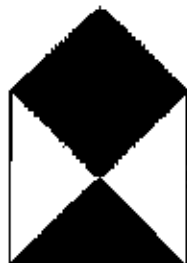


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# DISASTER SALVAGE TEAM

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## STORAGE OF LARGE OBJECTS

Guest Editor Steve Robson Airforce Museum.

Executive Committee



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## IDEAL STORAGE FACILITY for military equipment

### THE WAREHOUSE

The ideal storage facility is a building of permanent construction providing adequate cover and firm level flooring, spacious doorways and, where appropriate, of sufficient floor area and roof height to enable mechanical handling equipment to be used. Adequate lighting is essential, but provision must be made for the screening out of UV (from fluorescents) and daylight. Doors must be easily moveable so that they may be quickly closed in the event of damp or dusty conditions (this applies to both internal and external doors), roofs and windows must be water tight. Adequate heating and ventilation (or air conditioning) should be installed in order to ensure that suitable atmospheric conditions both for storage and working can be maintained. A dependable security system must be installed and maintained.

### CLEANLINESS

Accumulations of dirt and waste material cause artifacts to deteriorate, increase fire risk, encourage vermin and such accumulations must be prevented. Vacuuming is the preferred option, but if the floor must be swept, it is preferable that you would use a flat swivel jointed sweeping mop like the 'Masslinn sweeping tool' (only on linoleum or painted smooth floors). If a broom is to be employed, it is recommended that a sprinkling of damp sawdust be put down first to contain dust spread.

### OUTSIDE STORAGE

Where, for reasons such as lack of permanent covered accommodation, it is found to be necessary to store artifacts in the open (God forbid), they are to be raised clear of the ground (on dunnage) and suitably covered with tarpaulins etc., care being taken to leave space between stacks and covers so as to permit overall air circulation.

Note: All dunnage and support timber used should be ground treated and should also have an acid free buffer (consult a conservator) between the timber and the artifact. This serves two purposes, it cushions the artifact from what will undoubtedly be rough sawn wood and it should also prevent the treating preservative leaching between the timber and the artefact. If you have to place covers directly onto the artefact outside, (it is recommended that YOU DON'T - find a better way!) ADVANTAGE IS TO BE TAKEN OF EVERY AVAILABLE OPPORTUNITY TO REMOVE COVERS AND PERMIT EVAPORATION OF ANY CONDENSED MOISTURE.

### STORAGE PLANNING

The two principle factors influencing the layout of storage are the nature of the articles being stored and the characteristic of the storage area. Storage layout plans should be prepared and kept constantly up to date for each warehouse in use. In considering the nature of the articles to be stored the following points should be borne in mind:

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a. Artifacts which are used frequently on displays or are stored for only a short duration should be located near the despatch point.

b. Extremes of size, weight and shape need to be considered when planning utilisation of storage space. Large and awkwardly shaped and unusually heavy items or containers should be stored near the despatch point. Containers which are difficult to handle should be subject to special storage requirements.

c. The nature of the article often cancels out certain handling considerations, inflammable items (ie WW2 incendiary shells which contain magnesium; radioactive materials, most WW2 instruments glow in the dark; and valuable and attractive items currency or gold should be subject to special storage requirements.

d. Among the physical features of the storage to be considered are the type, position, number and size of doors, the location of lights and light switches, the capacity and location of overhead cranes, loading ramps etc. The following guidelines should be applied to secure the best location for artefacts in regards to the physical characteristics of a warehouse:

- a. Use doorways to determine the layout of gangways.
- b. Use uprights/pillars to the best advantage in locating gangways.
- c. Utilise lighting facilities advantageously.

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- d. Determine the width of gangways to accommodate mechanical handling
- e. Separate if possible the inwards and outwards bays to avoid traffic congestion and blockage in gangways.
- f. Consider the use of mobile racking to conserve space and avoid overcrowding of articles (mobile racking has a third benefit - in the event of sprinklers going off, a lot of artefacts will be protected from getting too wet).

Here ends part 1.

This article is a modified version of a military paper on storage.

Steve Robson  
RNZAF Museum.

## CERAMIC STORAGE

Courtesy of Rose Evans MONZ

Standards: Storage Systems

A storage system must:

Protect from water by

- 1) raising all collection items at least 150mm above the floor surface,
- 2) providing a canopy extending beyond the depth of the unit (no items on top of the canopy)

Not create condensation

Protect from light, dust, RH and temperature wherever the environment conditions vary beyond +/- 10% RH, +/- 5 degrees C and/or 300 lux, or dust intake is significant.

Be made from materials that will not contaminate/cause deterioration of items.

Be easily inspectable and cleanable.

Not collapse in an earthquake.

Protect from vibration and shock, both from the system itself and surrounding influences.

Restrain movement and topple of items in an earthquake.

Provide the greatest possible spread of the item's load, or incorporate a support structure to compensate.

Not put pressure on extremities and fragile areas.

Not cause abrasion of surface - support structures should touch as little of the surface as possible.

Allow each item to be accessed without risk to others and without the need to handle others.

Provide adequate clearance for safe access.

Be sized appropriately; the object must not protrude beyond the edge of the shelf.

Provide a perimeter to protect from bumping.

Allow the item to be picked up by appropriate handling points.

Any system over 1.5m high must have steps/platforms provided for access (need standards for these trolleys).

Cover up as little as possible so the item can be clearly seen and identified.

Provide a permanent location for each object to which it may return after display/use.

Ensure absent items will be readily apparent.

Provide visual identification of item without its needing to be moved or handled.

Provide instructions for picking up/handling (directions for handling points and non-handling points).

Identify the correct upright direction if the item is enclosed.

Provide locking systems on all visible storage, storage of small liftable items and frequently visited collections.

Provide support in transit as well as in storage.

Be modular and adjustable.

Be self supporting (e.g., tray systems, drawers etc).