

Newtown Textile Museum: You will need to wear a woolly??

Introduction

Newtown Textile Museum is a museum set in typical 19thC weaving factory in Newtown, Powys and is managed by Eva Bredsdorff, senior museum curator (Montgomeryshire). The building is Grade 2* listed by Cadw so all works require their approval. Prior to recent improvements the museum had major problems with poor condition of the building fabric. There were also complications due to the occupation of the cottages associated with the factory by three tenants. Between 1995 and 2003 Powys County Council with the support of The Heritage Lottery Fund (HLF) refurbished the building and took ownership of the cottages. The whole site was then developed into a museum. The museum now comprises a row of three two storey cottages with two floors of weaving shops above.

Environmental assessment

In 2003 I was asked to recommend an environmental control strategy. At this point the major external works had been completed but the internal works had not begun. The problems for environmental management were as follows:

- Environmental conditions for the refurbished building were not known.
- The budget for environmental monitoring and control must be allocated at one time.
- The site will only be open and staffed for part of the year.
- The curator is based at another site, a 20 minute drive away
- The building retained many period features that must be preserved.
- The only route around the building involved going out of one door, crossing a courtyard and entering another.
- The museum planned to borrow collections from the National Museum Wales (NMW) and had to meet the necessary indemnity requirements.
- The workshop galleries has four looms for open display.
- The museum has a low revenue budget.

Passive measures

Prior to the refurbishment, environmental conditions had been mainly damp and cold. Insect infestations had occurred and objects showed signs of damage. We were starting with an 'unsuitable' building so the first steps were try to stabilise environmental conditions by:

- improving insulation,
- reducing air leaks,
- providing additional barriers such as internal doors or lobbies.

This activity was limited by the listed building status and display requirements. The main successes were lobbies at the stairwells leading up to the weaving shops, brush seals on external doors and some very basic curtains.

Environmental control

The aim for environmental control was to try to reduce excess rather than battle with the natural conditions. Equipment fitted must provide minimum disruption to the fabric and be simple to operate. The principles of conservation heating¹ were used, and a hierarchy of target conditions was established.

Equipment selected

Oil filled electric radiators fitted with timer controls and frost protection switches were specified. The project architects were concerned whether electric heaters would be sufficient but agreed not to install radiators because of the impact on the building, the lack of occupation all year round and the threat of disasters.

To assist the conservation heating de-humidifiers were plumbed in to reduce Relative Humidity (RH) in summer. Fortunately, because of the previous residential occupation the building has several drain points. A small number of humidifiers were also purchased in case it ever got dry.

Over specification?

When planning to control an as yet unknown environment it is very tempting to buy more powerful equipment than is needed. This would create more confidence that the equipment will perform as required and you would have the ability to control the environment if conditions worsen. The biggest temptation to over specify was that the money is available now but once it is gone, it is gone. However, spending too much on the equipment will reduce another budget and powerful equipment is larger and more intrusive. It may also provide too strong a response to conditions causing rapid environmental change. In the end, we resisted the urge to over specify and aimed for what we thought was required.

In order to target our efforts where they were most needed we agreed a hierarchy of environmental conditions,

1. Best conditions: Set for the collections
2. Second level conditions: Set for human comfort.
3. Third level conditions: Set for the workshop displays

Best conditions were set for stores and rooms with loan collections. The aim was for 50 – 60% RH all year round. Conservation heating tends to heat to approximately 6°C above external conditions so these spaces will be cool during the winter. To accommodate this and conform to security requirements all of the loan collections would be displayed in closed rooms with a viewing window. Other displays had the same equipment in open rooms. This would not achieve such precise conditions but in these rooms most of the collections were inside cases and had additional buffering.

Second level conditions were set for human comfort with least impact on the collections. Conditions were to be maintained in areas such as the reception and the study room only when people are in the building. The heaters were set to gently raise temperature before staff arrive. Frost protection settings and supplementary portable humidification equipment are available to protect from extremes.

The third level conditions were set for the workshop displays. Year round tight environmental control would be costly, intrusive and maybe impossible. For the third floor weaving display we were quite ambitious with targets of 5-19 °C and dehumidification year round to avoid extremes. The top floor was more problematic so the fall back plan was to pack up all the smaller sensitive collections into storage over winter.

Monitoring equipment

A telemetric monitoring system was set up that connected via a modem to the computer in the office of the county curator. Staff in the museum also have a real time display of conditions at the reception desk.

How did it work?

As with most projects some things went well and some went wrong. On the positive side the county architects signed up to what was for them a very unusual system and agreed in the end that it was sound. HLF released the money and the National Museum allowed their loans. The temperature has not caused any complaints.

There were continuous problems with collecting data from the monitoring system. Problems with the modem, compatibility of IT systems and the staff's lack of confidence to use the system all led to a loss of data. When the remote monitoring failed problems went un noticed including spent batteries in the loggers and electricians switching off all the equipment. Staff did not feel confident to interpret the results and make small modifications as the system became established. Most irritating to staff was the dehumidifier on the third floor which is large and quite noisy.

The future

There are many good points about the set up, the main drawback being that it has taken a long time to bed down, especially as consistent data is not forthcoming. There is a temptation to move equipment or settings without a clear picture of what is happening. I am optimistic that this will soon be resolved and we can re instigate a period of informed decision making;

Thanks as always to Eva Bredsdorf Senior Museum Curator for her willingness to work to the best practice in difficult circumstances and her truly amazing ability to get everyone to do what she asks them.

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ⁱ Bullock, L. Hayes, B. Staniforth, S and Singleton, A., (1997) Conservation Heating by Cable and Radio, National Trust Houses **Museum Practice 4** Museums Association, London 71-74