



Conserve O Gram

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A Custom Restraint to Mitigate Against Damage to Museum Objects Due to Seismic Activity

Protecting museum objects from damage due to ground movement has been a concern for museums for many years, especially in earthquake-prone areas. This *Conserve-O-Gram* provides information on how to create an acrylic restraining shelf to mitigate against damage of objects from seismic activity. See *Museum Handbook*, Chapter 10, Section B, Museum Collection Hazards, Vulnerabilities, and Disaster Prevention and the reference section for ways to minimize damage to collections in storage and on exhibit from earthquakes.

Custom restraining shelves are used to stabilize fragile or breakable objects. Acrylic restraining shelves that parallel existing shelves or displays provide custom cut-outs that are fitted to each object. The acrylic shelves hold the objects in place much as a test tube holder restrains racks of test tubes, see figures 1-3. The object should be held above its center of gravity (cg). The cg is usually the specific point where an object's mass is most concentrated.

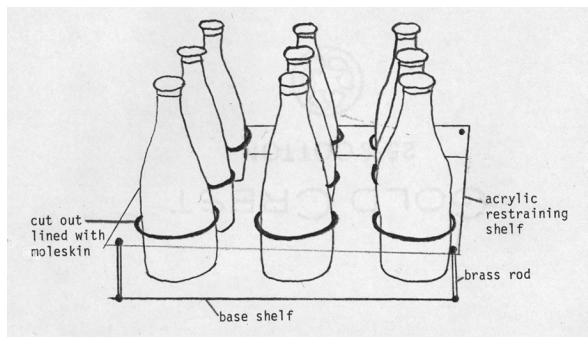


Figure 1. Bottles in a customized cut-out acrylic restraining shelf.

The acrylic restraining shelf is connected to the shelf with brass or acrylic rods. One end of each rod is threaded into the corners of the restraining shelf. The opposite end of each rod, which is not threaded, is then fitted into holes in the original base or shelf.

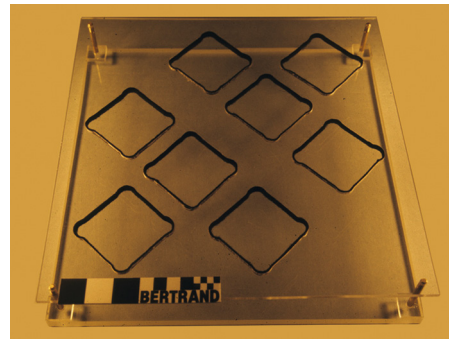


Figure 2. Square cutouts in an acrylic shelf attached to a base shelf.

Line the cut-outs with moleskin to prevent abrasion to the object. Shelves can be fabricated by specialized mount-making firms that handle acrylic sheeting, or by museum staff proficient in cutting acrylic sheeting.



Figure 3. Square bottles in a customized acrylic restraining shelving shelf.

If the object is being stabilized for storage, restraining shelves can be made of welded brass rod coated with polyethylene or Teflon™ tubing. The rods can also be coated with Acryloid B72 to minimize corrosion. Allow to dry before adding tubing. Cutouts can also be made by cutting thick Ethafoam™ blocks into custom configurations.

References

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