

## GETTING A GRIP ON THE ASBESTOS CHAIN

BAREMAN, PETER

Inspectorate of Housing, Spatial Planning and the Environment, P.O. Box 16191, 2500 BD The Hague, The Netherlands, peter.bareman@minvrom.nl

### SUMMARY

While asbestos has a long history of use, it is now known to pose a serious health risk in dust form. This is due in particular to its carcinogenic properties. The production and use of asbestos are prohibited in Europe. Because asbestos was widely used as a building material in the past (e.g. for insulation, as roof cladding and as a fire-resistant material), it is mainly released into the environment during the demolition of buildings and other objects (such as trains and ships). On the initiative of the Inspectorate of Housing, Spatial Planning and the Environment, and in cooperation with other enforcement agencies, an enforcement approach that focuses specifically on the asbestos chain was developed in 2004, and tested in practice by means of a pilot project.

### 1 BACKGROUND

The presence of asbestos is not always recognized (whether consciously or unconsciously) and, as a consequence, this material can 'disappear' into the building and demolition waste disposal chain. These building and demolition waste flows are largely recycled into secondary building materials. If asbestos surfaces in these reusable building materials, e.g. in crushed demolition waste, recycling is not possible, thus frustrating the re-use of such secondary raw materials.

There are two European directives in force whose objective is to prevent and reduce environmental pollution by asbestos (Council Directive 87/217/EEC) and to protect workers from the risks related to exposure to asbestos at work (Council Directive 83/477/EEC). In the Netherlands, these European directives have been taken as a basis for a set of detailed rules concerning the handling of asbestos.

#### 1.1 Organisation of Asbestos Removal in the Netherlands

Asbestos removal is subject to a

system of certification in the Netherlands. A large number of government bodies are responsible for the enforcement of rules concerning asbestos. These include the Inspectorate of Housing, Spatial Planning and the Environment (VROM-Inspectie) (demolition of objects), the Health and Safety Inspectorate (Arbeidsinspectie) (working conditions), the municipal authorities (demolition of buildings and other structures) and the provincial authorities (processing of building and demolition waste). In order to prevent asbestos entering the recycling chain, it is necessary to establish a system of supervision that focuses on this chain, with coordinated government control of all stages of the asbestos chain.

Under this system, only certified companies are allowed to carry out removal work. In order to ensure that asbestos is properly removed from buildings and other objects prior to demolition, the process has been split into three separate stages: (1) inventory, (2) removal, and (3) (visual) inspection.

### 1.1.1 Inventory

The purpose of preparing an inventory is to ensure that all asbestos is located before demolition work begins. A person who is properly trained and experienced in such work makes this inventory. A report is made of the inventory, and is then sent to the company contracted to remove the asbestos. Only a certified survey company or consultant may prepare the inventory.

### 1.1.2 Removal

An asbestos inventory report serves as the basis for all work to remove asbestos. Only a certified company may carry out the removal of asbestos. The process is aimed at the selective removal of asbestos, the separate packaging of the asbestos recovered and its transportation as hazardous waste to a recognised waste disposal facility.

### 1.1.3 (Visual) Inspection

In order to ensure that all the asbestos has been expertly removed before work may commence on demolishing the rest of the building or object, an independent laboratory must declare that all the asbestos has been removed. Only an accredited laboratory may carry out the (visual) inspection. In order to guarantee their objectivity, such laboratories are independent of the asbestos removal companies. Once the building or object has been released, the remainder can be demolished. The building and demolition waste

produced is taken away to processing companies that recycle the waste into reusable crushed demolition waste.

## 1.2 The Asbestos Removal Chain

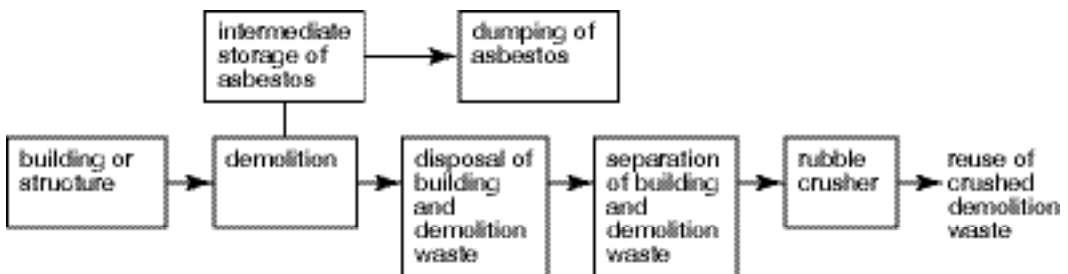
Within the asbestos removal chain there are several 'hand-over moments': the demolition of structures and objects containing asbestos, the transport of asbestos waste and other building and demolition waste produced, the dumping of asbestos waste, the storage and processing/handling of building and demolition waste and the use of recycled building and demolition waste as a building material. This chain is shown in figure 1.

These 'hand-over moments' require particular attention within the context of enforcement since they entail a change of actor (e.g. the owner of the building – demolition contractor) and of applicable regulations. Certain players in this chain, such as asbestos removal contractors and transport firms, are 'mobile' and, consequently, they frequently operate regionally or nationally. This makes them more difficult to 'identify' and hence to keep tabs on. These particular issues call for a specific organisation of the enforcement effort, and this can be achieved by means of chain enforcement – in other words, coordinated government control of actions in the asbestos chain.

## 2 APPROACH

In 2004, the government bodies

**Figure 1. Chart showing Asbestos Removal Chain**



concerned conducted a pilot chain enforcement project. The aims of this pilot project were:

- to supervise the compliance behaviour of private players in the asbestos removal chain in relation to the regulations governing asbestos;
- to follow the flows produced and re-used by the actions occurring in the demolition chain; this relates to the removal of waste materials containing asbestos and other waste materials produced at the same time (including building and demolition waste) and the re-use of materials, such as the recycling of crushed demolition waste;
- to check how market parties assure compliance with the asbestos rules (by means of procedures, documents, etc.).

### 3 RESULTS

In this survey, seven (large-scale) demolition sites were selected and followed from beginning to end. The survey revealed a number of violations (some of them serious) in several links of the chain.

- The most common violations and shortcomings were as follows:
- It was noted on more than one occasion that the inventory prepared prior to removal did not include all the asbestos present. This leads to risks for the working conditions of the employees who are required to remove the asbestos later as well as for the environment, since the asbestos that has not been included in the inventory can end up in the building and demolition waste during demolition and, later, via a rubble crusher in crushed demolition waste.
- The asbestos was not removed separately in advance and, as a result, may be scattered in the environment through building and demolition waste. The presence of asbestos in building and demolition waste renders such waste incapable of being recycled into

reusable crushed demolition waste.

- An asbestos content exceeding the regulation level of 100 mg/kg was discovered in several shipments of building and demolition waste that were sampled. As a result, these shipments could no longer be accepted and recycled in a rubble crusher, and they had to be dumped as asbestos-containing waste.
- It was noticed on several occasions during the dumping of asbestos at waste sites that careless handling of the bags in which the asbestos-containing waste had been packed led to these bags bursting open, resulting in the risk of fibres being released into the environment.

### 4 ASSURING COMPLIANCE

The parties responsible for commissioning the demolition of buildings and other structures containing asbestos (property management companies) that were surveyed were not doing enough to assure compliance with the asbestos rules. The reasons for this can be traced to inadequate implementation of the applicable asbestos rules in the companies' own administrative organisation, shifting responsibility on to others and, in some cases, a lack of internal checks on the work outsourced to contractors and subcontractors.

The absence of the aforementioned assurance and the impenetrability of the asbestos removal chain, particularly in the demolition phase, means that risks are introduced of behaviour that does not meet the relevant standards. This includes the insufficiently selective removal of asbestos.

### 5 CONCLUSION

This survey has shown that the implementation of an enforcement approach that focuses specifically on the asbestos chain has a strong preventive effect, partly due to the dispersal effect of such enforcement. By enforcing rigidly at

certain stages in the chain, particularly in the demolition phase, a larger group of actors is made aware of the fact that they too may be subject to inspection (increased chance of being caught). By implementing focused and coordinated supervision of the parties involved in the demolition phase, it

is possible to prevent asbestos being scattered in the chain. It is essential, in this respect, that the provision of information is streamlined and that the authorities coordinate their activities. The chain enforcement approach will be implemented nationally in 2005.