

# Oil Paintings

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Oil paintings can be maintained for years of use and enjoyment provided that some basic care and attention is given to their preservation. The conservation staff at The Henry Ford have compiled the information in this fact sheet to help individuals care for their objects and collections. The first step in the care of collections is to understand and minimize or eliminate conditions that can cause damage. The second step is to follow basic guidelines for care, handling and cleaning.

## **CAUSES OF DAMAGE & GUIDELINES FOR CARE**

The primary cause of damage to oil paintings is the storage or display of paintings in inappropriate environments. This includes display or storage in areas where there is excessive exposure to light, high and/or fluctuating temperature and humidity levels, dirt or insects. Damage can also be caused by careless handling and the improper cleaning of paintings.

### **LIGHT LEVELS**

Excessively high light levels can cause the fading and/or darkening of paintings. Some paintings darken so severely that the painting and its details are no longer visible. In order to avoid damage caused by light, paintings should be displayed in dim areas where no direct sunlight is allowed to fall on them. The suggested light level for paintings is 200 lux. Light levels can be measured using the light meter in a 35mm camera (see CCI ICC NOTES 2/5 listed in Bibliography).

High light levels also can cause damage due to excessive heat build up. The use of lights that are positioned close to the paintings such as the commercially available lights that are mounted to the frame or directly above it should be avoided. Diffused spotlights should be mounted at least 10 feet from the painting to avoid potentially damaging heat buildup.

### **TEMPERATURE AND HUMIDITY LEVELS**

Extremes and fluctuations in temperature and humidity can cause damage to paintings due to the expansion and contraction of the wood and fabric components of the painting. Wood and fabric absorb moisture which causes them to swell on humid days

and conversely shrink on dry days. Paint, however, is not as resilient and can crack and flake off as a result of expansion and contraction of the underlying wood and fabric structure. These dimensional changes can cause the canvas to become slack and sag during the winter months.

Most fabric paintings are secured to a wooden frame that is commonly referred to as a stretcher or strainer. Stretchers are equipped with expandable corner joints that can be adjusted to insure that the painting remains taught. The joints can be expanded by driving small wooden wedges into the interior corners of the stretcher at the back of the painting. This procedure is commonly referred to as "keying out" a painting. Paintings should not be keyed out during the winter months when the humidity is low. The increased tension caused by keying out may cause the painting to tear as the wooden stretcher expands during the humid spring and summer months.

The proper display and storage of paintings can be achieved by monitoring the environment in various rooms in order to identify the best area for display or storage of paintings. Acceptable temperature and humidity levels for paintings are as follows, keeping in mind that fluctuations should be kept to a minimum.

Winter            Temperature 65-70 degrees F  
                      Relative Humidity 40%-45%

Summer            Temperature 70-75 degrees F  
                      Relative Humidity 45-55%

Inexpensive temperature and humidity sensors can be purchased from conservation suppliers. While precise control of temperature and humidity is desirable, it is not always practical in homes. Therefore, damage should be minimized by avoiding extremes in temperature and humidity. This can be done by insuring that paintings are kept away from heat sources such as furnace vents, fire places, warm lights and direct sunlight.

Excessive humidity, as can be found in most basements, should also be avoided since it can cause mold growth that can stain the surface of the painting.

## **DIRT**

Aside from the unsightly appearance of dirt on a painting, dirt also serves as a host for mold growth and the absorption of pollutants and moisture onto the surface of a painting. All of these can cause damage that obscures the image of the painting.

Paintings should not be displayed in smoking areas or in close proximity to candles or fireplaces which can deposit nicotine and soot onto the surface of the painting.

## **IMPROPER CLEANING**

In general, the cleaning of paintings should be left in the hands of a trained conservator. However, there are some simple procedures that can be followed to increase the longevity of a painting.

Soft brushes can be used to remove surface dirt from paintings and frames. When dusting an oil painting care should be taken not to flex the canvas or to dislodge paint chips by bumping the painting. Paintings that have loose flaking paint should not be dusted as fragments of paint could be dislodged and swept away.

The back of the painting should be kept clean by brushing or vacuuming. In order to clean the back, the painting should be removed from its picture frame and placed face down on a clean surface. Excessive dirt should be vacuumed using a small low suction nozzle with a brush attachment. Proper framing with a dust cover on the back of the painting will prevent dirt from accumulating behind the painting. (See CCI notes on Framing, 10/8)

Holiday decorating in a manner that will cause damage to paintings should also be avoided. Live greens and berries can stain and damage frames and paintings. They also introduce pests into the environment.

If surface dirt cannot be removed by dusting, cotton swabs that have been dampened with distilled water can be lightly rolled on the surface to remove dirt. Again, if there is flaking paint no attempt at cleaning should be made.

## **INSECTS**

Insects that can cause damage to oil paintings include carpet beetles and powder post beetles.

**Carpet beetles** generally subsist on protein-based materials that may be included as a sizing material on canvas paintings. Insects are most often found at the back of the painting between the canvas and stretcher. Holes in the canvas, or the presence of worm-like insects or furry carcasses are an indication of carpet beetle problems.

**Powder post beetles** characteristically bore small holes (approx. 2mm in diameter) into wooden materials. These holes are generally the first visible evidence of powder post beetle infestation. Frass, a substance that looks like saw dust, is also a good indication of an active infestation. Paintings should be routinely taken down and examined for

pests. If evidence of infestation is found, the object should be placed in a plastic bag and isolated until it can be examined by a professional conservator.

### **CARELESS HANDLING**

The greatest amount of damage to artifacts is caused by careless handling. Prior to moving a painting, be sure to remove all jewelry, belt buckles, etc. so that the painting is not accidentally torn or scratched while being moved. When moving a painting, always be sure to grasp the painting from both vertical sides. Do not hold a painting at the top of the frame or by its hanging wire. Also be careful to insure that the picture wire does not puncture the back of the painting during the move. It is important to avoid bumping canvas paintings as even the slightest bump can cause future cracking of the paint surface.

Further information on the care of paintings can be found in conservation literature listed in the attached bibliography.

### **BIBLIOGRAPHY**

A Handbook on the Care of Paintings Caroline Keck. Watson-Guptill Publications 1965

Conservation and Restoration of Works of Art and Antiquities Volume I. Herman Kuhn. Butterworths, London 1986

Conservation and Exhibitions. Nathan Stolow. Butterworths, London 1987

ICC CII Notes

The Canadian Conservation Institute

Notes 10/8, 10/9, 10/12, 10/1, 10/2, 10/3, 10/4, 2/5 1030 Innes Road

Ottawa , Canada

613-998-3721

(Good reference s for care and framing; accompanied by good illustrations)

The Museum Guide to Pest Control. Zycherman, Schrock. Foundation of the American Institute of Conservation 1988

Art Objects their Care and Preservation. Freida Kay Fall. Lawrence McGilvery Co. 1973

Dirt and Pictures Separated. United Kingdom Institute for Conservation of Historic and Artistic Works. Papers given at the Tate Gallery. January 1990

Conservation of Paintings and Graphic Arts. International Institute for the Conservation of Historic and Artistic Works Preprints of Lisbon Conference. 1972.

## **SUPPLIERS**

Framing Materials, Brushes, Humidity Indicators

University Products  
517 Main Street  
PO Box 101  
Holyoke , MA  
800-762-1165  
<http://www.universityproducts.com>

Light Impressions, Inc.  
PO Box 2376  
Brea , CA 92822-2376  
800- 828-6216  
800-828-5539 Fax  
[www.lightimpressionsdirect.com](http://www.lightimpressionsdirect.com)

## **REFERENCES**

For a listing of conservators in your area, please contact:

The American Institute for Conservation of Historic & Artistic Works  
1717 K Street NW  
Suite 301  
Washington, DC 20006  
202-452-9545  
<http://aic.stanford.edu/guide/form.html>

Note: The in-house conservation staff at The Henry Ford has developed these Preservation Fact Sheets to assist in caring for your historical materials. These fact sheets provide basic information on the care, cleaning, and handling of a particular type of artifact, referral information to other conservation organizations, and a bibliography of authoritative works. Individuals may also arrange for a private consultation with a conservator. For more information, please contact the Benson Ford Research Center at [research.center@thehenryford.com](mailto:research.center@thehenryford.com).



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