Asbestos (www.safetyindesign.org.uk)

The Problem

If disturbed, asbestos can be a very harmful material. Designers are in an ideal position to help manage the hazards associated with it – making the construction site a safer place to be.

Asbestos is a dangerous material with the potential to cause very serious health problems for those who come into contact with it.

Although the use of asbestos is now completely prohibited in the UK, it was used extensively in the construction industry throughout the 20th century. As a result, there is a risk that construction workers will be exposed to high levels of asbestos during renovation or refurbishment projects, if the right precautions are not taken.

To guard against the risks associated with asbestos, there is now a set of regulations that strictly controls how people work with asbestos-containing materials (ACMs).These are the Control of Asbestos Regulations 2012, which bring together all previous sets of Regulations.

Hazards associated with asbestos

If ACMs are disturbed, asbestos fibres are released into the air. If these fibres are inhaled they may become trapped in the lungs and remain there for many years. This, in turn, may lead to asbestosis, mesothelioma, or certain types of lung cancer – all diseases for which there is no cure.

Identifying an asbestos risk

Before asbestos was completely banned in 1999, it was commonly used in construction projects. Designers should bear in mind that, if a structure was completed before the mid-1980s, it is likely to pose an asbestos risk. This will be relevant to any project that involves the demolition, renovation or refurbishment of such buildings or structures.

It is the client's duty to provide contractors with information that will help them manage asbestos. Designers should advise clients of this duty, and of the need to establish the location of any ACMs prior to the commencement of any work on the fabric of the building.This is where the asbestos report comes in.

Asbestos survey reports

An asbestos survey report should confirm the exact location of any asbestos or ACMs, their physical state and the approximate quantities to be removed or retained. If any area could not be accessed for surveying, this should also be stated in the report.

Helping to manage the asbestos risk

Although it is the contractor's responsibility to ensure the safe handling of asbestos on site, designers have an important role to play in the management of this material.If an asbestos report confirms the presence of asbestos, you should alert the contractor to this. As a minimum, you should provide the contractor with the following information:

•Any asbestos reports

•A physical description of the work area – for example the number of:

– Windows and doors

– Other ventilation points

– Penetrations in the fabric of the work area (for pipes, ducts, lift shafts)

• Approximate quantities of ACMs to be retained or removed

•The physical state of the ACMs – for instance, are they completely intact or badly degraded?

• A schedule for turning off ventilation systems, if they have to be left active while work is being carried out

• The location of the nearest licensed dump, if known.

If ACMs are identified on a site, they may either be retained or removed. If the asbestos report indicates that ACMs are in a degenerated state, designers should seek expert advice before making a decision to retain them. In either case, you should ensure that all exposure to asbestos is kept to a minimum.

Asbestos (www.safetyindesign.org.uk)

Where ACMS are to be retained
The best way to deal with asbestos is to leave it undisturbed.

Covering asbestos
If existing protective coatings are degraded or damaged, you should specify a new protective barrier. For example, asbestos-containing floor tiles could be left in situ and covered with overlay, or additional protection could be added to existing insulation. In such cases, the asbestos should be covered at the very earliest opportunity.
You should also keep a full record of the location of ACMs in both the asbestos register and the health and safety file.

Working near asbestos
If a design requires operations to be carried out close to an ACM, and this is likely to increase the risk of disturbing it, you should consider an alternative specification.

Working on asbestos
Designers should also avoid specifying the application of any aggressive process – such as cutting, hammering, sanding or drilling – to an ACM. This is because such processes may cause the ACM to break, disintegrate, crumble or turn to dust, and allow asbestos fibres to become airborne.

Where ACMs are to be removed
Asbestos removal should only be carried out by a licensed asbestos-removal expert.
Any restrictions that apply to the site, such as restrictions on transportation routes, should be communicated to the contractor.

To prevent the spread of asbestos, the contractor should also be informed of any ventilation systems that cannot be shut off during the removal process.
After the build, employers have an obligation to assess all non-domestic buildings for asbestos.
The position and condition of any ACMs must be recorded, and a plan put in place to manage them safely. This information must be made available to anyone who may need it, such as the occupants of the building, contractors, and anyone else who may need to work on the structure.

Where asbestos may be found
(Note: this list is not exhaustive, and is intended only as a general guide)
Asbestos, or ACMs, have been found in the following:

- Slates and roof sheeting
- Some cement pipes
- Cement wallboard
- Asphalt floor tiles
- Vinyl floor tiles and sheets, and wall coverings
- Construction mastics
- Acoustic plasters and some decorative plasters
- some textured paints and coatings
- Some ceiling tiles
- Some fireproofing materials
- Thermal taping compounds
- Some packing-out materials – especially where services and other pipework penetrate the building fabric
- High temperature gaskets
- Fire curtains
- Elevator equipment panels and brake shoes
- HVAC dust insulation
- Thermal insulation, as follows:
  – Insulation to boilers and pipes
  – Spray-applied insulation
  – Blown-in insulation
  – Insulation to electric wiring
  – Breaching insulation
  – Insulation to some industrial chimneys
- Flexible connections in service runs – especially hot runs
- Cooling-tower channels
- Chalkboards
- Roofing shingles and felts
- Base flashing
- Thermal paper products
- Fire doors
- Caulking putties
- Some industrial adhesives
- control of Asbestos Regulation 2012. These regulations consolidated the 2006 regulations by including related EU requirements for …
- … Largely the same