ASBESTOS IN 'CLASP' OR SYSTEM BUILT SCHOOLS

GUIDANCE TO DIVISIONS FROM THE NUT

Introduction

Asbestos has been the main cause of occupational ill health from about 1950 onwards and is still the greatest single work-related cause of death from ill health. Past exposure is now responsible for about 4000 people dying from asbestos related cancers every year. This figure is expected to rise over the next ten years and then decline.

Asbestos gives off very small and fine fibres which can be breathed in easily. They can remain in the lungs, or settle in the linings of the lungs and the chest cavity, for long periods after exposure and their presence can lead to many asbestos-related diseases.

Asbestos containing materials (ACMs) were widely used in the construction of post war schools; and continued despite growing awareness of its health risks. Only those schools built since 2000 can safely be assumed to contain no ACMs.

Control of Asbestos at Work Regulations 2006

No consideration of asbestos in schools is complete without reference being made to the Control of Asbestos at Work Regulations 2006 (CAW). These Regulations define those who own, occupy, manage or have responsibility for premises which may contain asbesos as 'duty holders'. The Regulations place a specific duty on them to identify and manage asbestos in those premises. The regulations also require those in control of premises, for example governing bodies, either to manage the risk from the material, or to cooperate with whoever manages that risk. Under the Regulations, duty holders are required to:

- take reasonable steps to determine the location and condition of likely asbestos containing materials; (ACMs);
- presume that materials contain asbestos unless there is strong evidence that they do not;
- assess the likelihood of anyone being exposed to fibres from these materials;
- prepare a plan setting out how the risks from the materials are to be managed and take the necessary steps to put the plan into action;
- maintain an up-to-date record of the location and condition of ACMs or presumed ACMs in the premises and review and monitor the plan periodically; and
- provide information on the location and condition of the materials to anyone who is liable to work on or disturb them.

Asbestos in CLASP and other System Buildings Working Group

Recently, the Health and Safety Executive (HSE) has turned its attention to asbestos risks in 'CLASP' or other system built schools. Following some recent incidents of asbestos exposure in schools of this type, the HSE set up the Asbestos in CLASP and other System Buildings Working Group to achieve a number of objectives, principally:

- to ensure that all school education duty holders are aware of the asbestos issues as they affect CLASP and other system built schools;

- to obtain information from school education duty holders to establish their level of understanding of the issue and application of the advice for remedial action given by HSE ;

- to evaluate the effectiveness of the remedial action advised by HSE;

- to obtain information on the level of compliance with Regulation 4 of the Control of Asbestos At Work Regulations (CAWR) 2006;

- to share information and guidance with the duty holders of other similar system built schools; and

- to provide further information and guidance to education duty holders.

Whilst it is true that CLASP-type buildings contain large quantities of asbestos, the NUT has reservations about the narrow remit for the Working Group. It is particularly vital that the work of the group does not lead to a widespread perception that the principal concern as regards asbestos in schools lies within CLASP and system built schools alone. **Asbestos is a problem in the vast majority of schools – of whatever age and building type**.

The NUT has consistently argued that the HSE should focus on the issue of asbestos in schools generally. Such a strategy should include:

- raising awareness amongst school managers and maintenance staff;
- publicising examples of good asbestos management practice;
- the provision of sector-specific guidance on dealing with asbestos in schools; and
- a thorough examination of the role and provision of occupational health care in respect of those who may have been exposed to asbestos fibres in schools[1].

Notwithstanding the points made above, the NUT is keen to maximise the benefits which might be afforded from the HSE's current focus on CLASP-type buildings. The remainder of this briefing explores the background issues surrounding these structures and the means by which problems might be addressed.

'CLASP' or system built schools

[1] This point is important for a number of reasons. The HSE has stated in respect of teachers that "there are too many deaths among a group which are supposed to have had very little asbestos exposure", yet its advice to those who may have been exposed is currently unclear.

Around 46 per cent of the 13,000 schools built in England and Wales between 1945 and 1975 were system/modular built. A large number of these were erected according to the Consortium of Local Authority Special Programme (CLASP) or the Second Consortium of Local Authorities (SCOLA) systems. They were designed to be of standard construction using a relatively light-weight steel girder construction with panel infill. Large quantities of asbestos were used in their construction, in such diverse locations as ceilings, partition walls, heaters, water tanks, pipes and window surrounds.

A lack of maintenance in many schools has led to general deterioration of the fabric; and the asbestos containing materials (ACMs) have suffered as similar fate. Worn or damaged ACMs represent a serious risk to health, and cannot simply be patched up and given a fresh coat of paint as might be the case with other building materials.

There are over 3,000 CLASP buildings still in existence. 'Scape', the trading arm of CLASP, holds information from which it is possible to deduce with reasonable accuracy the types of asbestos used in CLASP structures of different ages. Consequently, an estimate can be made of how many are likely to contain sprayed asbestos insulation, and how many are likely to contain crocidolite and amosite. Those wishing to find out more about this data should, in the first instance, contact the NUT Health and Safety Unit at Hamilton House.

Other types of modular school buildings also exist. About 6,000 system built schools were constructed between 1945 and 1975, a significant proportion being CLASP structures and the remainder being built to alternative system/modular designs.

It must not be forgotten, however, that asbestos containing materials (ACMs) will almost certainly be found in conventionally built schools, and schools that were refurbished. Some of those are of a similar design concept to CLASP buildings.

Asbestos was used in a range of ways in system built schools, but chiefly in cement, sprayed coatings, lagging and asbestos insulation board.

Given that in addition to possessing excellent fire-retardant properties, asbestos was also cheap, plentiful and light to transport, construction companies were inclined to see asbestos as the building material of choice. Furthermore, its lightness made it easier to work with and manipulate – notwithstanding the acute risks to health involved in so doing. Asbestos cement – mainly containing 'white' or chrysotile asbestos - was used extensively in CLASP-type buildings, particularly as sheeting on walls and roofs, slates, tiles, cold water tanks, gutters and pipes. Fibres are released from such materials with age; when the material is damaged; and during routine maintenance activities such as drilling, sanding, wire brushing and machine sawing. All these activities can produce dangerous concentrations of asbestos dust.

Sprayed coatings are probably the most lethal way in which asbestos was used. It was common for many sprayed asbestos products to contain up to 85 per cent asbestos, much of it the crocidolite form. Between 1935 and 1971, it was used extensively in public buildings for acoustic and thermal insulation and fire protection of structural steel work. It was common in system-built council housing and schools; from boiler houses and ceilings to balconies and walkways. Fortunately, much of this material has now been removed from accessible areas of such buildings. Sprayed coatings may, however,

remain in inaccessible areas such as cavity barriers, which needs to be borne in mind when maintenance or structural work is undertaken in this type of building.

Lagging is frequently just as deadly. Asbestos lagging was used around heating pipes and boilers, especially in public buildings such as schools and hospitals. It was first used in this way more than a hundred years ago, so any material surviving from this time will now be extremely friable. It has been found to give very high dust levels in service ducts where it is easily disturbed during maintenance activities.

During the 1950s, 1960s, and 1970s amosite was a favoured component of insulation boards which were used in ceiling tiles, curtain walling, partitions, and fire proof panels. They are found extensively in system-built schools. Asbestos insulation board (AIB) was also used in stairways, heating ducts, door linings and heating units. Insulation boards from this period often have a soft greyish appearance, and typically contain 16-25 per cent asbestos.

Asbestos exposure incident in a CLASP school

In 2006, asbestos contractors carried out some removal work at a school in Wales. On completion of their work, they failed to obtain asbestos fibre levels below the 'clearance level' of 0.001 fibres per millilitre (f/ml) when - as part of deliberate disturbance - they struck parts of the steel clad columns in the room.

Subsequently, scientific experts appointed by the Health and Safety Executive (HSE) arrived at the school to conduct more detailed tests[2]. These demonstrated that when some steel clad columns in the room were struck, airborne fibre levels of amosite reached 0.44 fibres per millilitre (f/ml) on a static sampler. This is 44 times higher than the 'clearance level' of 0.001 f/ml – the legal limit for the room to be occupied.

The HSE concluded that there was a potential for **significant** asbestos exposure to persons in the room from damaged or poorly sealed columns being disturbed in the course of normal day to day activities. It further considered that such levels of asbestos fibres could be released when the wind blew, a door was slammed or the wall was knocked. It was therefore reasonable to assume that these levels were a common occurrence.

From the information above, it has been calculated that every time a door was slammed or the wind blew in such a classroom, its occupants were potentially breathing in more than quarter of a million amosite fibres per hour.

HSL took several hundred air samples to measure fibre levels in 20 different CLASP schools. To simulate normal activity they hit the walls, slammed the doors and windows and sat on the window sills. Out of the 33 air samples carried out during this activity only eight were within the legal limits for classroom occupation. All the other readings were above the legal limit, some by a large margin. The mean level was nine times higher than the legal limit.

[2] Testing was undertaken by a number of contractors. The tests were analysed by Health and Safety Laboratories (HSL) – the scientific research arm of the HSE.

After remediation work had been carried out in some of the CLASP schools that were tested, the airborne amosite fibre levels remained above the clearance limit. Measurements taken while the schools were occupied revealed that the mean background level was ten times higher than the normal background level in a school with asbestos in good condition, whilst the highest background level was forty four times higher.

It must be assumed that these peak levels had been present for some time. As the schools involved in the HSL test were built in the 1960s and asbestos off cuts and debris had been swept into the wall voids and remained in the ceiling voids, it is possible that the peak levels had been present for a very long time - perhaps for decades.

The measures deployed by HSL to reduce the asbestos fibre readings to more acceptable levels included the use of silicone sealant and sticky tape – despite which expedient the asbestos fibre levels continued to remain above the clearance level in some of the schools. In discussions with the HSE, the NUT has expressed its dissatisfaction with the adoption of such strategies, arguing instead that such ACMs should be completely removed from the school.

Asbestos in CLASP and other System Buildings Working Group

In the light of a number of incidents involving the release of asbestos fibres in CLASP-type schools, the HSE and the DfES convened a working group with the specific task of examining the question of asbestos control in CLASP schools. The group included representation from the Local Government Employers, NASUWT, HSE and DfES. The HSE was at pains to insist that no teachers or children had been exposed to dangerous levels of amosite fibres in these schools; but that a review of available guidelines and advice for CLASP schools and local authorities was prudent.

The HSE has chosen to concentrate on the release of asbestos fibres via gaps in steel-clad columns – a common architectural feature of such buildings. This may lead to the formation of the view that fibre release from column casings is the pre-eminent cause of concern in system-type buildings. Such a view would be erroneous - and the NUT regards the HSE's decision to focus on such a specific issue as unfortunate. Much of the damaged, friable asbestos is hidden behind walls in CLASP schools and large quantities of asbestos are an integral part of the structure of the building.

The HSE does not share the NUT's view that complete removal of ACMs is the optimum solution to the problem. It is not disputed that the complete removal of ACMs from a school - followed by refurbishment - would undoubtedly incur considerable expense. On the other hand, measures which fall short of complete removal will always leave a degree of uncertainty as to their effectiveness. In some cases, no action will be taken at all. This occurs chiefly because senior staff lack the appropriate training in complying with their 'duty to manage' asbestos set out in the Control of Asbestos at Work Regulations 2006. It is to be hoped that the Working Group can offer a way forward in this regard.

In other cases, encapsulation programmes might be put in place, as suggested in the HSE advice appended to this briefing. Such remedial work, whilst preferable to inaction, remains highly unsatisfactory. Encapsulation – even if done well,

- should only be a temporary measure pending the instigation of a proper asbestos removal programme;
- may be accidentally damaged or vandalised, thus re-exposing the original ACMs; and
- may result in poor awareness of the presence of ACMs, leading to possible exposure during subsequent maintenance or repair work.

The NUT acknowledges that in some cases encapsulation might be an acceptable short term expedient. The principles of risk assessment require, however, that employers should seek firstly to remove all risks rather than to reduce risks or institute protective measures.

Beyond the Asbestos CLASP Working Group

Whilst welcoming any development which might raise awareness of the issues surrounding asbestos in schools, the NUT does have reservations about the remit of the Asbestos in CLASP and other System Buildings Working Group. In particular, the NUT remains deeply concerned about the narrow remit of the Group. Concentrating solely on CLASP and other system built structures might lead dutyholders to imagine that asbestos problems are largely confined to such schools, when the reality is that any school built before 2000 is highly likely to contain at least some asbestos.

Secondly, a further circumscription is placed on the scope of the Group's work in that it has dealt almost exclusively with the management of risks arising from damaged ACMs behind the casing of steel-clad columns. No detailed advice or information has been prepared about ACMs in any other locations within CLASP structures. Once again, some dutyholders might form the view that so long as they have had their steel columns checked and, if necessary, repaired, they have met the requirements of the asbestos regulations. This would be a wholly erroneous belief.

Thirdly, the NUT believes that proper health surveillance of those exposed, or who may have been exposed, is of paramount importance. Where dutyholders carry out inspections and find evidence of exposed ACMs, which have resulted in asbestos fibre releases above the clearance limit, they should issue health advice to those at risk, which should include having the incident recorded by a GP for future reference. Whilst the prognosis for mesothelioma is always poor, the earlier it is diagnosed the longer a patient's life can be prolonged.

On a more positive note, the guidance on asbestos management in CLASP-type schools proposed by the HSE is most welcome. The NUT has argued, however, that what is especially needed by heads, governors and senior managers is **training** on the fundamental issues of asbestos management in educational settings. The NUT has asked the HSE to consider the co-ordination of some regional-based training courses on asbestos management for dutyholders in the education sector, a request which the HSE has promised to consider.

In the meantime, Health and Safety Advisers should

- continue to follow existing NUT policy when dealing with asbestos issues in schools;

- seek help and advice where necessary from the appropriate NUT Regional Office/NUT Cymru or the NUT Health and Safety Unit at Hamilton House; and

- encourage NUT head teacher members to undertake asbestos awareness training – such as that provided by local authorities - where they have not already done so.

The following page lists a comprehensive range of recent guidance on the matter for ease of reference.

NUT Health and Safety Unit – July 2007
Revised September 2007

Other NUT Health and Safety Briefings on Asbestos in Schools

"Asbestos in Schools"
www.teachers.org.uk/resources/word/ASBESTOS-NUT-H&S-BRIEFING.doc

"Asbestos and Textured Decorative Coatings: The 2006 Regulations"
www.teachers.org.uk/resources/word/Asbestos_Textured_Decorative_Coatings_NUT_Briefing.doc

"Asbestos – Focus on Removal in 2007"
www.nut.org.uk/resources/word/ASBESTOS-FOCUS-REMOVAL-2007.doc

DCSF Information

DCSF guidance on pinning, stapling and tacking display materials to school walls or ceilings that might contain asbestos is available on the 'Teachernet' website at www.teachernet.gov.uk/management/resourcesfinanceandbuilding/schoolbuildings/designguidance/sbenvironmentalhs/asbestos/

HSE Information

"Asbestos – An Important Message for Schools"
www.hse.gov.uk/asbestos/schools.pdf

"Asbestos in CLASP and other System Buildings", as appended to this briefing, is at www.hse.gov.uk/services/education/claspguidance.pdf

Revised December 2007

APPENDIX: ASBESTOS IN 'SYSTEM BUILT' SCHOOLS

Control of Asbestos Regulations 2006

Information note for education authorities and governing bodies as duty holders

PURPOSE

1. This briefing note gives information about asbestos in CLASP school buildings built between 1945-1980. However, it should be noted that the same issues are faced in all types of 'system built' schools constructed during the same period. The names of other known systems are given in the further information sector at para 25.

2. It sets out the action that education authorities and governing bodies as duty holders (see para 12) are required to take to manage asbestos in CLASP built schools of the period defined in para 1 above.

3. Local Authorities and Governing Bodies as duty holders should already be managing the risks from asbestos present in schools within their control. However, there is new information about the potential for asbestos fibre release from damaged column casings in 'system built' schools. This damage, which includes 'cracks' and 'gaps' may have occurred as a result of previous alteration, removal or direct physical impact on the casing.

INTRODUCTION

4. Asbestos containing materials (ACMs) were widely used in 'system built' schools constructed during the period 1945 – 1980. Within all buildings of the period, ACMs were used extensively on pipe work, heating plant and other services, and as ceiling tiles and wall panels. For example many of the 'system built' schools used lightweight steel frames that required fire protection, particularly in ground floor locations of multi-storey buildings. Asbestos insulating boards (AIB) were used for this purpose. It is important to note that the building systems developed over time and details were revised and specification of materials changed. This has led to variation in the types and locations of ACMs.

5. CLASP (Consortium of Local Authorities Special Programme) was formed with the purpose of developing a method of building, which did not rely on traditional building skills, to provide fast and efficient permanent school buildings. The systems were developed as either proprietary contractor owned products or Local Authority Consortia designs. There are more than 1400 CLASP built schools in the UK, distributed among 89 LEA/Children's Services Departments. Independent schools own a small number of CLASP buildings.

6. Marks 2, 3, 3b, 4, 4b and early 5 CLASP buildings built between 1945 and 1980 may all contain asbestos materials, particularly mark 4 and 4b. Other 'system built' schools will have used similar construction techniques and are also likely to contain asbestos (see para 25).

7. In these types of school buildings, some metal casings around the steel columns may be insulated with AIB. The AIB may only be present in those that provide fire protection. It may be fixed directly to the column or glued to the metal casing. ACMs may also be found in blind boxes to the windows.

8. ACMs may also have been used in these buildings as unrecorded substitute items where there were material shortages and/or poor supervision. In addition excess or waste ACMs may have been left hidden inside columns or panels. Consequently, asbestos may be found in some unexpected locations and the presumption should be that ACMs would be present in other concealed areas.

MANAGING ASBESTOS

9. Education duty holders have a responsibility under regulation 4 of the Control of Asbestos Regulations (CAR) 2006, to manage the risks arising from asbestos in the school buildings under their control. Duty holders must take reasonable steps to find ACMs in their premises and to check its condition. Duty Holders must provide information on the location and condition of the asbestos to those people who are liable to disturb it. The information is particularly relevant to contractors and others who undertake maintenance and refurbishment work or other work, which disturbs the fabric of the building, e.g. cable installation.

10. ACMs pose no threat to health if intact, undamaged and not disturbed. HSE recommends that ACMs are left in place where they are in good condition and will not be damaged by occupational activities. These materials do not present a risk to the building occupants.

WHO HAS THE DUTY TO MANAGE ASBESTOS IN SCHOOLS?

11. For the majority of schools it is the employer who has an obligation to manage asbestos as a 'duty holder' under Regulation 4 of the Control of Asbestos Regulations 2006. Who the employer is can vary with the type of school:

- For community schools, community special schools, voluntary controlled schools, maintained nursery schools and pupil referral units the employer is the Local Authority.
- For foundation schools, foundation special schools and voluntary aided schools, the employer is usually the Governing Body
- For independent schools, the employer is usually the Governing Body or the proprietor.

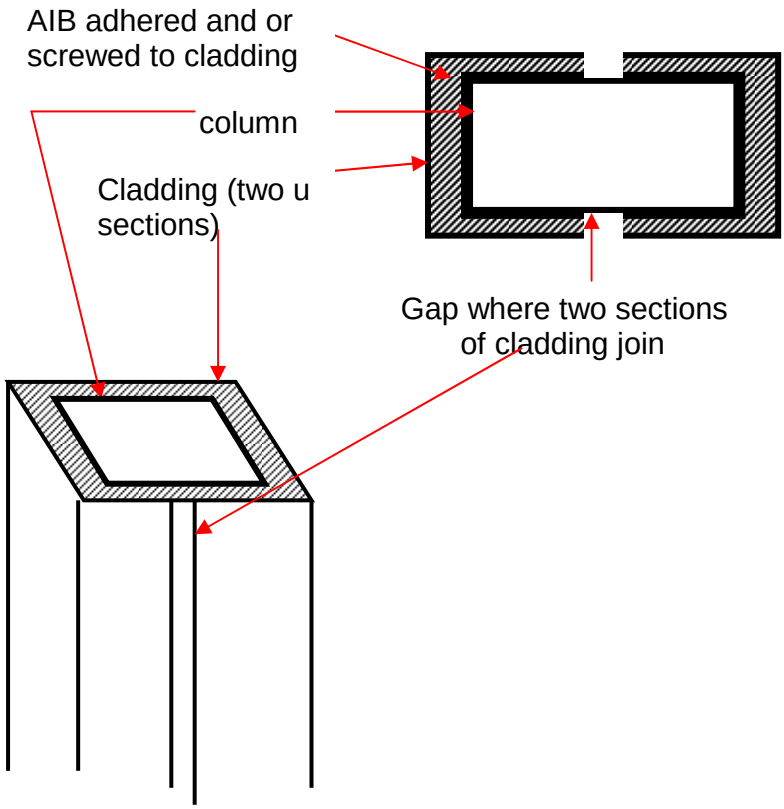
ACTION REQUIRED BY DUTYHOLDERS

12. Local authorities and Governing Bodies as school employers and duty holders must ensure the following action is taken to manage asbestos in schools.

i) Identify all CLASP (and other building systems) school buildings, particularly mark 4 and 4b as a priority, but also include CLASP schools built between 1945 and 1980. Assistance on identifying CLASP buildings can be obtained from SCAPE (see para 24). Carrying out a desktop survey of building plans can also help with this but note that these plans may not always be wholly accurate.

ii) Where the building is a CLASP or other system design, visually inspect (see para 14 on priority) the full lengths of all the column casings for cracks, gaps or damage, including the back of the casings as there is potential for gaps to occur here as well. Also inspect the top and bottom of the column casings.

Figure 1 - DIAGRAM OF CLADDING AROUND COLUMNS



iii) Seal all gaps to the column casing, skirting and walls to enclose dust and debris with a silicone sealant. UPVC strips can be used as finishing over the top of the gaps using the same sealant.

iv) Visually check to ensure that the sealing is effective.

v) Following remedial works make sure that the area is thoroughly cleaned and visually inspected to ensure that there is no dust or debris remaining. Airborne monitoring can be carried out for reassurance purposes or if there is doubt over the effectiveness of the enclosure.

vi) Note and record the action taken.

13. As the above action does not involve any direct work with ACMs, a competent person rather than a licensed asbestos contractor can carry out the work as long as they have been trained and equipped as described in paras 17 and 18 below.

14. Priority for the visual inspection should be given to:
- Mark 4 and 4b buildings as a priority but also include all buildings constructed prior to 1974
- Ground floor columns, as they are the most likely to have AIB fire protection on the steel work
- Where refurbishment works have disturbed the column casings and the internal lining to the external wall.
- Where cables or wires have been threaded inside the column casings possibly disturbing the ACM.
- Where items have been fixed to the column casings.

15. The tops of columns in the ceiling void are usually open or unsealed. Where the column AIB has been damaged there may have been spread of asbestos material into the void. There is no risk unless people enter the area. Therefore anyone entering the void should be aware of the potential for contamination. A visual inspection should be carried out to determine if there is any asbestos contamination. If contamination is detected, it will need to be cleaned up and the tops of the columns sealed using polyurethane foam or similar. Only licensed asbestos removal contractors should carry out the decontamination and remedial work.

16. Any further work that may disturb the column casing should be properly assessed to determine the potential for ACM disturbance. Where work with ACMs is likely, it should be carried out in accordance with CAR.

17. Suitable induction training in relation to asbestos awareness should be provided to those managing this work and to all employees undertaking the work to ensure that they are competent to do the job safely. The training should include information about what asbestos is (the types), what the risks and health effects are from exposure to asbestos and how to wear respiratory protective equipment (RPE).

18. All employees involved in supervising or handling asbestos waste should be provided with suitable and appropriate personal protective equipment (PPE) as a precaution. Suitable PPE includes:
- Disposable overalls (type 5) fitted with a hood.
- A suitable particulate respirator e.g. a disposable FFP 3 mask.
- Cover shoes or boots without laces e.g. (laced boots can be difficult to decontaminate).

19. All PPE should be inspected before use, and any defects reported to the relevant supervisor. Users should be instructed to put the facemask on under the hood of the asbestos suit and not over the hood.

BACKGROUND

20. Following some asbestos work at a Mark 4/4B CLASP school in late July 2006, contractors failed to obtain levels of fibre in air below ‘clearance levels’ when as part of deliberate disturbance they struck parts of the metal casing around columns in the room.

The measured concentrations inside the tented enclosure suggested that there was release of fibres from within the columns. The standard method used to count the fibres does not discriminate between asbestos and non-asbestos fibres.

21. This information was reported to HSE mid-September 2006. An assessment of the cause of the release found that a particular set of circumstances was needed for there to be a release of fibres. These are:

(i) damaged asbestos insulating board and debris lying within the columns, for example, if the AIB has been damaged by earlier maintenance or installation work such as window replacement that has broken into the columns (this method of work is contrary to advice from SCAPE System Build Ltd, which is the trading company for CLASP)

(ii) significant impact on the casings, i.e. casings being forcibly struck causing fibres to come off the exposed edges of the damaged AIB.

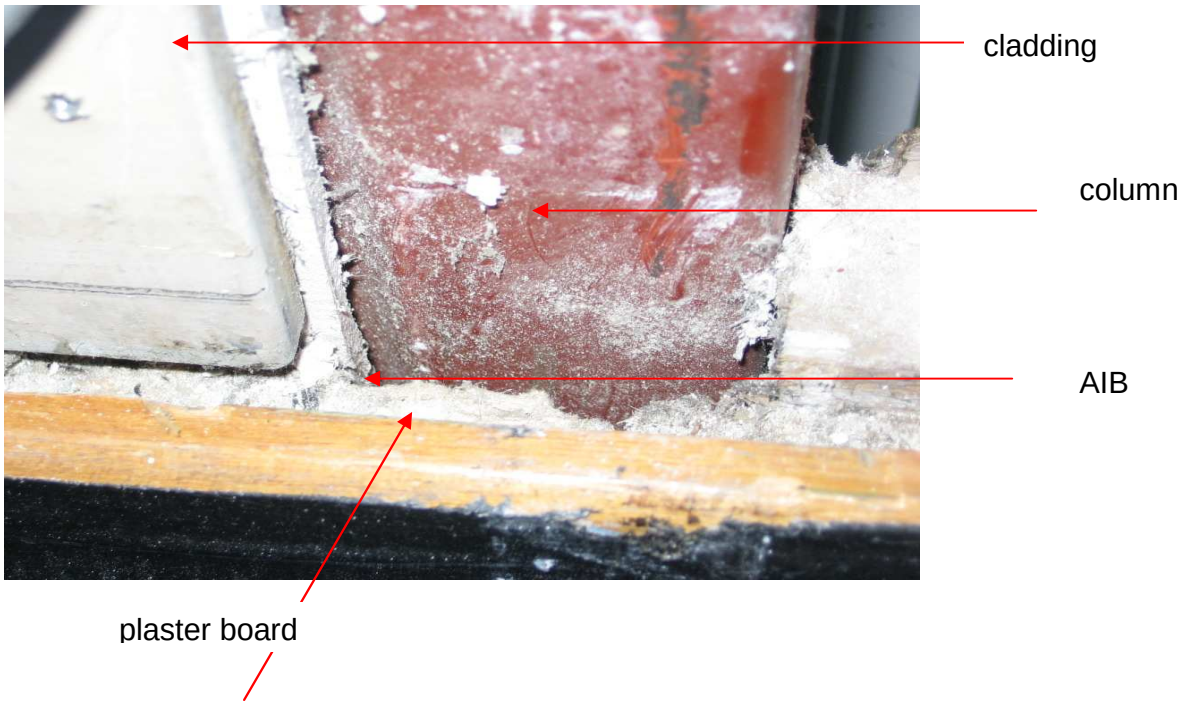
(iii) a poor seal in some of the metal column casings that are meant to enclose the AIB, causing gaps through which fibres can escape into the room. Gaps are most likely to occur at certain points in the metal casing around the columns (see figure 1 and photographs 1 and 2). They are most likely to be present if the metal casing has been cut in some way, for example, by maintenance and installation work or if the casing has been removed and then repositioned. However, even where none of these activities have occurred, gaps may still be found along the 2 joints to the column casings or at the bottom of the casing.

22. Further investigations showed that there were a number of other factors that would have contributed to the incident:

- During the original construction of the school, waste material, including AIB and asbestos cement sheet, had been discarded within the external wall cavities. This was particularly poor practice and could occur in other system-built schools.
- The metal column casings had been disturbed over the years during cabling and other minor work. These activities had caused damage to the concealed AIB.
- Replacement windows had been fitted in a manner that had also caused disturbance of the metal column casings and damage to the AIB. Window replacement work was not carried out in accordance with CLASP's standard recommended fixing methods.
- Debris from previous asbestos installation or removal works in the column casings behind panels, walls skirting board etc. Again this was particularly poor practice in this school and may or may not be common to other system built schools.

Photo 1 - Metal clad column showing gap at front of column where the two halves of the cladding meet.

Photo 2 - Window column with half the section of cladding removed –revealing the column and AIB



FURTHER INFORMATION

23. The Scape **Asbestos Awareness Handbook** can be down loaded from http://www.scapebuild.co.uk/NetBuildPro/process/29/BuildingSystems.html . The Handbook is not a substitute for the correct performance of the procedures and surveys set out in the HSE Regulations. It does, however, provide guidance as to where asbestos was typically specified in the CLASP standard details.

Scape

24. Scape System Build Limited is a Local Authority Controlled Company. It commenced business in April 2006 and is the trading company for the CLASP Consortium. For more detail consult the Scape web site www.scapebuild.co.uk and the CLASP web site www.clasp.gov.uk.

25. Other building designs include local authority systems such as SCOLA, MACE, ONWARD, Method, SEAC and contractor systems such as Hills, Laingspan and Vic Hallam.