



ImagingInnovation

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Critical Factors for Photo Book Preservation

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http://blogs.creativememories.com/all_about_images/

Four Factors for Photo Stability

Traditional

1. Light
2. Ozone
3. Heat (thermal stability)
4. Humidity

Photo Books

1. Book Durability
2. Abrasion resistance
3. Heat (thermal stability)
4. Humidity

Other important factors include light (Covers), ozone (Covers), water, spill resistance, mold/insect resistance, and folding/tear resistance.

Book Durability

- Pages falling out
- Cover separation from pages



Soft Cover Photo Book Adhesive Failure

- **Test Methods**
 - ISO 11800 Requirements for binding materials and methods used in the manufacture of books (Stitching vs. gluing)
 - ANSI/NISO/LBI Z39.78-2000
 - Mechanical strength of binding
 - Opening and closing cycles

Abrasion Resistance

- Pages and cover

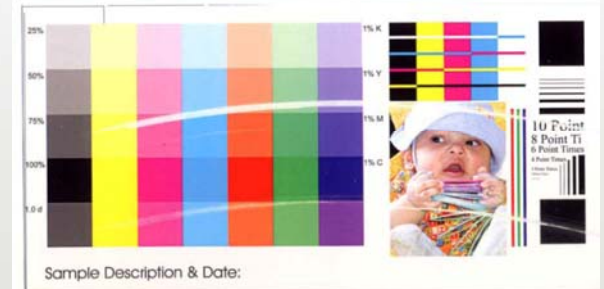


Book 1

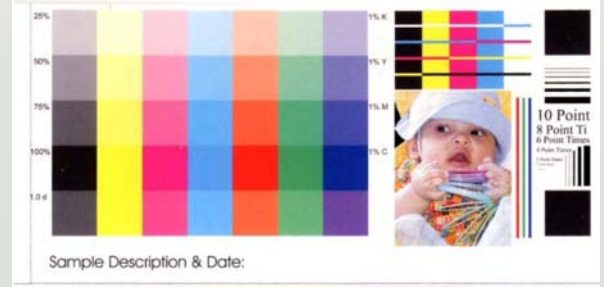


Book 2

Pigment Ink Jet Page



Book 3



Digital Press

Abrasion Resistance

- **Test Methods**

- ASTM D5264-98 Standard Practice for Abrasion Resistance of Printed Materials by the Sutherland Rub Tester
- ASTM F1571-95 Standard Test Method for Determination of Abrasion and Smudge Resistance of Images Produced from Business Copy Products (Sutherland Method)
- ISO 11798 Permanence and durability of writing, printing and copying on paper (Taber)
- ISO 18947 Determination of abrasion, scuff, and smudge resistance of printed colour images (Sutherland, Under development)

Heat - Thermal Stability

- Paper yellowing
- Image stability
- Blocking
- Brittleness
- Adhesive migration
- Pages separating from book block
- Cover separating from book block

Photo Book Dark Stability



Heat - Thermal Stability

- **Test Methods**

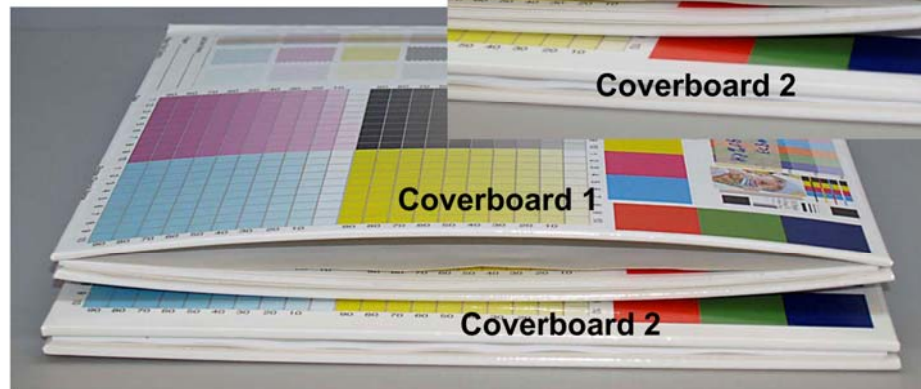
- ISO 18924 Test method for Arrhenius-type predictions
- ISO 18936 Processed color photographs - Methods for measuring thermal stability
- ISO 9706 Paper for documents - Requirements for permanence (Annex C)
- ISO 11798 Permanence and durability of writing, printing and copying on paper (Resistance to heat)
- ISO 11800 Requirements for binding materials and methods used in the manufacture of books (high and low temperature test)
- ASTM D918 Blocking Resistance of Paper and Paperboard (TAPPI T 477)
- ASTM WK20008 Block Resistance of Inks and Coatings Using the I.C. Block Tester (Draft)

Humidity

- Warp
- Blocking
- Bleed (colorant migration)

High Humidity Warp (80% RH, 23°C)

| Coverboard | Warp |
|------------|-------|
| 1 | 0.43" |
| 2 | 0.06" |



Humidity

- **Test Methods**

- ISO 18946 Reflection colour photographic prints — Method for testing humidity fastness (Under development)
- ISO 18920 Processed photographic reflection prints — Storage practices “Multiple prints, stored within an enclosure or container, shall be oriented with the emulsion sides against back sides, never emulsion against emulsion.”

Summary

- **Photo book permanence depends on materials and production process.**
- **Testing is the only way to measure performance.**
- **Photo books can be a solution to photo preservation**