

**MILWAUKEE PUBLIC MUSEUM
CONSERVATION SECTION**

EXHIBITION GUIDELINES FOR OUTGOING LOANS

Any questions regarding these guidelines should be directed to the Sara Podejko, MPM Registrar (414) 278-2793. Exceptions or alternative proposals to these guidelines must be approved in advance by MPM's Collection and Research Department.

GENERAL

1. All objects must be exhibited in securely closed cases. Special security devices, including locks and alarms, may be required.
2. Objects may be handled only by persons experienced in the handling and installing of museum objects. Clean gloves must be worn when handling objects. If a glove material other than cotton or nylon knit is required, this will be designated on the Loan Agreement under *Special Conditions*.
3. Guards or museum staff members must be in attendance when an exhibit is open to the public.
4. Any questions regarding these guidelines should be directed to the Sara Podejko, MPM Registrar, at (414) 278-2793

ENVIRONMENT

1. Temperature and relative humidity levels should remain as constant as possible, within a range of 68-70 F (+/- 2 F) and 50% (+/- 5% within a 24 hr. period) relative humidity. More or less stringent environmental conditions may be required for specific types of objects.
2. There should be no natural light in exhibit areas. All windows and skylights must be covered by shades or blinds.
3. Acceptable light levels are:
 - 5 footcandles (50 lux) for extremely sensitive organic materials:
 - dyed and undyed textiles; silk; insects; natural history specimens; wool; fur; paper; dyed leather; feathers; natural dyed materials; lacquer ware, tapa; baskets; reeds; grass);
 - 15 footcandles (150 lux) for other organic materials:
 - bone, ivory; horn; wood; leather; rawhide; skin; furniture; paintings;
 - unrestricted for inorganic materials:
 - metals; unpainted stone; unpainted ceramics; glass.
4. Whenever possible light fixtures should be located outside cases. If incandescent lamps are located inside cases, the cases must be properly ventilated to prevent heat build-up. Incandescent light fixtures must not be closer than 3 feet to an object and must not put excessive heat on an object. Fluorescent light fixtures must not be closer than 2 feet to an object and must be filtered for ultraviolet radiation (UP3 or equivalent) or be ultraviolet-free. The maximum acceptable ultraviolet level on organic materials is 75 microwatts/lumen.
5. To prevent uneven fading, no portion of an object should be covered by another material or object.

CASE DESIGN AND CONSTRUCTION

1. All objects must be exhibited inside cases. Exceptions must receive specific written approval.

2. Objects may not be placed in contact with each other or touch the glass or Plexiglas of a vitrine. There should be an allowance of at least three inches between the object and the sides of the case. Objects with fiber or feather fringes, skirts, or other attachments should be at least six inches away from the walls of a Plexiglas vitrine to prevent movement due to static.
3. Free-standing cases must be adequately weighted with sandbag or affixed to the floor to prevent them from vibrating or rocking when bumped or jostled.
4. Exhibit cases and props should be constructed of materials which are free of acids and emit the least amount of volatile chemicals.
 - Acceptable materials include polyethylene foam (Ethafom); polyethylene plastic sheeting; polyester sheeting (Mylar Type D); polyester fabrics (Dacron, Terylene) Plexiglas; acrylic adhesives and paints; sealed select woods; metals; glass; ceramics; undyed cotton or linen; acid-free paper and board.
 - Unacceptable materials include wood pulp paper products; unsealed wood; wool; carpeting; sulphur dyes; vulcanized rubber; rubber derivatives; poly-sulfide adhesives; polyvinyl acetate emulsified resins; drying oil paints, oil based paints; polyvinyl acetate latex based paints; lead-based paints; formaldehyde containing products; polyurethane resins and foams; and any polyvinyl chloride containing product.
5. The following woods are acceptable for case construction: poplar, maple, balsa, and birch. If plywood is used, the following are recommended in order of preference: marine plywood, exterior plywood with both or one side without knotholes, and exterior plywood.
6. The following woods are unacceptable for case constructions: particle board/chip board, pressed-fiber board (Homosote), southern yellow pine, Douglas fir, cypress, redwood, red cedar, oak, hickory, pecan, butternut and sweet chestnut.
7. All exposed raw wood product surfaces used in cases must be sealed to reduce the offgassing of harmful vapors.
 - Acceptable sealants are: latex urethane acrylic (Benjamin Moore #416); acrylic paints (2-3 coats); shellac (2-3 coats); moisture-cured urethanes (non-oil modified); two part epoxy paints; and Marvelseal (aluminum/polyethylene foil).
 - Unacceptable sealants include alkyd based paints; polyvinyl acetate latex paints; oil modified polyurethanes; lead based paints; and oil-based paints.
8. Gasketing materials must be inert. Acrylic felt or brush nylon are acceptable. Any gasketing containing rubber or rubber derivatives are unacceptable.
9. Objects may come in contact only with stable materials.
 - Acceptable materials are Mylar Type-D; Tyvek; acid-free paper, board or tissue; washed and undyed muslin or linen; polyester fabric; and Plexiglas.
 - Unacceptable materials include wool; silk; polyurethane foams; and carpeting .
10. Objects should not be placed in direct contact with wood surfaces, even when sealed.
11. No organic material (e.g., wood, leaves, etc.) may be placed in the same case as an object.
12. All construction, including drywall and electrical work, in exhibit areas must be finished before objects are installed. Interior case construction, including drilling in cases to install mounts, speckling and painting must also be completed before any objects are installed.

13. All case interiors and fittings must be allowed to off gas for at least one week, and preferably three weeks, prior to object installation.

MOUNTS

1. All mounting materials in contact with objects must be stable.
 - Acceptable materials are sealed brass rods or flat stock (see #2 below) nylon monofilament; polyethylene surgical and heat shrink tubing; and Plexiglas.
2. Clamps and brackets must be padded with non-abrasive, stable, inert materials.
 - Acceptable materials are polyethylene tubing; moleskin; acrylic or polyester-based fabrics, and Decco felt. Wool felt is **unacceptable** padding material. Metal brackets used to mount objects must be coated with a barrier, preferably 20% Acryloid B72 in acetone.
3. Mounts must adequately support the weight of an object and hold it securely without subjecting it to excessive stress. The mounts for objects in free-standing cases must not subject the object to undue vibrations or rocking when the case is bumped or jostled.
4. No mounts may be permanently attached to an object. Objects should not be secured in place with sticky substances, such as tacky wax, museum wax, pressure-sensitive tapes, or adhesives. Objects should not be tacked, nailed, stapled, screwed, or otherwise permanently affixed to any part of a case.
5. Objects may not be suspended from handles, loops, hooks, or strings, no matter what their original purpose. Objects such as textiles, paper, and barkcloth must not be mounted with sharp folds or pleats.
6. Objects may not be tacked, nailed or stapled to a board, backing or wall.

Please read guidelines carefully, sign one copy and return to MPM's Registrar with Loan Agreement.

Name:

Position:

Date:

1 January, 2018
Sara Podejko
MPM, Registrar