

Asbestos – Hazards and Risks

Asbestos is the name of a group of silicate minerals that occur naturally and are commercially recoverable in certain parts of the world. Asbestos has many properties such as heat and chemical resistance and electrical and thermal insulation that render it attractive for use in a number of processes. The three main commercial types of asbestos are Crocidolite (Blue), Amosite (Brown) and Chrysotile (White).

Asbestos is a recognised human carcinogen, ill health being caused by the inhalation of respirable asbestos fibres. The risk of contracting an asbestos related disease depends on a number of relevant factors such as levels of exposure and fibre size. Exposure to airborne concentrations of asbestos dust and fibres can cause Asbestosis, Lung Cancer and Mesothelioma.

Asbestos is not hazardous if it is in a good condition and it is not being, or likely to be, disturbed. However if it is disturbed or damaged it could become hazardous through the release of fibres into the air. Disturbing asbestos that is not in a sound condition, for example flaking or crumbling surface, or drilling, cutting, sawing or breaking asbestos-containing materials can release respirable fibres.

Some asbestos-containing materials are more vulnerable to damage and more likely to give off fibres than others. In general materials that contain a high percentage of asbestos are more easily damaged. Sprayed coatings, lagging and insulating board are more likely to contain blue or brown asbestos. Asbestos insulation and lagging can contain up to 85% asbestos and are most likely to give off fibres. Work with asbestos insulating board can result in equally high fibre release if power tools are used. On the other hand, asbestos cement contains only 10%-15% asbestos. The asbestos is tightly bound into the cement and the material will only give off fibres if it is badly damaged or broken.

The importation and supply of new products containing Crocidolite and Amosite was prohibited from 1st January 1986, with other forms of asbestos, including Chrysotile, prohibited from 1st January 1993, unless in either case it is covered by an exemption certificate issued by the Health and Safety Executive. Consequently products supplied after the above dates should be free of the relevant type of asbestos. Importation, supply or use of asbestos solely for the purposes of research, development or analysis is permitted.

The following list of materials that might contain asbestos is roughly in order of ease of fibre release (with the highest potential fibre release first):

- sprayed asbestos and asbestos loose packing - generally used as fire breaks in ceiling voids;
- moulded or preformed lagging - generally used in thermal insulation of pipes and boilers;
- sprayed asbestos - generally used as fire protection in ducts, firebreaks, panels, partitions, soffit boards, ceiling panels and around structural steel work;
- insulating boards used for fire protection, thermal insulation, partitioning and ducts;
- some ceiling tiles;
- millboard, paper and paper products used for insulation of electrical equipment. Asbestos paper has also been used as a fire-proof facing on wood fibreboard;
- asbestos cement products, which can be fully or semi-compressed into flat or corrugated sheets. Corrugated sheets are largely used as roofing and wall cladding. Other asbestos cement products include

- gutters, rainwater pipes and water tanks;
- certain textured coatings;
- bitumen roofing material; and
- vinyl or thermoplastic floor tiles.

Assessing the condition of any asbestos-containing materials

The following are signs that an asbestos-containing material is in a poor condition:

- The surface of the material is damaged, frayed or scratched.
- The surface sealant or coating is peeling or breaking off.
- The material is becoming detached from its base (this is a particular problem with pipe and boiler lagging and sprayed coatings).
- The protective coverings, designed to protect the material, are missing or damaged.
- There is dust or debris from damage near the material.

Asbestos-containing materials in poor condition will require repair, sealing, enclosing or removal.