



PUBLISHED ENVIRONMENTAL STANDARDS

Sarah S. Wagner, Photograph Conservator, December 2000

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Paper--NISO TR01-1995

(Allows set point temperature and RH within allowable temperature and RH range; allows seasonal drift within range.)

Paper Records	35-65F (2-18C)	35-50%RH
Max daily fluctuation	<u>±</u> 2F (1C)	<u>±</u> 3%
Max monthly drift	3F (1.5C)	3%

Photographic Film- ISO 18911 (formerly ISO 5466 and ANSI/PIMA IT9.11-1998)

(Specifies a maximum temperature with a set point RH within an allowable RH range for that temperature; the temperature and RH combinations give the same approximate life expectancy and allow options in design.) Maximum projected useful life expectancy at these conditions is a minimum of 500 years for all materials cited.

Black and White Polyester	21C (70F)	20-50%
Black and White Acetate	2C (35F)	20-50%
OR (higher temp at lower RH)	5C (41F)	20-40%
OR (higher temp at lower RH)	7C (45F)	20-30%
Color Film (acetate and polyester)	-10C (14F)	20-50%
OR (higher temp at lower RH)	-3C (26F)	20-40%
OR (higher temp at lower RH)	2C (35F)	20-30%
Max daily fluctuation	<u>±</u> 2C (5F)	<u>±</u> 5%



Photographic Prints-ISO 18920 (formerly ISO 6051 and ANSI/PIMA IT9.20-1996)

(Specifies a maximum temperature with a set point RH within an allowable RH range for that temperature.)

No LE (life expectancy) has been designated, but actual history with the materials suggests 100+ years for well-processed B+W prints.

Black and White (Silver)	18C	(65F)	30-50%
Color-Silver Dye Bleach	18C	(65F)	30-50%
Color-Chromogenic Dye	2C	(35F)	30-50%
Color-new technologies, very unstable color	-3C	(26F)	30-50%
Max daily fluctuation	<u>±</u> 2C	(5F)	<u>±</u> 5%

Photographic Plates- ISO 18918 (formerly ISO 3897 and ANSI/PIMA IT9.18-1996)

(Specifies a maximum temperature with a set point RH within an allowable RH range for that temperature.)

No LE (life expectancy) has been designated, but actual history with the materials suggests 100+ years for well-processed plates.

Black and White	18C	(65F)	30-40%
Max daily fluctuation	<u>±</u> 2C	(5F)	<u>±</u> 5%



Polyester Base Magnetic Tape- ISO 18923 (formerly ISO 15524 and ANSI/PIMA IT9.23-1997)

(Specifies a maximum temperature with a set point RH within an allowable RH range for that temperature; the temperature and RH combinations give the same approximate life expectancy and allow options in design.) Maximum projected useful LE (life expectancy) at these conditions is 50 years. System obsolescence of playback machinery/software may be a limiting factor for LE.

Tape (audio, video, data, digital)	11C	(52F)	20-50%
OR (higher temp at lower RH)	17C	(63F)	20-30%
OR (higher temp at lower RH)	23C	(74F)	20%
Max daily fluctuation	±2C	(5F)	±5

Optical Disc- ISO 18925 (formerly ANSI/PIMA IT9.25-1998)

Specifies a maximum temperature/relative humidity range and a preferred temperature at the same RH range. No LE (life expectancy) has been designated and is dependant on the type of material components of the CD and writable format. Some discs are estimated to last 100 years. However, system obsolescence of playback machinery and software is the limiting factor in LE for most discs. Protection may be increased by storage at lower temperature and relative humidity.

Maximum allowable conditions	25C	(77F)	20-50%
Preferred conditions			
not to exceed	23C	(74)	20-50%
or be less than	-10C	(14F)	5%
Max daily fluctuation	Not Given		±5%

Other appropriate storage standards:

Photographic Activity Test Method ISO 18916 (formerly ANSI/PIMA IT9.16-1993)

Specifies a method used to test for the reactivity to photographs of paper or plastic enclosures, inks, and adhesives.

Filing Enclosures and Storage Containers ISO 18902 (formerly ANSI/PIMA IT9.2-1998)

Specifies acceptable materials and designs for paper and plastic enclosures used to store photographs.