

- 2", 1", 1/2", 1/4"

Cinema

- 35 mm, 17.5 mm, 16 mm

Video

- 2", 1", 3/4", 1/2"

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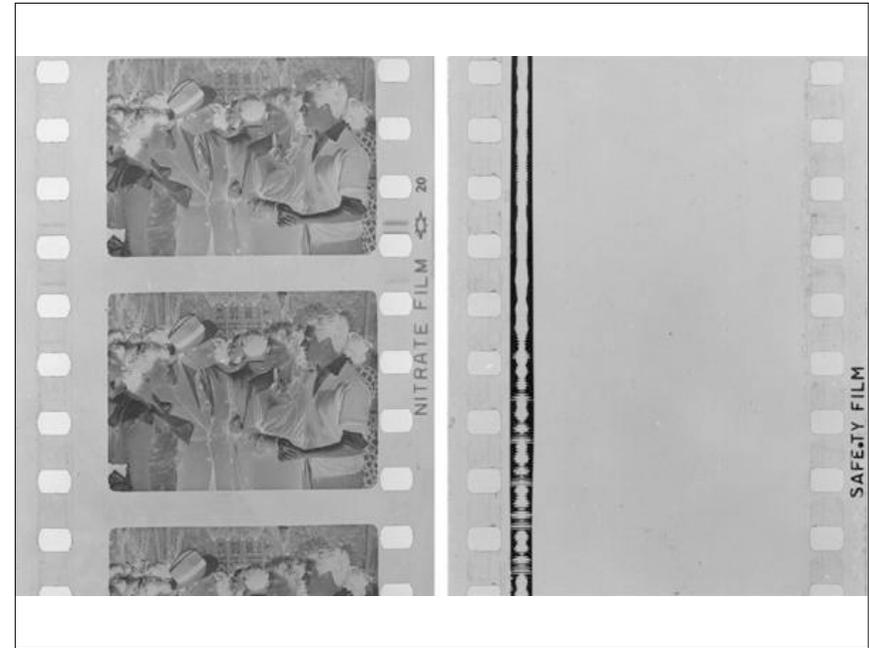
Film Polarity

- Negative/Positive
- Reversal

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"Silent Film" Sound

- Musical improvisation
- Cue Sheet
- "Kinemathek,"
- Score
- Film narrator or Benshi
- voices from behind the screen
- sound effects
- sound on disc or tape cassette

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Sound film

Comopt = composite optical sound print
(variable density or variable area)

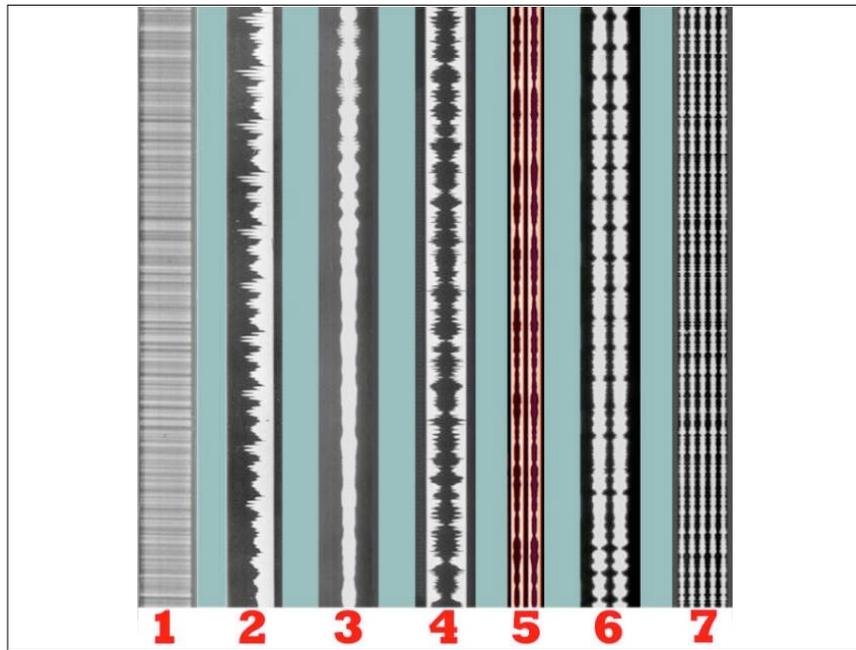
Commag = composite print with magnetic
stripe

Sepmag = magnetic sound only

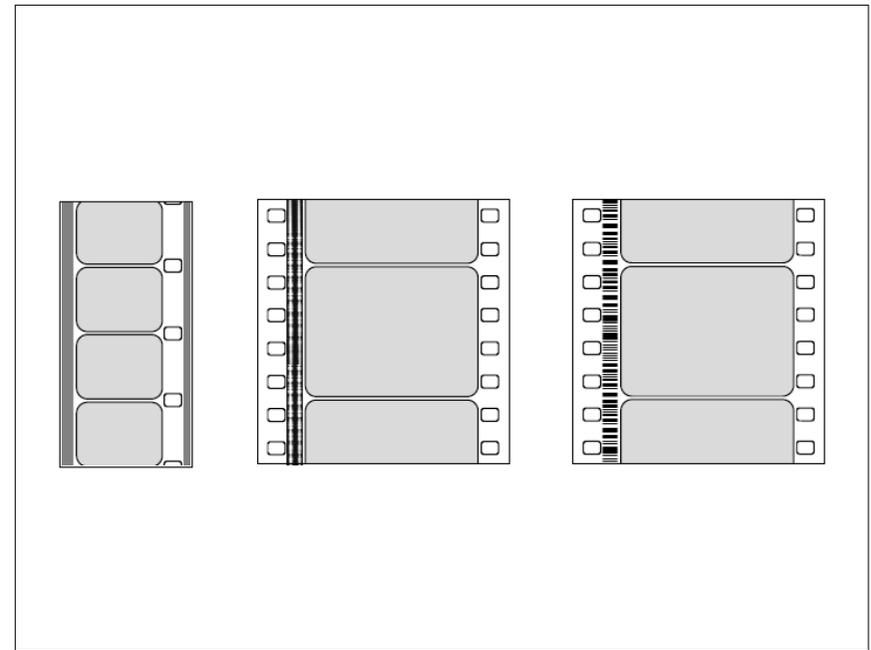
Sepopt = optical sound only print

Magopt = both optical and magnetic sound
on one film

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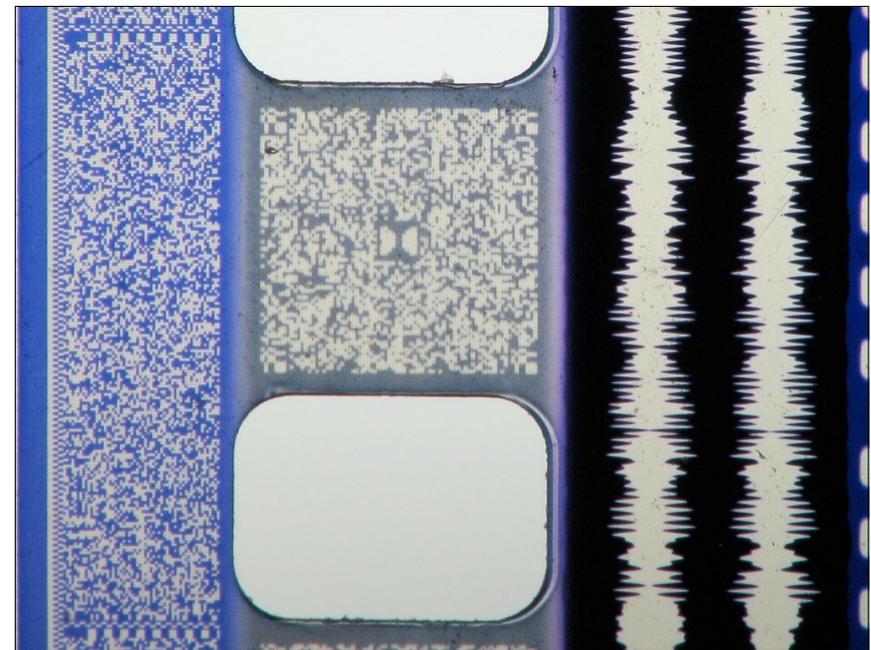
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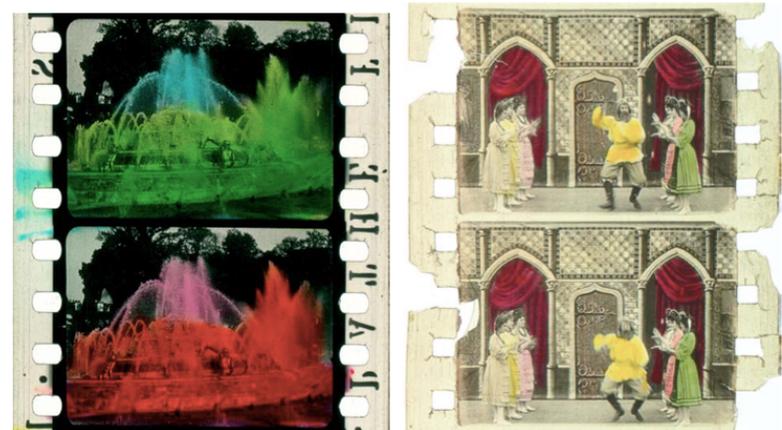


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Flavors of film color

- Hand colored
- Stencil
- Tinting
- Toning
- additive color
- subtractive color

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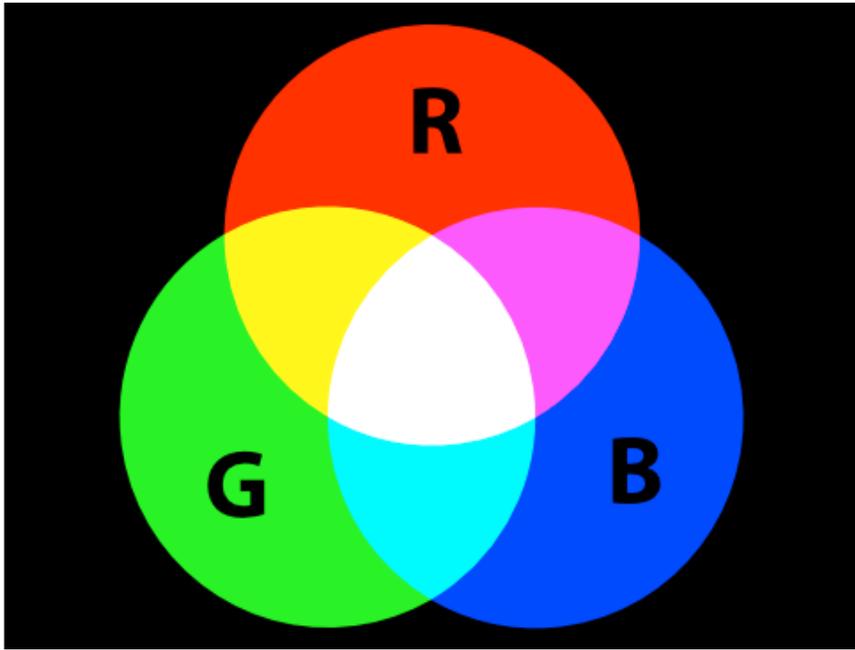
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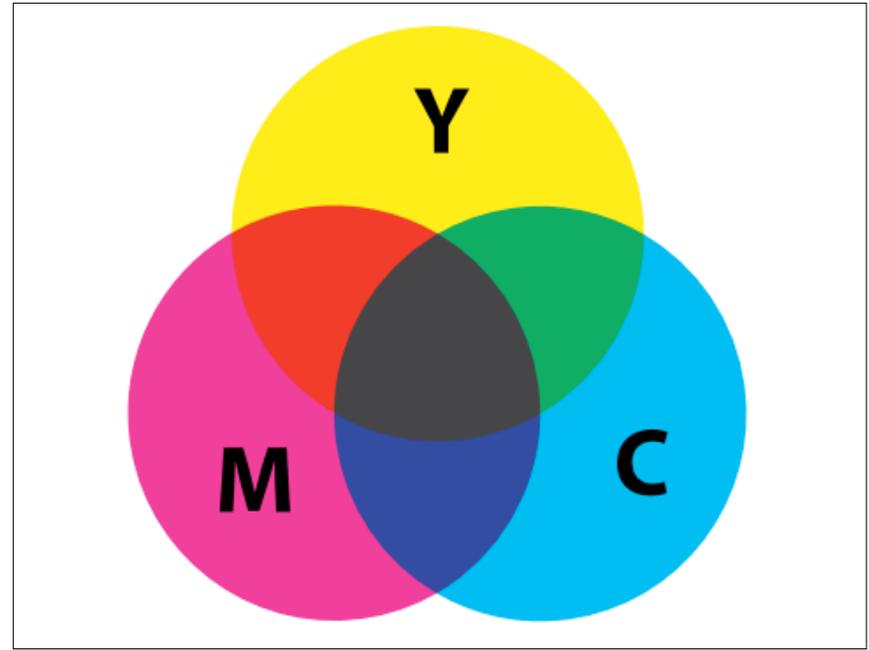
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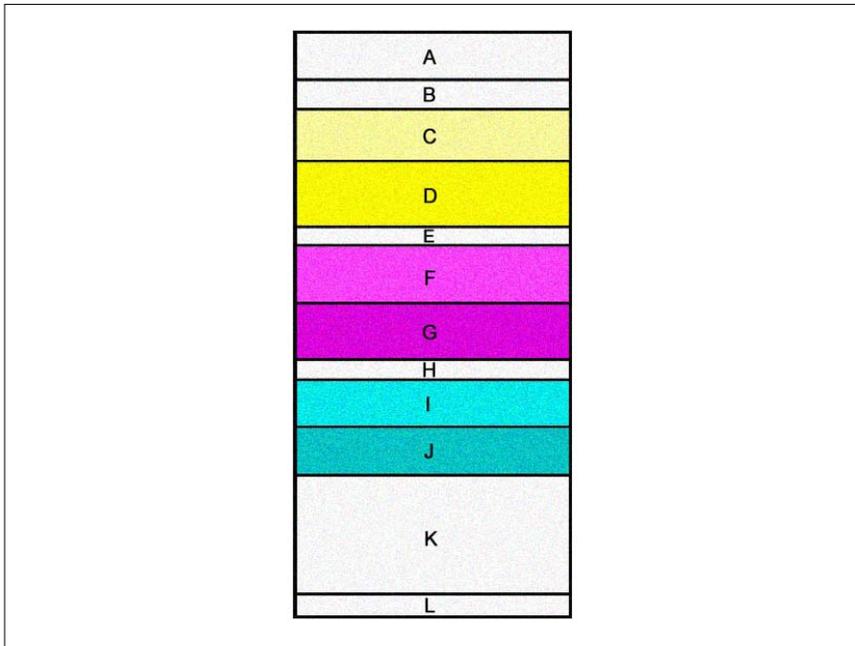
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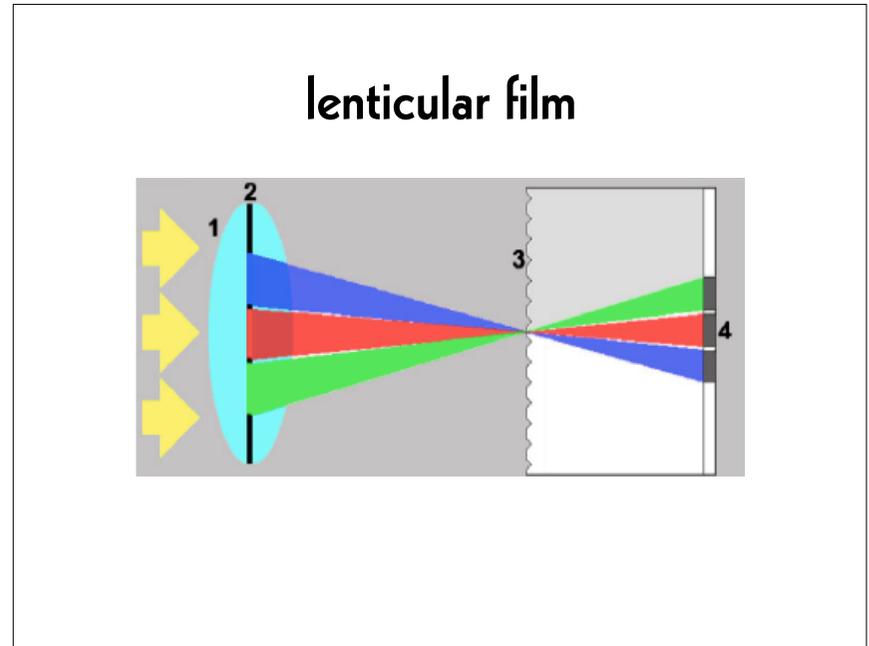
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Dufaycolor



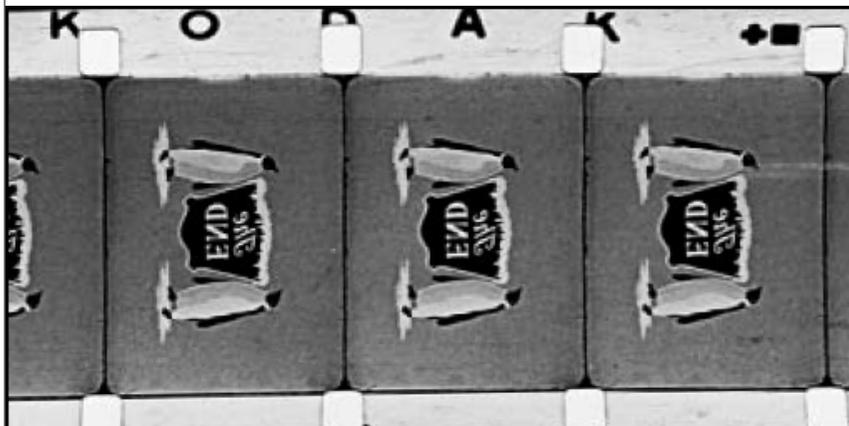
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Other Information

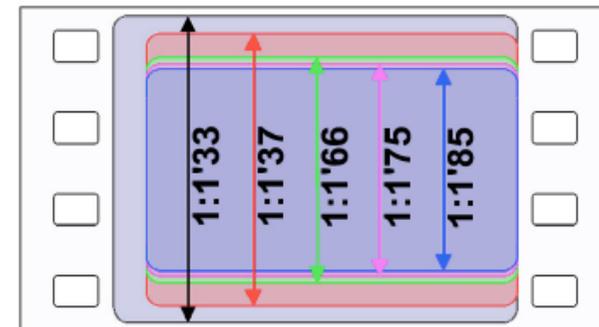
- raw stock: manufacturer and type
- type of camera
- image format
- wind (winding A; winding B)
- generation/type of element: camera original, print, internegative, interpositive, dupe neg, fine grain; A and B rolls (sometimes more)
- Filmographic data in titles and credits; people, places, etc.

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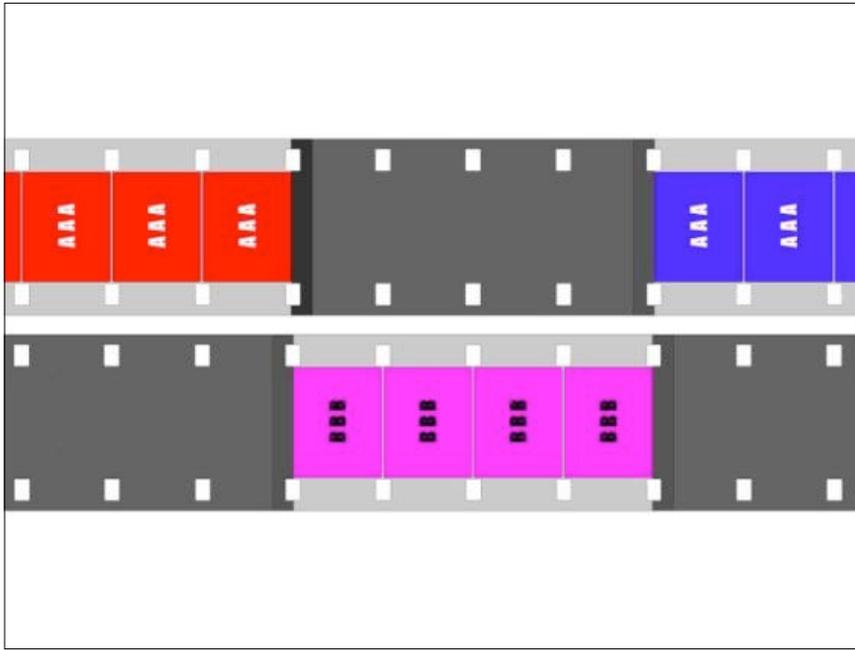
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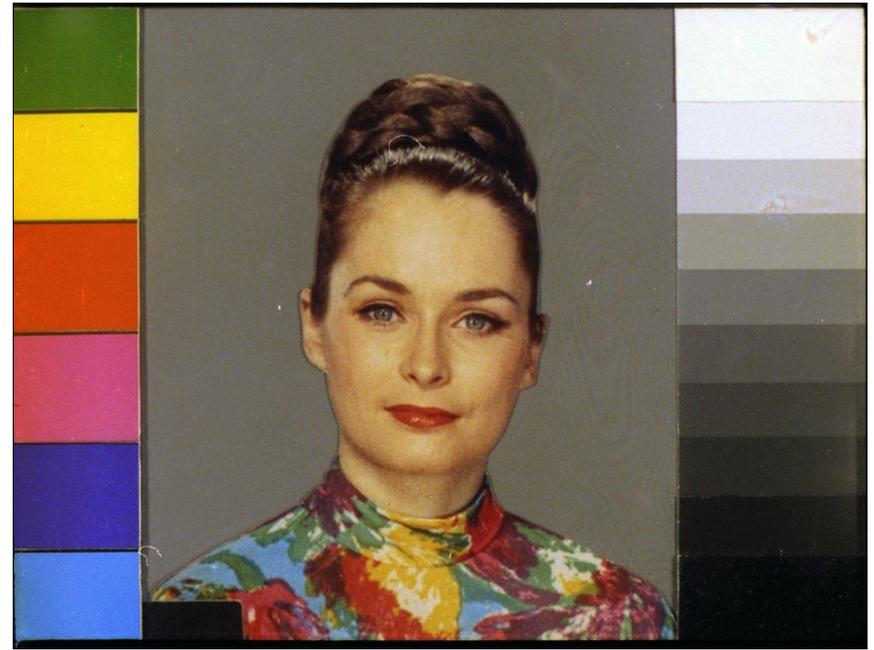
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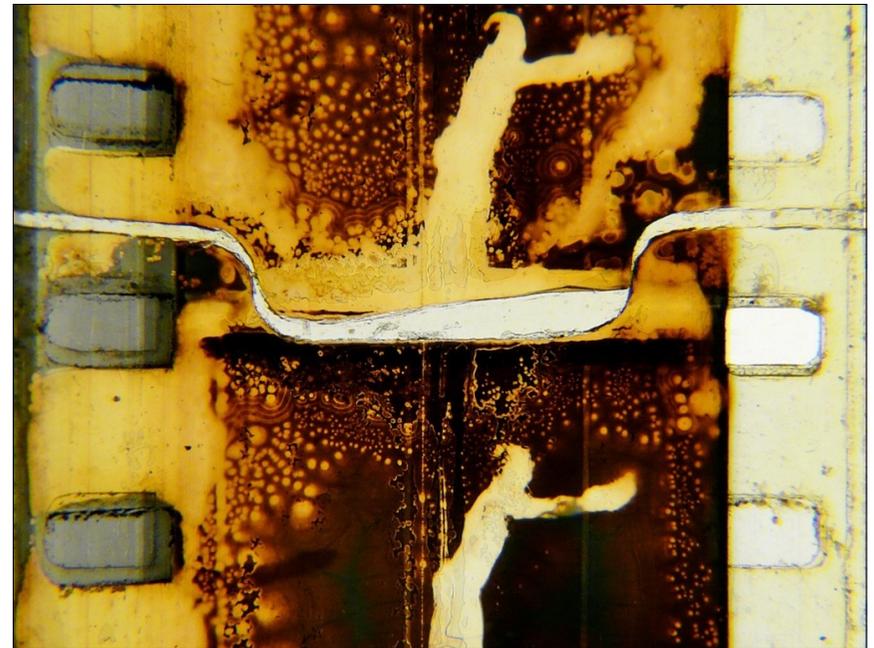
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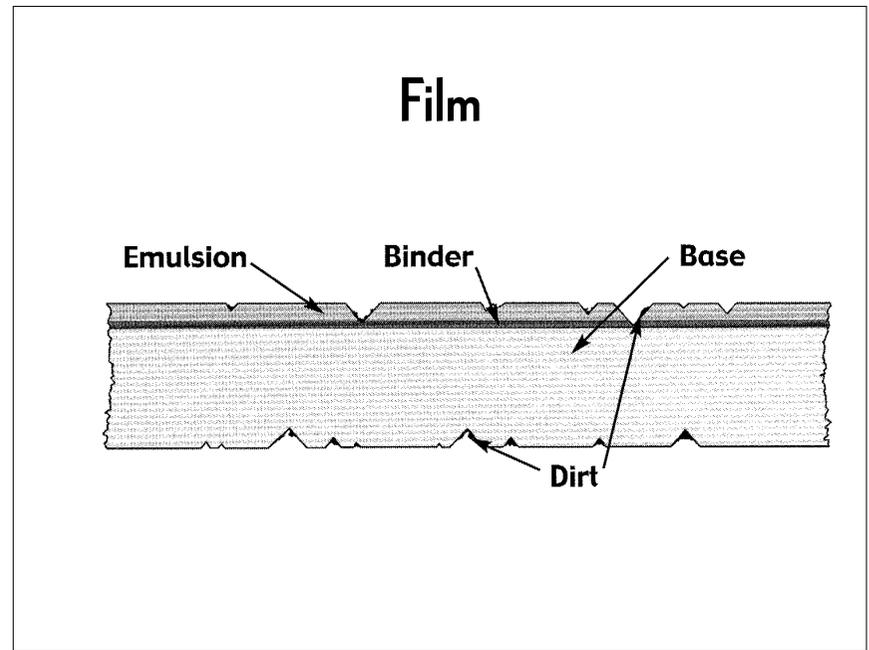
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film base

- cellulose nitrate
- cellulose diacetate
- cellulose triacetate
- polyester

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Cellulose Nitrate

Advantages:

- excellent transparency
- best flexibility

Disadvantages:

- highly flammable
- outgasses nitric acid

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Cellulose diacetate

Advantages:

- lower flammability than nitrate (but still flammable)

Disadvantages:

- becomes brittle at low temperatures
- pronounced shrinkage in dry conditions
- outgasses acetic acid ("vinegar syndrome")

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Cellulose triacetate

Advantages:

- low flammability
- easily cement spliced

Disadvantages:

- outgasses acetic acid ("vinegar syndrome")

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Polyester

Advantages

- strongest and most stable carrier
- manufactured without solvents
- does not shrink

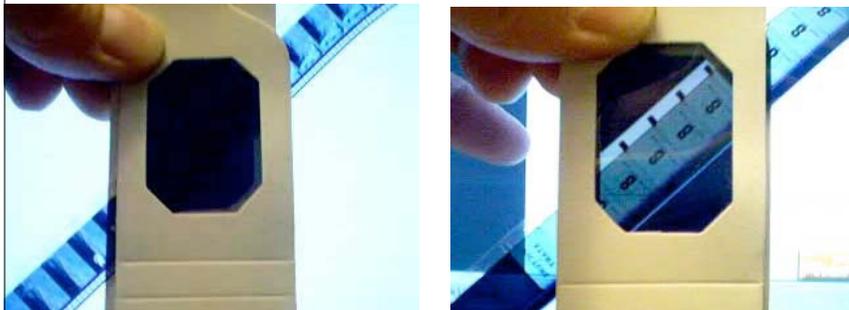
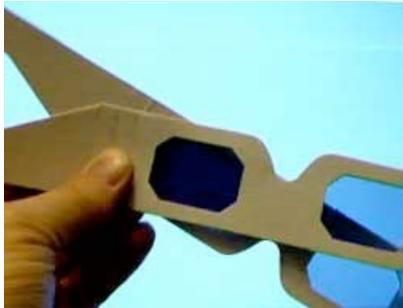
Disadvantages

- static charge attracts dust
- can only be spliced ultrasonically

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base	since	main uses (Kodak)
Nitrate	1869	for still and cinefilm from 1888 until 1951
Diacetate	1909	<ul style="list-style-type: none">● from 1915 until 1937 for home cinema distribution of cinema classics● from 1923 until 1948 for amateur films
Triacetate	1936	<ul style="list-style-type: none">● since 1948 for film und magnetic tape● replaced nitrate in 1951 for projection prints● still used today in most camera negatives
Polyester	1940s	<ul style="list-style-type: none">● since 1955 for magnetic tape● occasionally for Super 8 (Fuji)● 1990s for 35 and 16mm prints and duplicates

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Bibliography

The Film Preservation Guide. The Basics for Archives, Libraries and Museums. National Film Preservation Foundation, San Francisco CA 2004

www.filmpreservation.org

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