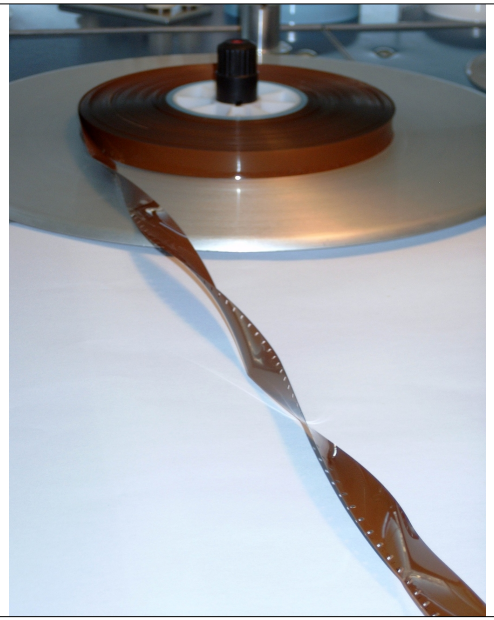


1

Freezing Acetate Base Magnetic Tapes

No Archive Is an Island
IASA Conference
Sydney, 14–19 September 2008

Reto Kromer • reto.ch Ltd

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One Story

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January 2003

The starting point:

- collection of 2000 reels
- 16 mm sepmag
- very strong vinegar syndrome
- no money for immediate nor imminent duplication

April 2003

Two main decisions:

1. freezing with CMI package
2. establishing a reference subset:

   → 20 reels randomly selected (ca. 1% of the collection)

   → transfer onto new 16 mm polyester stock

May 2007

A feasibility test:

- de-freezing of the reference subset
- transfer a second time onto new 16 mm polyester stock
- compare with the first transfer made in April 2003
- no noticeable changes could be found

April 2008

Set-up of an effective workflow:

- treatment of 200 reels (ca. 10% of the collection)
- to check if the method fits with a huge number of reels
- to determine the exact costs

Autumn 2008

Treatment of the whole collection:

- weekly batches of 200 reels on average
- ca. 3 months needed

Freezing

Why Freeze?

Two strategies:

- an ordinary preservation practice
- an exceptional measure

Ordinary Preservation

- All the items of the collection are frozen (often after digitalisation for access purposes).
- All the preservation elements are frozen, but not the access copies.

Exceptional Measure

Which elements are chosen?

- essential for the archive
- in extremely bad condition
- impossible to duplicate or to restore immediately
- in case of catastrophe

How To Control RH?

- HR maintained by macro-environnement

  → air-conditioning of the vault
- HR maintained by micro-environnement

  → FICA method (Film Conditioning Apparatus)

  → CMI method (Critical Moisture Indicator)

Preparing

- cleaning
- «archival rewinding»
- core
- vented can
- conditioning
- CMI package

Storing

- pack the reels
- put the packages onto pallets
- store the pallets into an industrial freezer

	open	FICA	CMI
?	RH control staging room	machine bags	bags desiccant indicators
+	simplicity	experience use disaster	verification use disaster
−	energy organisation personnel	personnel organisation material	personnel organisation material

De-freezing

Step-by-Step Removal

1. cold storage
2. equilibration
   - → staging room
   - → packaging
3. work space

How Long?

- T and RH in the work space
- critical dew point
  - → staging room
  - → moisture-resistant bag
- minimum warm-up time

Workflow

1. temperature equilibration: **1 day** in the sealed package
2. moisture equilibration:
   - **2 days** for photographic film
   - **2 weeks** for 16 mm and 17.5 mm sepmag
   - **2 months** for 35 mm sepmag

   after removing the sealed package

Low Ressource?

Benefits of Package

time to find an affordable solution

less energy consumption

- air-conditioning

better protection against catastrophe

- power fail
- flood

Conclusions

Conclusions

- Freezing acetate base magnetic tape is an extreme conservation method, that needs to be achieved carefully.
- This solution is effective for reels with strong vinegar syndrome, as a temporarily measure to gain time, in order to find grants.
- The preservation of the information is achieved by duplication on new polyester stock.

References

Image Permanence Institute, Rochester NY

www.imagepermanenceinstitute.org

Wilhelm Imaging Research Inc., Grinnell IA

www.wilhelm-research.com

Acknowledgements

- University of Applied Sciences, Berne
- Swiss Federal Institute of Technology, Lausanne
- Image Permanence Institute, Rochester NY
- Imperial War Museum, Duxford
- Det Danske Filminstitut, København
- Swiss Film Archive, Penthaz
- Beeld en Geluid, Hilversum

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