

Cradles for Displaying Illuminated Manuscripts: Collection Rotations *versus* Temporary Loan Exhibitions at the J. Paul Getty Museum

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J. Paul Getty Museum

The Getty Museum is one of the few institutions in America that has a permanent gallery devoted to the display of medieval and Renaissance illuminated manuscripts. In addition to rotating installations drawn from the permanent collection, the Getty also has an ambitious program of international loan exhibitions featuring illuminated manuscripts. This paper will describe two visually similar but structurally different cradle designs used for each of these two programs to meet the specific design and display requirements, including re-use of cradles, rapid retro-fitting during installation and cost savings for loan exhibitions.

AESTHETICS OF DISPLAY

The aesthetics of the gallery experience dictated many decisions regarding the cradle design for displaying the collection. Low ambient lighting in the gallery and internal case lighting create a precious and sacred aesthetic environment and enhance an intimate, one-on-one viewing experience. Upright vitrine-style cases provide internal lighting projected downward from fiber-optic light sources installed above the display area of the case. These cases necessitated a tilted cradle design to maximize the visitor's ability to view the open manuscript on display. Given the dark bronze exterior finish on the display cases and the dark charcoal-gray colored fabric covering the display decks, a dark cradle was proposed by the Museum's designer to minimize the mount's visibility (fig. 1). The curator desired a design that would have a clear acrylic foot piece (ledge), to allow the folio edges of the open manuscript to be visible to the viewer so as not to "disembody" the painted illumination from the "bookness" of the manuscript.



Figure 1: Dark gallery ambient in the Getty Museum manuscripts gallery.

PAINTED ACRYLIC CRADLE FOR COLLECTION ROTATIONS

These aesthetic requirements resulted in a partially-pieced design of 1/4" acrylic painted a dark color, effectively making the mount "disappear" in the shadow of the open book (fig. 2).

The beveled edges and painted exterior of the cradle (sand-blasted and painted a dark gray) contribute to this effect. Since only the exterior surfaces are painted, no part of manuscript's binding come into contact with any painted surface. Yet, when subjected to atmospheric and materials testing, the painted cradle was found to off-gas traces of sulfur, an obviously deleterious atmospheric pollutant that will tarnish silver leaf and silver inks and convert lead-based pigments to a darkened lead sulfide within the illuminations. This trace pollutant is mitigated by off-gassing the cradles in a fume-hood for a minimum



Figure 2: Internally-lit, upright display case used for permanent collection rotations. Painted acrylic cradle is meant to disappear within the dark surroundings.

of four full weeks prior to use and by deploying trays of activated charcoal within each display case in the silica gel compartment below the display area.

The painted acrylic cradles are made with a mitered and welded V-shape and painted on their exterior with a separate flame-polished boomerang-shaped foot piece, and are constructed by an external plastics fabricator in Los Angeles (fig. 3). Made in a limited range of angles (90°, 100°, or 110° for the folio opening), the cradles typically have an angle of inclination of 30° angle of inclination for manuscripts in robust condition, with a 15° or 20° tilt used for compromised sewing structures and heavier text blocks, like large choir books. In lieu of multiple bends at the spine of the cradle, fabric pads are made to accommodate spine curvature of tight-back structures and to provide joint support as necessary. Tracing the profile of the open manuscript is key for the fashioning of the clear acrylic boomerang-shaped foot piece (ledge) and text-block supports (or packing pieces) for packing out the square of the binding to prevent sagging of the text block, straining the sewing structure, or crushing the tail cap while on display.

For earthquake mitigation, the manuscript is strapped to the cradle (not just to itself) at outer margins of the folio, using Benchmark polyethylene strapping, taped to the cradle with 3M® double-sided tape. Given California's history of seismic activity, earthquakes are an ever-

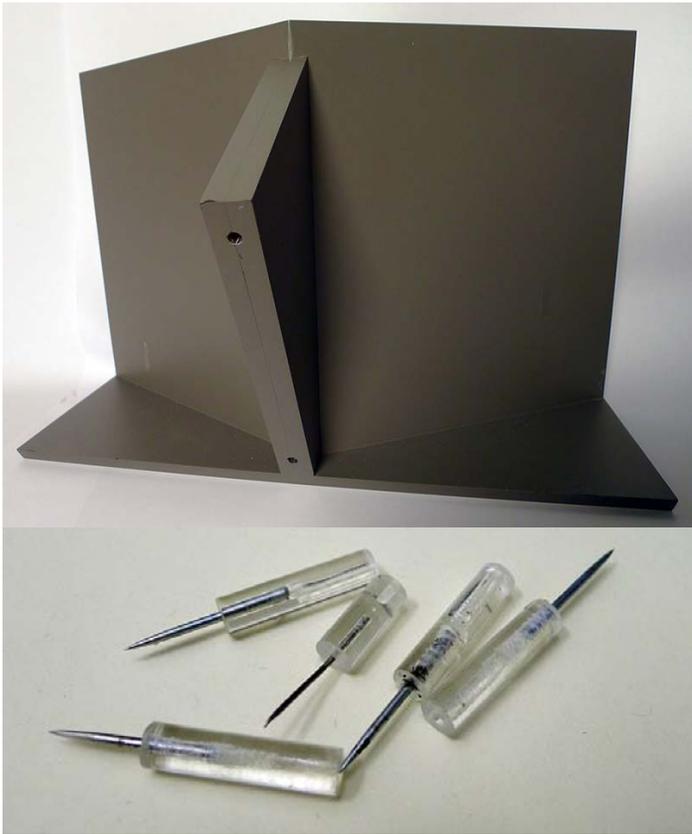


Figure 3: Painted acrylic design cradle with separate clear-acrylic boomerang-shaped foot piece (ledge) that fits into groove on cradle and separate packing pieces for text block support. This style cradle is used for rotations of manuscripts from the permanent collection.

present concern for all collections within the Museum. Cradles are anchored by a simple but effective measure: they are pinned to the display deck with a pair of acrylic-rod pins inserted into holes drilled into the foot of the cradle, and the pins are punched directly into the fabric-covered Gatorfoam® display deck (fig. 4a-4b). The guiding principle for our display cases is that everything should move as a unit in the event of an earthquake: the case is anchored directly to the floor with bolts, the display deck is secured to the interior of the case, and the cradle is pinned to the display deck. Having saved all of the cradles over the years, we re-use 75% to 90% of the cradles required for each rotation show of manuscripts from the permanent collection. Drawbacks of this cradle design are the per-unit cost (\$300-\$500 each), the one-month off-gassing period, the weak structure for the heaviest manuscripts (requiring added reinforcements), and the fixed (unchangeable) construction. These factors made this cradle style impracticable for special international loan exhibitions and required a low-cost, changeable, and stronger alternative.

LOW-COST, PIECED CRADLE DESIGN FOR LOAN EXHIBITIONS

With the organization of major loan exhibitions of manuscripts in the Special Exhibitions Pavilion at the Getty Center, a less expensive and pieced cradle design was required.



Figures 4a and 4b: Underside of painted acrylic cradle showing holes for earthquake-mitigation pins. Pins made of drilled acrylic rod with pins inserted.

Unless a lender requires the use of their own cradle, we typically provide the cradles for all loan manuscripts, particularly given our own requirements for earthquake mitigation, something institutions outside of the seismic ‘ring of fire’ do not typically take into consideration. In order to obtain accurate cradle dimensions, a letter of instruction and template forms are sent to the lenders for each loan object (figs. 5a-5b). The packet includes a template sheet with three angles of opening onto which the lender can trace the tail profile of their manuscript in the open position for the selected display folio at their preferred angle (for the clear acrylic boomerang-shaped piece: fig. 5c). The questions on the form are meant to elicit details about the condition of the binding regarding its ‘openability’ and other physical features, particularly from the institutions that may lack any in-house conservation support, or from private collectors who may have little to no familiarity with issues pertaining to the construction of a cradle (fig. 4).

But even if one can obtain measurements in advance from lenders, the cradle design for loan manuscripts must allow for last-minute changes to the dimensions and angle of display once the object has arrived and is unpacked. Ideally, the design would have to be straight-forward

Figures 5a-5b: Cradle measuring form for lenders to provide dimensions and condition issues for each loan manuscript.

enough to be made in-house. Fabrication would be done in advance; but if modifications were required, they would take no longer than 20-30 minutes for new cradle parts to be cut, so as not to disrupt substantially the installation schedule and to minimize waiting time for couriers. The cradle would have to be constructed with less-expensive materials that require no painting or off-gassing, so that it could be assembled immediately in the gallery. Additionally, curators and designers required a cradle of similar appearance to the Museum’s painted acrylic cradles so that the two styles could be used side-by-side in exhibitions that included Getty manuscripts. Given the number of manuscripts displayed (60–100) in some loan exhibitions, the total cost of raw materials

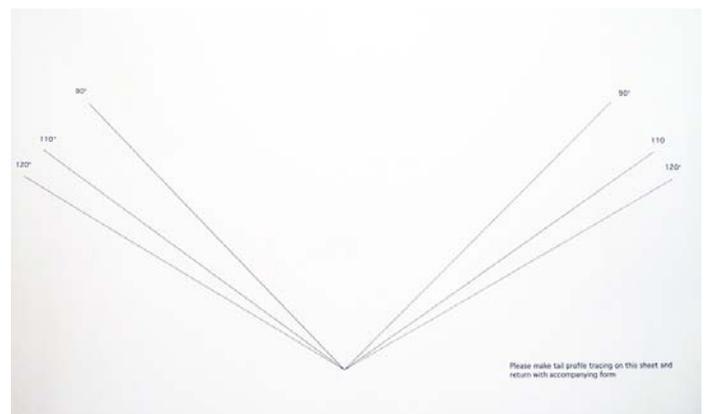


Figure 5c: Template sheet (1 per manuscript) on which lender draws outline for boomerang foot-piece (ledge)

would have to be significantly less than the painted-acrylic cradles.

The design developed by the Getty team consists of two black acrylic sides to form the V-shape; these two pieces are mounted onto a base of high-density black 4" plank black polyethylene foam that is heat-laminated into large blocks and cut to shape at the appropriate angles of opening and inclination specified by the lender for each manuscript (fig. 6). The foam base is screwed to the display deck of the case, and the left and right acrylic sides (with pre-drilled, counter-sunk holes) are screwed to the foam base (fig. 7). The lower edge of each acrylic side is grooved to accommodate the clear Plexiglas boomerang-

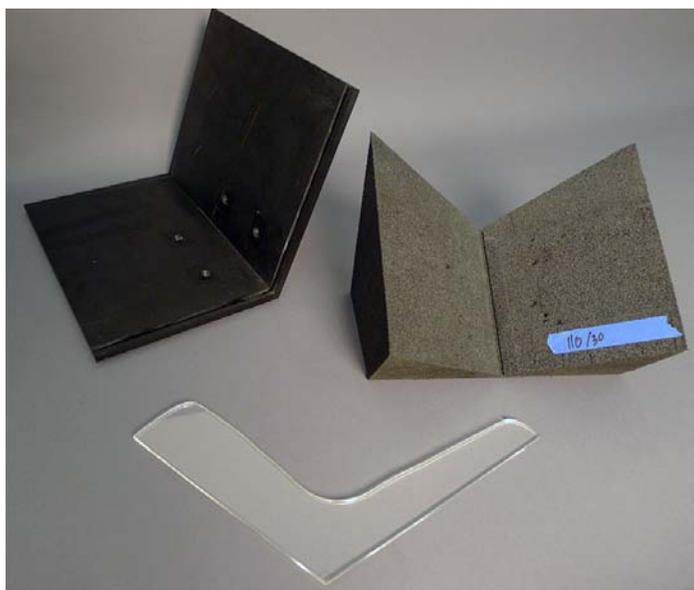


Figure 6: Separate pieces for the foam-based, acrylic cradle for use in loan exhibitions. Black acrylic V does not have to be glued at V-join.

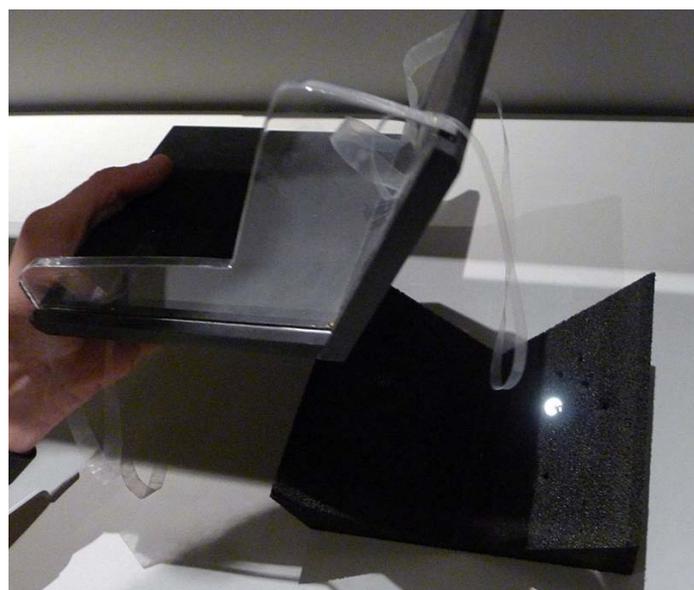


Figure 7: Assembly of foam-based, pieced design cradle for use in loan exhibitions. Foam base is anchored with two screws to display deck.

shaped ledge, similar to the painted cradle design (fig. 8). Each of the cradle parts is cut and fabricated by in-house Preparations shop staff, and the cradles are assembled in the gallery. The pieced-design allows for any last-minute adjustments to any or all of its parts, in case the dimensions obtained from the lender were incorrect, or if a courier prefers a different angle or seeks to improve the fit. And the design provides a considerably stronger support for the largest manuscripts and a much more robust earthquake mitigation overall (fig. 9). At approximately \$45–\$60 per cradle, the material cost for the pieced,



Figure 8: Assembly of foam-based, pieced design cradle for use in loan exhibitions. Black acrylic sides (either separate or welded with acrylic adhesive at V-join) are screwed to foam base of cradle. Clear acrylic boomerang-shaped foot piece (ledge) is inserted into grooved lower edge. Manuscript is strapped with polyethylene strapping taped to the acrylic sides of the cradle.



Figure 9: Assembled foam-based, pieced design cradle for use in loan exhibitions

foam-base cradle is about one-tenth the cost of the painted acrylic cradle. Foam bases and acrylic sides can be saved and re-used for future installations as necessary.

ECONOMICAL IN-HOUSE MADE ART-SORB® CARTRIDGES

As a precaution against HVAC failure (in the event of a seismic or other event), Art-Sorb® cartridges are always deployed in the Getty's manuscripts display cases for permanent gallery installations and for special loan exhibitions. Particularly for large loan exhibitions, commercially-available Art-Sorb® cassettes (available from Talas Online, priced at \$50 each) can be cost prohibitive. The Getty has developed a low-cost alternative made from pre-conditioned Art-Sorb® beads (purchased in bulk) and sandwiched between sets of small, rectangular window screen. For use in large loan exhibitions of manuscripts, with dozens of display cases, the Getty's Preparations Dept. shop constructed 200 Art-Sorb cartridges constructed of fiberglass window screen material and aluminum frames. Fabricated in two sizes (8 x 5" and 8 x 20"), two window screen placed face-to-face makes a single cartridge, with the Art-Sorb® beads placed within the recessed created by the two window screen placed face-to-face. The two matched window screens are clamped together with large-sized stationer's clips around the perimeter to hold the beads secure in the sandwich. (fig. 10). Conservation staff assemble the cartridges prior to installation. The cartridges can be re-used and, when no longer needed, can be easily disassembled with the Art-Sorb® returned to bulk containers until the next occasion for which they might be needed.

The cost-effective, foam-based, pieced acrylic cradle satisfies the aesthetic requirements of curators and designers, and provides safe and seismically stable mounts for the display of manuscripts in loan exhibitions at the Getty

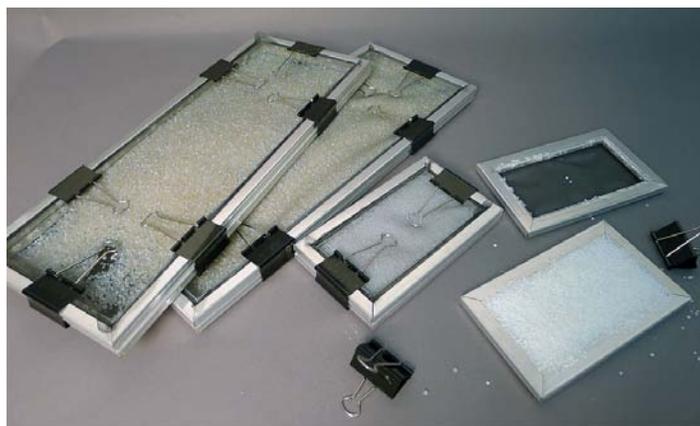


Figure 10: Art-Sorb cartridges made in-house with paired fiberglass window screen on aluminum window-screen frames, held together with stationer's clips.

Museum. The re-use of cradles and cradle parts, as well as the development of more-economical solutions for mounting and maintaining environmental conditions (window-screen cartridges for Art-Sorb®) have been essential components for the display of illuminated manuscripts in the Getty Museum's loan exhibition program over the last fifteen years. Together these practices provide an array of options for permanent display and special loan exhibitions, striking a balance between flexibility and sustainability.

MATERIALS AND SUPPLIERS

Painted cradles: Russ Roberts, ArtServices Melrose, 626 N. Almont, West Hollywood, CA 90069, www.artservicesmelrose.com

Gatorfoam®: Interstate Electric Co., www.interstateelectric.com

Acrylite/Evonik GP 1/4" acrylic:

4" plank black Polyethylene #600 foam: Sealed Air Corporation (previously Dow Ethafoam), www.sealedairprotects.com

Aluminum frame stock: Active Window Products, 5431 San Fernando Road West, Los Angeles, CA 90039-1088, USA

Fiberglass screen: McMaster-Carr, www.mcmaster-carr.com

Art-Sorb® cassettes and bead form: Talas, 330 Morgan Ave., Brooklyn, NY 11211, www.talasonline.com

Nancy Turner is Conservator of Manuscripts in the Department of Paper Conservation at the J. Paul Getty Museum. She studied bookbinding with Olivia Primanis and David Brock, and manuscripts conservation with Anthony Cains, among others. Since 1984, she has been responsible for the conservation treatment and preservation needs of the Museum's collection of medieval and Renaissance illuminated manuscripts. For the past thirty years, she has overseen the installation of manuscripts and rare books in the Getty Museum's galleries, including international loan exhibitions in the Special Exhibitions Pavilion at the Getty Center. Her special areas of interest include parchment conservation and the technical analysis and treatment of painted illuminations. She holds a B.A. (Art History and Anthropology) from Stanford University and an M.A. (History) from UCLA. Contact: nturner@getty.edu.