

Mounts installation in schools

We take a look at AV installations in schools from a mounting equipment view point - the challenges for teachers and installers in specifying the right equipment.

BECTA are the elected managing government agency for the installation of whiteboards and projectors into all state schools. The framework for implementing the provision of interactive whiteboards into the education sector highlighted a deficiency in a common installation standard of AV equipment.

There are AV accreditation programmes to raise standards and many AV distributors and installers have trained personnel providing best practice AV solutions into all market sectors. However, currently there is no regulatory body who oversees work to specified standards nor is there a specific British Standard for the installation of AV equipment. The quality, reliability, suitability and integrity of AV equipment, fittings, fixings, together with proposed locations for the attachment and support of such equipment needs to be taken into account when planning such installations.

Considerations for schools and installers:

- Specific school requirements and responsibilities
- Integrity and competence of Installers
- Integrity and competence of Suppliers
- Design, quality and safety of AV equipment – Projector/screen and attachment fittings/fixings
- Suitability of the location and position of AV equipment
- Structural integrity of AV equipment, fittings/fixings and building components (imposed loads)
- Integrity of cables and electrical safety
- Potential abuse of equipment

Unicol has been in the business of providing mounts for the AV market for 45 years and has stuck to its conviction



of providing strong and safe mounts for even the smallest of projectors and screens.

Much of the responsibility for equipping schools has devolved from Local Authorities to the schools themselves, which whilst concentrating decision making where it is most needed, can lead to a dilution of the right equipment for the job in hand. The advice that AV Installers can give in this regard has underpinned the proliferation of AV equipment into the Education sector thus far.

Objective

Unicol propose new guidelines to schools and installers to enable them to carry out risk assessments for the safe installation of whiteboards, projectors and screens into schools and elsewhere. This paper looks at the specific installation of suspended AV equipment, whether from a ceiling or wall, as this has the most

potential risk attached to it. The following points should be seen as additions to the guidelines already set out by BECTA and accreditation bodies.

Implementation

Individual schools management should ensure that they nominate competent staff to undertake health and safety management for the procurement and installation of AV equipment.

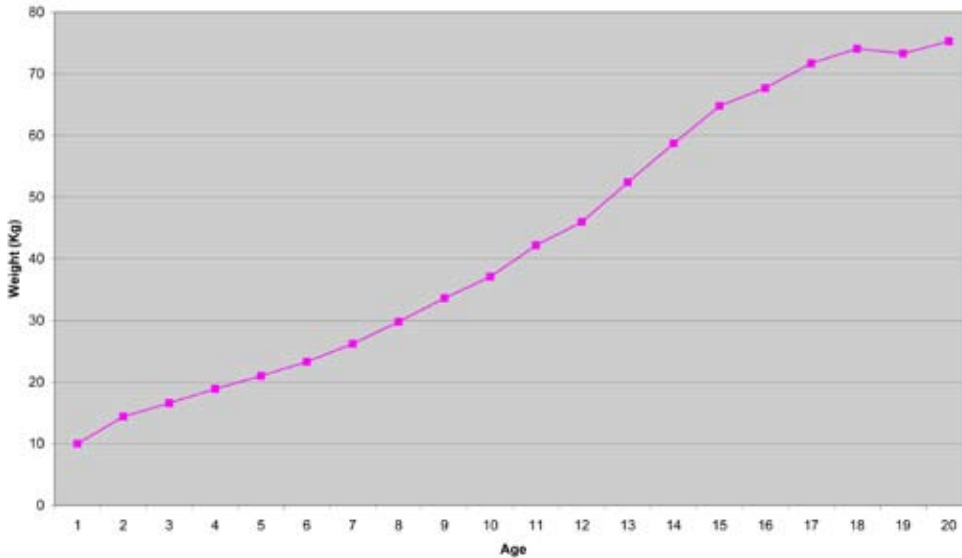
The structural integrity of the AV equipment and supplied fittings must be established by installers and school responsible persons. Suppliers/manufacturers should provide specifications which detail load restrictions and other safety information. Installers must provide this information and demonstrate compliance to school procurement officers.



At the site survey stage school responsible persons should:

- Provide risk assessments to installers based upon the consideration of the potential misuse of equipment by students and others who may be present. Imposed loads from persons hanging

Childrens Weight by Age (Department of Health Survey 2002)



from AV equipment must be taken into account according to HSE guidelines.

The key issue is whether a person, and in particular a child, could gain access to the suspended AV equipment. If so, the installation should bear the weight of an average child within the age group having access. Both equipment and installation must be designed to withstand this kind of abuse.

- In cases where children may well gain access to AV equipment suspended from walls or ceilings a table of children's weight to age ratios is shown at Table 1 above as a guide in order to carry out the risk assessment. A safety load factor of 5 times the load should be applied to the child's weight in order to calculate the total load.

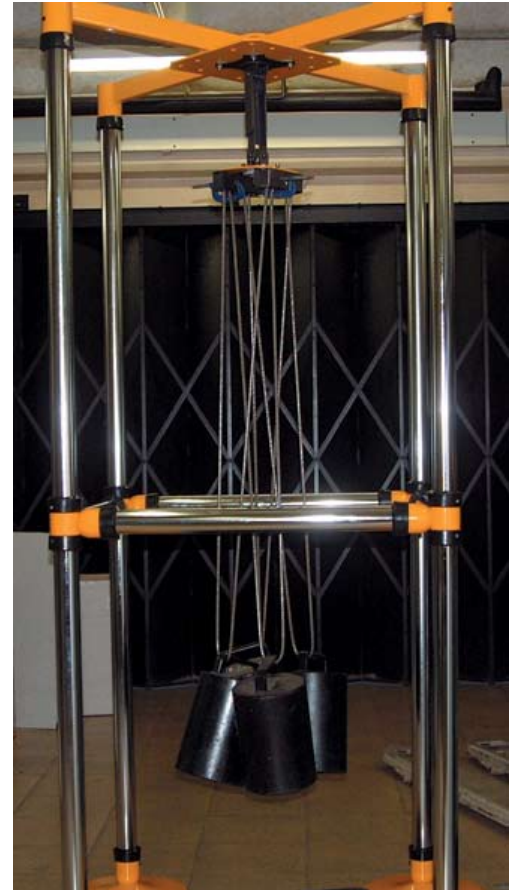
Installers must provide full written details of their proposals and supply Method Statements for the supply and installation of the AV equipment based upon any risk assessments given.

Installers must provide information on proposed fixings together with details of suitability and structural integrity. AV fixing locations must be carefully considered by installers and school responsible persons especially ceiling structures (e.g. suspended ceilings) and the leverage forces acting upon walls (e.g. projector booms).

Another consideration when installing projectors is where the person who is working within the beam of the UV radiation emitted by the projector, may be at risk if they look into the light beam for too long.

A risk assessment should be carried out by the responsible person:

- Under the normal working environment can the beam of light from a projector shine into a person's eyes?
- If 'Yes'
- Take preventative action by averting ones eyes from the light source. Users should make sure that direct beam viewing of the optical output from this equipment is both controlled and restricted to no more than a few seconds at a time.
 - Post Warning Signs referring to the hazard.
 - Ensure lamp intensity is no more than 1500 Ansi Lumens.
 - At next projector replacement consider installing a short throw projector, where the risk of looking into the light beam under normal working conditions is minimal.



Testing Regime

Unicol prides itself with having no known catastrophic failure of any of its equipment in 45 years of manufacturing. Much of this is due to the strength built into equipment at the design stage and the testing procedures carried out thereafter. Above is a typical example of a Gyrolock projector mount for projectors up to 12kg being tested with 140kg applied over a 48hr period.

Standard

This paper has looked at a small section of the installation process concentrating on mounts and safety issues. There are other issues which are generally taken into consideration by the majority of AV installers. However, a standard by which to work to would be a huge benefit and to this end BECTA have sponsored a BSI standard to be written. Perhaps this will galvanise the AV industry to set up a regulatory body to uphold the professional way we go about our business.