

Potpourri

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The casserole contents

- set priorities
- relative humidity, what is that?
- edge codes
- establish and implement a strategy
- imagine and try innovative solutions
- freezing by using the CMI package
- chemical treatments

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Priority

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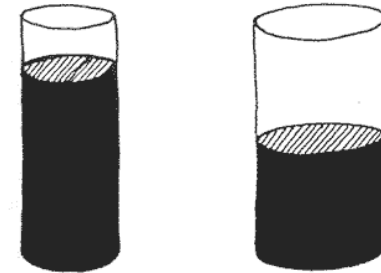
	quick	longtime
important		
not important		

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Relative Humidity

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Warming...

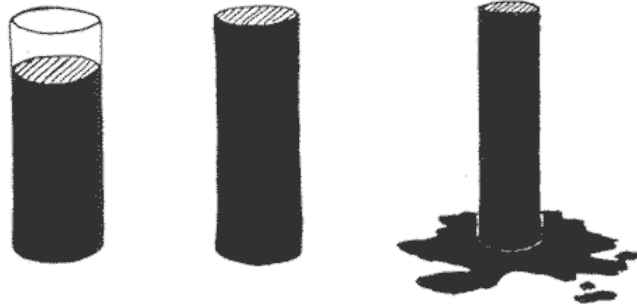


22 °C
80% RH

30 °C
50% RH

6

Cooling...



22 °C
80% RH

19 °C
100% RH

10 °C
100% RH

7

Strategy

8

Bibliography

Peter Z. Adelstein: **IPI Media Storage Quick Reference**. 2nd Edition. Image Permanence Institute, Rochester NY 2009

www.imagepermanenceinstitute.org

Dew Point Calculator. Image Permanence Institute, Rochester NY [2008]

www.dpcalc.org

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Develop a strategy

1. list the ISO standard for each media type which is present in the collection
2. assess the environment inside each vault at least for one year
3. inspect the condition of the collection
4. analyse the results and find the weak link
5. improve the conservation

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Principle

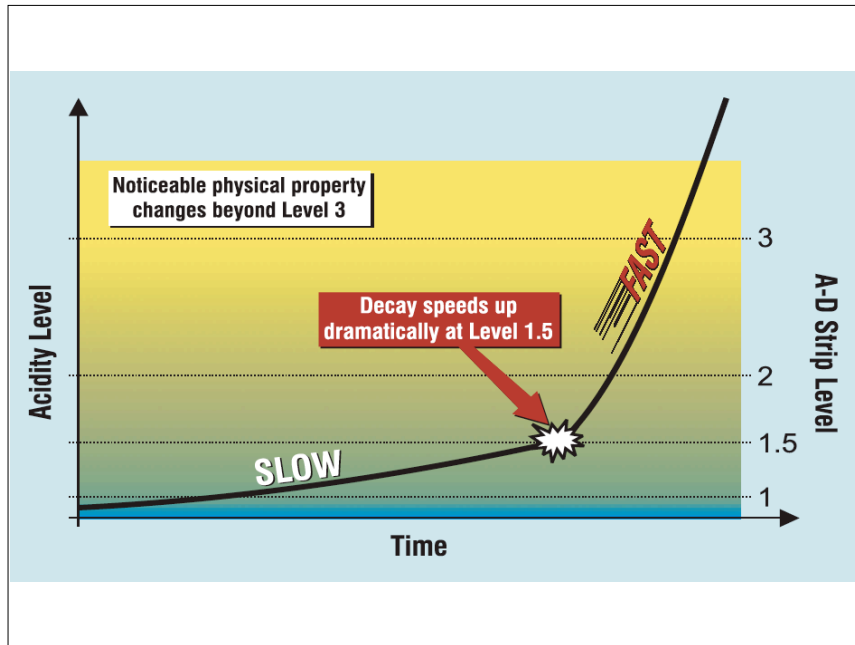
In order to guarantee the conservation, one must know both the **condition** of the each media type **and** the **climate** in each storage vault:

- condition of the collection
- temperature and relative humidity



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Statistical method

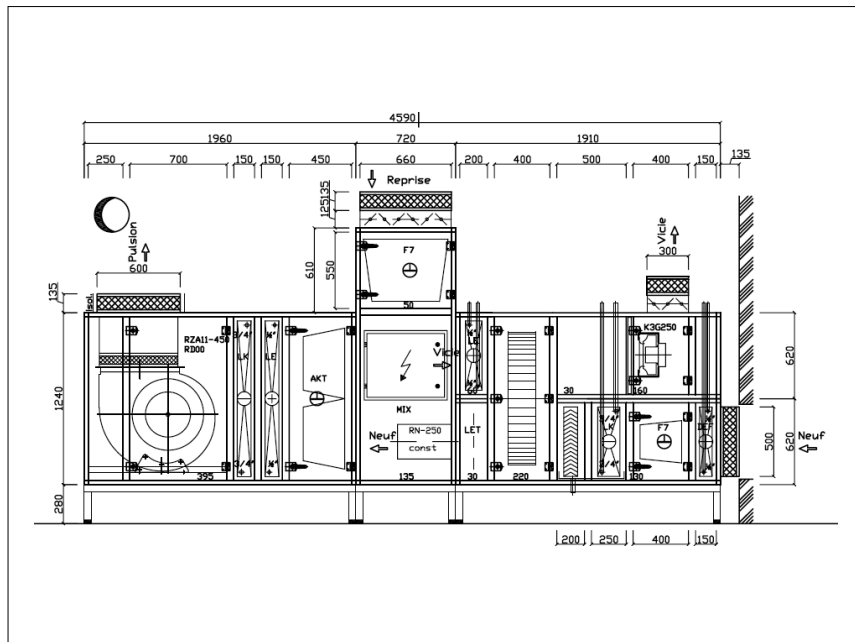
The analyse of a randomly chosen subset of

164 items

of each type of material and in each storage vaults informs about the full collection with the precision of

80% ± 5%

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Active measures

Air conditioning system:

- refrigerate
- dehumidify
- filter

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Air pollutant

- $\text{SO}_2 < 1 \mu\text{g}/\text{m}^3$
- $\text{NO}_x < 5 \mu\text{g}/\text{m}^3$
- $\text{O}_3 < 25 \mu\text{g}/\text{m}^3$

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Outgassed acid

- $\text{CH}_3\text{COOH} < 1 \text{ ppm}$
- $\text{HNO}_3 < 1 \text{ ppm}$

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Air flow

Outgassed acetic acid or nitric acid are heavy gases:

- air supply at the ceiling of one wall
- air exhaust at the bottom of the opposite wall
- air supply and air exhaust on the full length of the opposite longer walls

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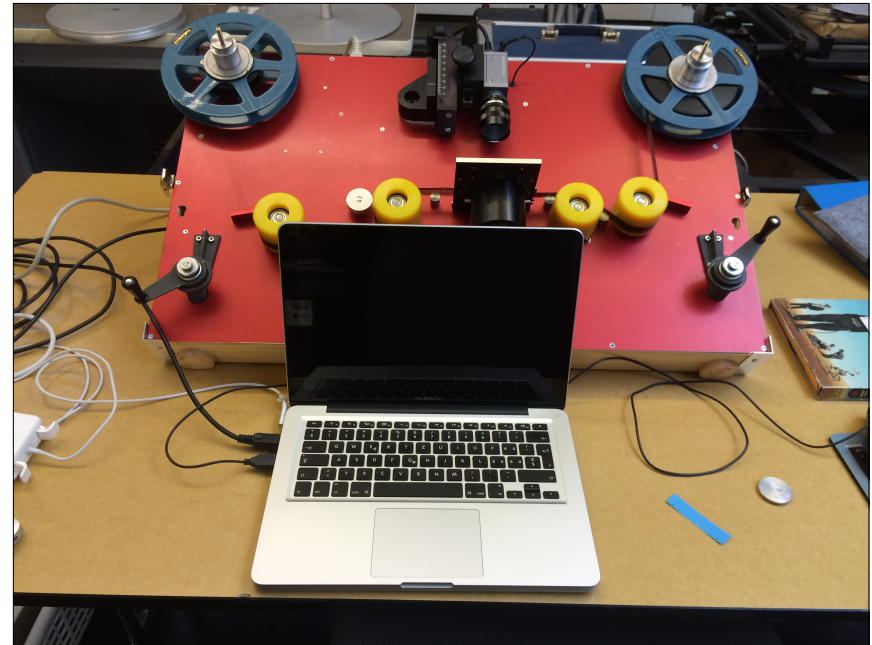
Passive measures

- location
- orientation
- exterior paint colour
- shadow
- insulation
- humidity barrier
- apertures

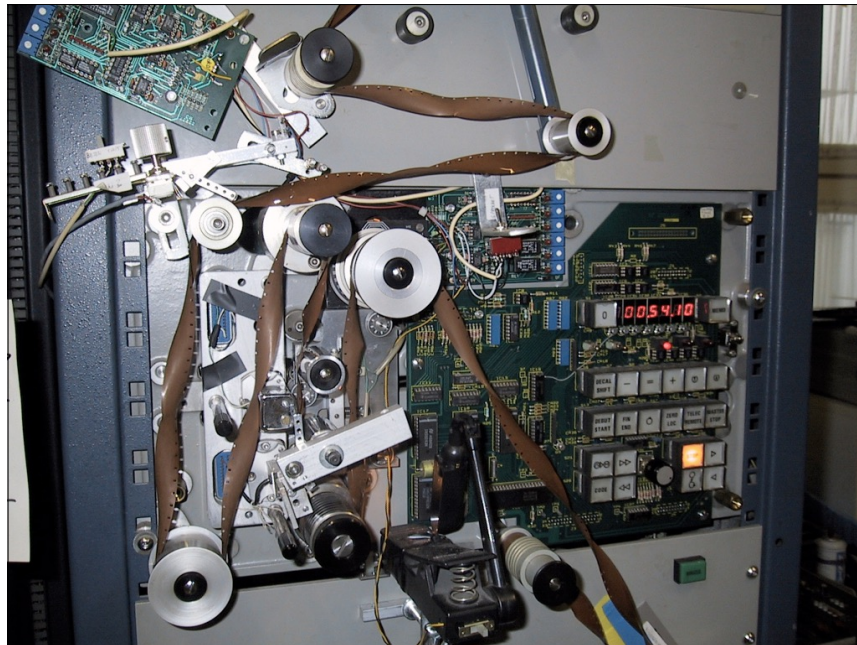
20

Imagine

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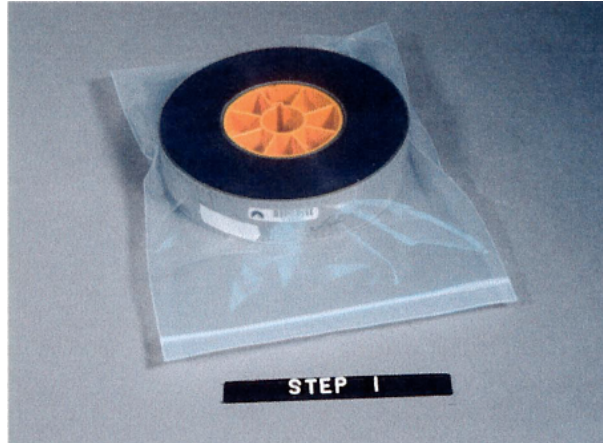


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Freezing

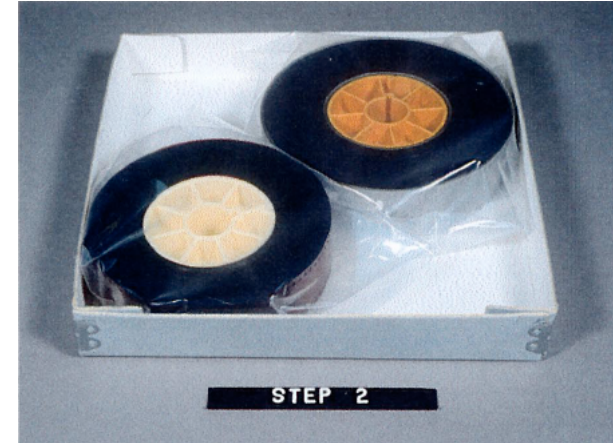
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Put the reel into a first bag



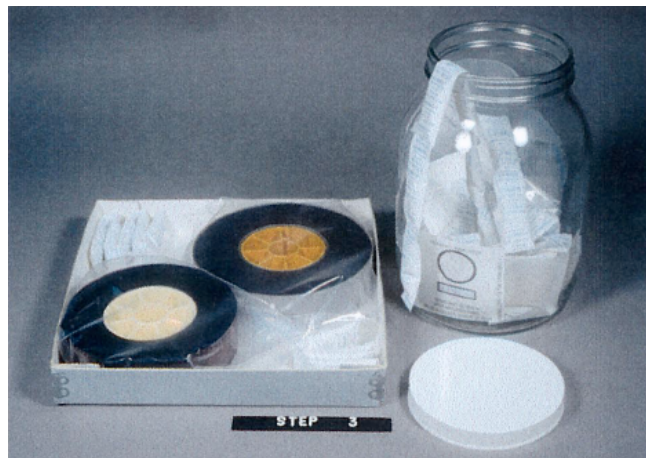
25

Put the bag in a box...



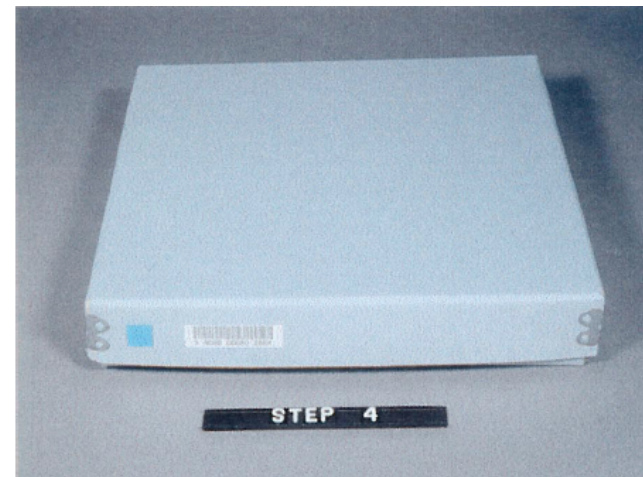
26

... and add some silica gel



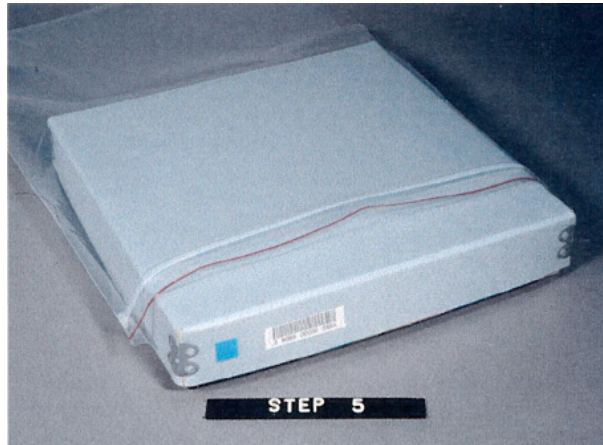
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Add a moisture indicator



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Put the box into a second bag



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Put the package into the freezer



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Treatments

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Chemical treatments

- drying
- mould fungus
- humidifying
- swelling the emulsion
- re-development
- hardening the gelatine

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Drying

→ silica gel

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Mould Fungus

BIG BIG BIG DANGER

→ chloroform

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Humidifying

→ water

→ glycerine

DANGER

→ acetone

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