



Design Note 6: Equipment Stores



Equipment Stores

Sports equipment stores, correctly positioned and adequately dimensioned, are essential to the efficient use of any sports facility.

Location

Stores should be immediately adjacent to the activity space they serve. The preferred location for the sports hall store is normally centrally on the long side of the hall and on the same side as its entrance. This allows access to all areas of the hall when it is divided across its breadth with minimum disruption to users; is the most efficient location for setting out and retrieving equipment; and avoids siting store doors near the goal areas at the end of the hall where they would be more vulnerable to damage.

Locating the store on the end wall would enable its use as a backstage area, but this should only be considered where the activity space will never be divided (for example the school gymnasium). If the main store is indeed located at one end of the activity space, a supplementary store at or near the opposite end may be desirable. The dance studio storage is likely to have to accommodate audio equipment and controls and should therefore ideally be on the wall behind the usual position of the teacher or instructor. Ultimately, however, user requirements should determine the position of and means of access to the storage areas.

It may be possible to service two activity spaces from a single store room. This may allow sharing of equipment between the two spaces, particularly mats, and therefore a reduction in the total amount of storage space.

Dimensions

The size of store required for each of the activity spaces will depend on the exact nature of the use, the equipment required and the amount of this equipment which can be shared between school and community users.

To cut down on storage needs, it is recommended that equipment for school and community use is shared where possible.

For sports hall storage, sharing of most equipment should result in a minimum storage requirement of about 15% of the floorspace of the hall. For the school gymnasium, the specific storage requirements of the gymnastics equipment will be key, but a minimum allowance of 20% will probably be required. Minimum storage of 10% of the floor area should be sufficient for the dance studio although the storage requirements of any temporary staging will be an important consideration. If significant levels of community arts or drama activity are anticipated in the dance studio, the storage requirement may well increase to around 20%. Demountable staging can add greatly to the flexibility of activity spaces but can take up a large amount of storage space and is time consuming to set up and remove.

The above recommendations should not be accepted without question. The most reliable way of making an accurate assessment of the space required is to establish the likely range of hall uses, prepare a comprehensive schedule of the equipment these uses require, establish what equipment can be shared and calculate the spatial demands. New activities will inevitably be introduced during the life of the facility and a

contingency should therefore be included for the acquisition of new equipment. It is easy to under-estimate the space required and it is normally sensible to err on the side of caution and provide more space than the calculations suggest is required.

To ensure an efficient use of storage space, the dimensions of the store rooms must be chosen carefully. The stored length of equipment (for example five-a-side football goals) should be considered when deciding the depth of each. The optimum shape of store room is one which is long and not too deep. It must be deep enough to accommodate the longest items of equipment, but a store which is too deep means that items of equipment placed at the front have to be removed in order to reach equipment stored at the back. This wastes staff time and increases the likelihood of damage to equipment. Conversely, too narrow a store uses up too much space for access and circulation.

For the sports hall, a minimum depth of 5m is appropriate. For the other spaces 4-4.5m will probably be appropriate, although for the gymnasium the size of the largest pieces of gymnastic equipment will be important.

Fire Risk

Crash (landing) mats should be considered a particular hazard, as should to varying degrees all other equipment containing cellular foam (for example roll-down carpets; mats backed with foam as an anti-slip device; trampolines and various small items of equipment).

All such equipment must be safely stored, but foam mats present the greatest risk and for these the most common approach is to provide a separate mat store which should:

- have one hour fire separation from the rest of the building;
- have smoke detection linked to the main reception and alarm system;
- be vented to the outside air, either directly or through a duct; and
- have lockable self-closing doors.

The mat store may be accessed from the main storage room or directly to the activity space. Depending on the overall layout of the complex, it may be sensible to provide a mat store which serves more than one activity space, with separate doors serving each. It is important to ensure this is large enough to store enough mats for both spaces, although careful programming of activities between the two halls may allow some of this equipment to be shared by both. Mats should be stored flat, ideally on trolleys.

If there is a great deal of other equipment which is also considered to be a hazard, a larger 'mat' store will be required. In such circumstances, it may seem more sensible to construct the whole of the store to be one-hour fire resistant. This removes the risk of hazardous material being stored in the wrong place and ensures there is always enough space to store all such equipment. It does, however, mean that the main store doors have to be fire resistant and it is generally preferable to have a separate mat store. It is therefore important to ensure that this store is large enough to accommodate all equipment which represents a fire risk and that all such equipment is kept in this store.



Store Access

The entrance to the store should be sited to facilitate the easy stowing away of large items of equipment. Door openings should give direct access to the activity spaces they serve and any secondary access (from the back of the stores) should on no account open on to a fire escape route.

Adequately dimensioned openings are essential to facilitate easy loading and unloading of equipment. Clear opening height must relate to the tallest items of equipment stored. It is important that the correct clearances are provided as injuries can result from users having to tilt heavy or unwieldy equipment. Clear widths have to take account of equipment and any transporters used to ease handling.

The door opening for the sports hall store room should have a clear opening height of at least 2.7m and be at least 4.5m wide. For the smaller spaces, a height of 2.4m should be adequate, with opening widths dependant on the equipment to be stored.

An example of a door for the store of the Main Hall can be found on the [sports-scotland](#) website.

The disadvantage of not providing a separate mat/fire resistant store (in particular for the sports hall) is that the large equipment doors at the store entrance therefore have to give one hour's fire resistance. This requires either a very heavy, unwieldy and expensive door, or alternatively a very large roller shutter which is likely to be noisy and easy to distort or knock off its runners. Both these options are less than ideal.

Lockable Storage

There should be separate lockable cupboards or trolleys for securing small-scale equipment which is valuable or easily mislaid or damaged if kept loose in the general store areas. This can include items such as balls and bowls, shuttles, rackets, wickets, boxing gloves, equipment fittings, and hand-held exercise aids. It is probably sensible to have separate sets of such equipment for school and community use.

Store Fabric

Sealed or painted blocks or bricks are suitable for store walls. They are capable of taking storage loaded fixings, are dust free and can readily achieve necessary fire ratings. Ceilings will not normally be installed unless required to achieve a fire rating within the store.

Painting the floor with different colours to denote storage and access zones can help ensure equipment is stored efficiently while leaving access routes for trolleys unimpeded.

Because of the requirement to move equipment within stores the floor must be laid flat and level. The threshold between store and hall floor finishes must also be level and uninterrupted by any obstruction so as not to impede wheeled equipment and trolleys. Even small changes in level between one floor finish and another are unacceptable, as is ramping or 'sweetening' of the store floor to correct mismatches in floor levels.

Environment

Equipment stores should be heated to a minimum of 10°C to protect the equipment and services contained within. In addition, opening a door between a cold store and an activity space will release cold air from the store making the temperature in the activity space drop. The size of stores in relation to activity spaces could make this effect pronounced, and it is therefore important that the difference between store temperature and activity space is not too great.

Power sockets should be provided next to any workbench for cleaning equipment and where equipment is inflated.

Dance Studio Audio Alcove

Schools and community users may be unable to share audio equipment and separate storage should therefore be provided. Two audio alcoves should open onto the studio (See [Design Note 4](#)) and must be lockable, possibly by means of a roller shutter or sliding door. Each alcove should have a light controlled independently of the main dance studio lighting. Alcoves should have shelving for audio equipment and storage for CDs, sheet music and other materials. The audio system should ideally incorporate speakers in each corner of the room. These should be mounted above a height of 2.4m.

Storage for Outdoor Activity Spaces

Storage for outdoor activities must be accessible from the PE block but should be positioned as close as possible to the exit to the playing fields. One storage room is required to house nets, posts and grounds maintenance equipment. This should be large enough and designed to allow out-of-season equipment to be stored for long periods of time while still allowing easy access to other equipment. The store must also be large enough to carry out maintenance work on outdoor equipment.

A second store, accessible to pupils, is required for equipment such as balls, hockey sticks, cones etc. The storage needs of all school and community users should be taken into account when deciding the size and precise location of this store room.

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