

Council Directive 83/477/EEC of 19 September 1983 on the protection of workers from the risks related to exposure to asbestos at work (second individual Directive within the meaning of Article 8 of Directive 80/1107/EEC)
(O.J. No. L 263, 24.9.1983, p. 25)
as amended by

Council Directive 91/382/EEC of 25 June 1991 amending Directive 83/477/EEC on the protection of workers from the risks related to exposure to asbestos at work (O.J. No. L 206, 29.7.1991, p. 16)

and by

Directive 2003/18/EC of the European Parliament and of the Council of 27 March 2003 amending Council Directive 83/477/EEC on the protection of workers from the risks related to exposure to asbestos at work
(O.J. No. L 97, 15.4.2003, p. 48)

Notes:

[**Black text** = Directive 83/477/EEC, **Blue text** = Directive 91/382/EEC, **Red text** = Directive 2003/18/EC and strikethroughs = deletions effected through either Directive 91/382/EEC or Directive 2003/18/EC. Text of Recitals not included.]

Article 1

1. This Directive, which is the second individual Directive within the meaning of Article 8 of Directive 80/1107/EEC, has as its aim the protection of workers against risks to their health, including the prevention of such risks, arising or likely to arise from exposure to asbestos at work. It lays down limit values and other specific requirements.

~~2. This Directive shall not apply to:~~

- ~~– sea transport,~~
- ~~– air transport.~~

3. This Directive shall not prejudice the right of Member States to apply or introduce laws, regulations or administrative provisions ensuring greater protection for workers, in particular as regards the replacement of asbestos by less-dangerous substitutes.

Article 2

~~For the purposes of this Directive, 'asbestos' means the following fibrous silicates:~~

- ~~– Actinolite, CAS No 77536-66-4 (*) (1),~~
- ~~– Asbestos grunerite (amosite) CAS No 12172-73-5 (*) (1),~~
- ~~– Anthophyllite, CAS No 77536-67-5 (*) (1),~~
- ~~– Chrysotile, CAS No 12001-29-5 (1),~~
- ~~– Crocidolite, CAS No 12001-28-4 (1),~~
- ~~– Tremolite, CAS No 77536-68-6 (*) (1).~~

For the purposes of this Directive, 'asbestos' means the following fibrous silicates:

- Asbestos actinolite, CAS No 77536-66-4(9),
- Asbestos grunerite (amosite) CAS No 12172-73-5(10),
- Asbestos anthophyllite, CAS No 77536-67-5(11),
- Chrysotile, CAS No 12001-29-5(12),
- Crocidolite, CAS No 12001-28-4(13),
- Asbestos tremolite, CAS No 77536-68-6(14).

Article 3

1. This Directive shall apply to activities in which workers are or may be exposed in the course of their work to dust arising from asbestos or materials containing asbestos.

2. In the case of any activity likely to involve a risk of exposure to dust arising from asbestos or materials containing asbestos, this risk must be assessed in such a way as to determine the nature and degree of the workers' exposure to dust arising from asbestos or materials containing asbestos.

~~3. If the assessment referred to in paragraph 2 shows that the concentration of asbestos fibres in the air at the place of work in the absence of any individual protective equipment is, at the option of the Member States, at a level as measured or calculated in relation to an eight-hour reference period,~~

- ~~-lower than 0.25 fibre per cm³ and/or~~
- ~~-lower than a cumulative dose of 15.00 fibre-days per cm³ over three months,~~

~~Articles 4, 7, 13, 14 (2), 15 and 16 shall not apply.~~

~~“3. If the assessment referred to in paragraph 2 shows that the concentration of asbestos fibres in the air at the place of work in the absence of any personal protective equipment is, at the option of the Member States, at a level as measured or calculated:~~

~~(a) for chrysotile~~

- ~~-lower than 0,20 fibres per cm³ in relation to an eight-hour reference period, and/or~~
- ~~-lower than a cumulative dose of 12,00 fibre-days per cm³ over a three-month period;~~

~~(b) for all other forms of asbestos either alone or in mixtures, including mixtures containing chrysotile:~~

- ~~-lower than 0.10 fibres per cm³ in relation to an eight-hour reference period, and/or~~
- ~~-lower than a cumulative dose of 6.00 fibre-days per cm³ over a three-month period,~~

~~Articles 4, 7, 13, 14 (2), 15 and 16 shall not apply.”~~

3. Provided that worker exposure is sporadic and of low intensity, and when it is clear from the results of the risk assessment referred to in paragraph 2 that the exposure limit for asbestos will not be exceeded in the air of the working area, Articles 4, 15 and 16 may be waived where work involves:

- (a) short, non-continuous maintenance activities in which only non-friable materials are handled,
- (b) removal without deterioration of non-degraded materials in which the asbestos fibres are firmly linked in a matrix,
- (c) encapsulation or sealing of asbestos-containing materials which are in good condition,
- (d) air monitoring and control, and the collection of samples to ascertain whether a specific material contains asbestos.

3 bis. Member States shall, following consultation with social partners in accordance with national law and practice, lay down practical guidelines for the determination of sporadic and low-intensity exposure, as provided for in paragraph 3.

4. The assessment provided for in paragraph 2 shall be the subject of consultation with the workers and/or their representatives within the undertaking or establishment and shall be revised where there is reason to believe that it is incorrect or there is a material change in the work.

Article 4

Subject to Article 3 (3), the following measures shall be taken:

1. The activities referred to in Article 3 (1) must be covered by a notification system administered by the responsible authority of the Member State.

~~2. The notification must be submitted by the employer to the responsible authority of the Member State, in accordance with national laws, regulations and administrative provisions. This notification must include at least a brief description of:~~

- ~~– the types and quantities of asbestos used,~~
- ~~– the activities and processes involved,~~
- ~~– the products manufactured.~~

2. The notification shall be submitted by the employer to the responsible authority of the Member States, before the work commences, in accordance with national laws, regulations and administrative provisions.

The notification must include at least a brief description of:

- (a) the location of the work site,
- (b) the type and quantities of asbestos used or handled,

- (c) the activities and processes involved,
- (d) the number of workers involved,
- (e) the starting date and duration of the work,
- (f) measures taken to limit the exposure of workers to asbestos.

3. Workers and/or their representatives in undertakings or establishments shall have access to the documents which are the subject of notification concerning their own undertaking or establishment in accordance with national laws.

~~4. Each time an important change occurs in the use of asbestos or of materials containing asbestos, a new notification must be submitted.~~

4. Each time a change in working conditions is likely to result in a significant increase in exposure to dust from asbestos or materials containing asbestos, a new notification must be submitted.

Article 5

~~The application of asbestos by means of the spraying process must be prohibited.~~

~~The application of asbestos by means of the spraying process and working procedures that involve using low density (less than 1g/cm^3) insulating or soundproofing materials which contain asbestos shall be prohibited.~~

Without prejudice to the application of other Community provisions on marketing and use of asbestos, activities which expose workers to asbestos fibres during the extraction of asbestos or the manufacture and processing of asbestos products or the manufacture and processing of products containing intentionally added asbestos shall be prohibited, with the exception of the treatment and disposal of products resulting from demolition and asbestos removal.

Article 6

~~For all activities referred to in Article 3 (1), the exposure of workers to dust arising from asbestos or materials containing asbestos at the place of work must be reduced to as low a level as is reasonably practicable and in any case below the limit values laid down in Article 8, in particular through the following measures if appropriate:~~

~~1. The quantity of asbestos used in each case must be limited to the minimum quantity which is reasonably practicable.~~

~~2. The number of workers exposed or likely to be exposed to dust arising from asbestos or materials containing asbestos must be limited to the lowest possible figure.~~

~~3. Work processes must, in principle, be so designed as to avoid the release of asbestos dust into the air.~~

~~If this is not reasonably practicable, the dust should be eliminated as near as possible to the point where it is released.~~

~~4. All buildings and/or plant and equipment involved in the processing or treatment of asbestos must be capable of being regularly and effectively cleaned and maintained.~~

~~5. Asbestos as a raw material must be stored and transported in suitable sealed packing.~~

~~6. Waste must be collected and removed from the place of work as soon as possible in suitable sealed packing with labels indicating that it contains asbestos. This measure shall not apply to mining activities.~~

~~The waste referred to in the preceding paragraph shall then be dealt with in accordance with Council Directive 78/319/EEC of 20 March 1978 on toxic and dangerous waste (1).~~

For all activities referred to in Article 3(1), the exposure of workers to dust arising from asbestos or materials containing asbestos at the place of work must be reduced to a minimum and in any case below the limit value laid down in Article 8, in particular through the following measures:

1. the number of workers exposed or likely to be exposed to dust arising from asbestos or materials containing asbestos must be limited to the lowest possible figure;
2. work processes must be designed so as not to produce asbestos dust or, if that proves impossible, to avoid the release of asbestos dust into the air;
3. all premises and equipment involved in the treatment of asbestos must be capable of being regularly and effectively cleaned and maintained;
4. asbestos or dust-generating asbestos-containing material must be stored and transported in suitable sealed packing;
5. waste must be collected and removed from the place of work as soon as possible in suitable sealed packing with labels indicating that it contains asbestos. This measure shall not apply to mining activities. Such waste shall then be dealt with in accordance with Council Directive 91/689/EEC of 12 December 1991 on hazardous waste(15).

Article 7

~~Subject to Article 3 (3), the following measures shall be taken:~~

- ~~1. In order to ensure compliance with the limit values laid down in Article 8, the measurement of asbestos in the air at the place of work shall be carried out in accordance with the reference method described in Annex I or any other method giving equivalent results. Such measurement must be planned and carried out regularly, with sampling being representative of the personal exposure of the worker to dust arising from asbestos or materials containing asbestos.~~

- ~~2. For the purposes of measuring asbestos in the air, as referred to in the preceding paragraph, only fibres with a length of more than five micrometres and a length/breadth ratio greater than 3: 1 shall be taken into consideration.~~

~~The Council, acting on a proposal from the Commission, and taking account in particular of progress made in scientific knowledge and technology and of experience gained in the application of this Directive, shall re-examine the provisions of the first sentence of paragraph 1 within five years following the adoption of this Directive, with a view to establishing a single method for measurement of asbestos in air concentrations at Community level.~~

~~In accordance with Article 118a of the Treaty and taking account in particular of progress made in scientific knowledge and technology and of experience gained in applying this Directive, the Council shall review the provisions of the first sentence of the first paragraph by 31 December 1995, with a view to establishing a single method for measurement of asbestos in air concentrations as Community level.~~

- ~~2. Sampling shall be carried out after consulting the workers and/or their representatives in undertakings or establishments.~~

- ~~3. Sampling shall be carried out by suitably qualified personnel. The samples taken shall be subsequently analyzed in laboratories equipped to analyze them and qualified to apply the necessary identification techniques.~~

- ~~4. The amount of asbestos in the air shall be measured as a general rule at least every three months and, in any case, whenever a technical change is introduced. The frequency of measurements may, however, be reduced in the circumstances specified in paragraph 5.~~

- ~~5. The frequency of measurements may be reduced to once a year where:~~

- ~~—there is no substantial change in conditions at the place of work, and~~
- ~~—the results of the two preceding measurements have not exceeded half the limit values fixed in Article 8.~~

~~Where groups of workers are performing identical or similar tasks at the same place and are thus being exposed to the same health risk, sampling may be carried out on a group basis.~~

- ~~6. The duration of sampling must be such that representative exposure can be established for an eight-hour reference period (one shift) by means of measurements or time-weighted calculations. The duration of the various sampling processes shall be determined also on the basis of point 6 of Annex I.~~

- 1. Depending on the results of the initial risk assessment, and in order to ensure compliance with the limit value laid down in Article 8, measurement of asbestos fibres in the air at the workplace shall be carried out regularly.**

2. Sampling must be representative of the personal exposure of the worker to dust arising from asbestos or materials containing asbestos.
3. Sampling shall be carried out after consultation of the workers and/or their representatives in undertakings.
4. Sampling shall be carried out by suitably qualified personnel. The samples taken shall be subsequently analysed, in accordance with paragraph 6, in laboratories equipped for fibre counting.
5. The duration of sampling must be such that representative exposure can be established for an eight-hour reference period (one shift) by means of measurements or time-weighted calculations.
6. Fibre counting shall be carried out wherever possible by PCM (phase-contrast microscope) in accordance with the 1997 WHO (World Health Organisation) recommended method(16) or any other method giving equivalent results.

For the purpose of measuring asbestos in the air, as referred to in the first subparagraph, only fibres with a length of more than five micrometres, a breadth of less than three micrometres and a length/breadth ratio greater than 3:1 shall be taken into consideration.

Article 8

~~The following limit values shall be applied:~~

~~(a) concentration of asbestos fibres other than crocidolite in the air at the place of work:~~

~~1,00 fibres per cm^3 measured or calculated in relation to an eight-hour reference period;~~

~~(b) concentration of crocidolite fibres in the air at the place of work:~~

~~0.50 fibres per cm^3 measured or calculated in relation to an eight-hour reference period;~~

~~(c) concentration of asbestos fibres in the air at the place of work in the case of mixtures of crocidolite and other asbestos fibres:~~

~~the limit value is at a level calculated on the basis of the limit values laid down in (a) and (b), taking into account the proportions of crocidolite and other asbestos types in the mixture.~~

~~The following limit values shall be applied:~~

~~(a) concentration of chrysotile fibres in the air at the place of work:~~

~~0.60 fibres per cm^3 measured or calculated in relation to an eight-hour reference period;~~

~~(b) concentration in the air at the place of work of all other forms of asbestos fibres, either alone or in mixtures, including mixtures containing chrysotile:~~

~~0.30 fibres per cm³ measured or calculated in relation to an eight-hour reference period.~~

Employers shall ensure that no worker is exposed to an airborne concentration of asbestos in excess of 0.1 fibres per cm³ as an eight-hour time-weighted average (TWA).

Article 9

~~The Council, acting on a proposal from the Commission, shall, taking into account, in particular, progress made in scientific knowledge and technology and in the light of experience gained in applying this Directive, review the provisions laid down in Article 3 (3) and in Article 8 before 1 January 1990.~~

~~1. Without prejudice to the third paragraph of point 1 of Article 7, in accordance with Article 118a of the Treaty and taking account in particular of progress made in scientific knowledge and technology and of experience gained in applying this Directive, the Council shall review the provisions of this Directive by 31 December 1995.~~

2. The amendments required to adapt the Annexes to this Directive to take account of technical progress shall be made in accordance with the procedure described in Articles 9 and 10 of Council Directive 80/1107/EEC of 27 November 1980 on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work.

Article 10

~~1. Where the limit values laid down in Article 8 are exceeded, the reasons for the limits being exceeded must be identified and appropriate measures to remedy the situation must be taken as soon as possible.~~ Where the limit value laid down in Article 8 is exceeded, the reasons for the limit being exceeded must be identified and appropriate measures to remedy the situation must be taken as soon as possible.

Work may not be continued in the affected area until adequate measures have been taken for the protection of the workers concerned.

2. In order to check the effectiveness of the measures mentioned in the first subparagraph of paragraph 1, a further determination of the asbestos-in-air concentrations shall be carried out immediately.

~~3. Where exposure cannot reasonably be reduced by other means and where the wearing of individual respiratory protective equipment proves necessary, this may not be permanent and shall be kept to the strict minimum necessary for each worker.~~

3. Where exposure cannot be reduced by other means and where compliance with the limit value makes necessary the wearing of individual protective breathing equipment, this may not be permanent and shall be kept to the strict minimum necessary for each

worker. During periods of work which require the use of such equipment, provision shall be made for breaks appropriate to the physical and climatological conditions and, where relevant, in consultation with the workers and/or their representatives, in accordance with national laws and practice.

Article 10a

Before beginning demolition or maintenance work, employers shall take, if appropriate by obtaining information from the owners of the premises, all necessary steps to identify presumed asbestos-containing materials.

If there is any doubt about the presence of asbestos in a material or construction, the applicable provisions of this Directive shall be observed.

Article 11

~~1. In the case of certain activities in respect of which it is foreseeable that the limit values laid down in Article 8 will be exceeded and in respect of which technical preventive measures for limiting asbestos in air concentrations are not reasonably practicable, the employer shall determine the measures intended to ensure protection of the workers while they are engaged in such activities, in particular the following:~~

~~(a) workers shall be issued with suitable respiratory equipment and other personal protective equipment, which must be worn; and~~

~~(b) warning signs shall be put up indicating that it is foreseeable that the limit values laid down in Article 8 will be exceeded.~~

1. In the case of certain activities such as demolition, removal, repairing and maintenance in respect of which it is foreseeable that the limit value set out in Article 8 will be exceeded despite the use of technical preventive measures for limiting asbestos in air concentrations, the employer shall determine the measures intended to ensure protection of the workers while they are engaged in such activities, in particular the following:

(a) workers shall be issued with suitable respiratory and other personal protective equipment, which must be worn; and

(b) warning signs shall be put up indicating that it is foreseeable that the limit value laid down in Article 8 will be exceeded; and

(c) the spread of dust arising from asbestos or materials containing asbestos outside the premises or site of action shall be prevented.

2. The workers and/or their representatives in the undertaking or establishment shall be consulted on these measures before the activities concerned are carried out.

Article 12

1. A plan of work shall be drawn up before demolition work or work on removing asbestos and/or asbestos-containing products from buildings, structures, plant or installations or from ships is started.

~~2. The plan referred to in paragraph 1 must prescribe the measures necessary to ensure the safety and health of workers at the place of work.~~

~~The plan must in particular specify that:~~

- ~~- as far as is reasonably practicable, asbestos and/or asbestos-containing products are removed before demolition techniques are applied,~~
- ~~- the personal protective equipment referred to in Article 11 (1) (a) is provided, where necessary.~~

~~At the request of the competent authorities, the plan shall include information on the following:~~

- ~~-the nature and probable duration of the work,~~
- ~~-the place where the work is carried out,~~
- ~~-the methods applied where the work involves the handling of asbestos or of materials containing asbestos,~~
- ~~-the characteristics of the equipment used for:~~
 - ~~-protection and decontamination of those carrying out the work,~~
 - ~~-protection of other persons present on or near the worksite.~~

2. The plan referred to in paragraph 1 must prescribe the measures necessary to ensure the safety and health of workers at the place of work.

The plan must in particular specify that:

- asbestos and/or asbestos-containing products are to be removed before demolition techniques are applied, except where this would cause a greater risk to workers than if the asbestos and/or asbestos-containing products had been left in place;
- the personal protective equipment referred to in Article 11(1)(a) shall be provided, where necessary;
- when the asbestos demolition or removal work has been completed, the absence of asbestos exposure risks in the workplace shall be verified in compliance with national legislation and practices.

At the request of the competent authorities, the plan shall include information on the following:

- the nature and probable duration of the work,
- the place where the work is carried out,
- the methods applied where the work involves the handling of asbestos or of materials containing asbestos,
- the characteristics of the equipment used for:
- protection and decontamination of those carrying out the work,
- protection of other persons present on or near the worksite.

3. At the request of the competent authorities, the plan referred to in paragraph 1 must be notified to them before the start of the projected work.

Council Directive 87/217/EEC of 19 March 1987 on the prevention and reduction of environmental pollution by asbestos

(O.J. No. L 85, 28.3.1987, p. 40)

“Article 7

Member States shall take the measures necessary to ensure that:

- activities involving the working of products containing asbestos do not cause significant environmental pollution by asbestos fibres or dust,
- the demolition of buildings, structures and installations containing asbestos and the removal therefrom of asbestos or materials containing asbestos involving the release of asbestos fibres or dust do not cause significant asbestos environmental pollution;

to that end they shall satisfy themselves that the plan of work provided for in Article 12 of Directive 83/477/EEC prescribes the introduction of all the necessary preventive measures to this end.”

Article 12a

1. Employers shall provide appropriate training for all workers who are, or are likely to be, exposed to asbestos-containing dust. Such training must be provided at regular intervals and at no cost to the workers.

2. The content of the training must be easily understandable for workers. It must enable them to acquire the necessary knowledge and skills in terms of prevention and safety, particularly as regards:

- (a) the properties of asbestos and its effects on health, including the synergistic effect of smoking;
- (b) the types of products or materials likely to contain asbestos;
- (c) the operations that could result in asbestos exposure and the importance of preventive controls to minimise exposure;
- (d) safe work practices, controls and protective equipment;
- (e) the appropriate role, choice, selection, limitations and proper use of respiratory equipment;
- (f) emergency procedures;
- (g) decontamination procedures;
- (h) waste disposal;

(i) medical examination requirements.

3. Practical guidelines for the training of asbestos removal workers shall be developed at Community level.

Article 12b

Before carrying out asbestos demolition or removal work, firms must provide evidence of their ability in this field. The evidence shall be established in accordance with national laws and/or practice.

Article 13

1. In the case of all activities referred to in Article 3 (1), and subject to Article 3 (3), appropriate measures shall be taken to ensure that:

(a) the places in which the above activities take place shall:

(i) be clearly demarcated and indicated by warning signs;

(ii) not be accessible to workers other than those who by reason of their work or duties are required to enter them;

(iii) constitute areas where there should be no smoking;

(b) areas are set aside where workers can eat and drink without risking contamination by asbestos dust;

(c) (i) workers are provided with appropriate working or protective clothing;

(ii) this working or protective clothing remains within the undertaking. It may, however, be laundered in establishments outside the undertaking which are equipped for this sort of work if the undertaking does not carry out the cleaning itself; in that event the clothing shall be transported in closed containers;

(iii) separate storage places are provided for working or protective clothing and for street clothes;

(iv) workers are provided with appropriate and adequate washing and toilet facilities, including showers in the case of dusty operations;

(v) protective equipment shall be placed in a well-defined place and shall be checked and cleaned after each use; appropriate measures shall be taken to repair or replace defective equipment before further use.

2. Workers may not be charged with the cost of measures taken pursuant to paragraph 1.

Article 14

1. In the case of all activities referred to in Article 3 (1), appropriate measures shall be taken to ensure that workers and their representatives in the undertaking or establishment receive adequate information concerning:

- the potential risks to health from exposure to dust arising from asbestos or materials containing asbestos,
- the existence of statutory limit values and the need for the atmosphere to be monitored,
- hygiene requirements, including the need to refrain from smoking,
- the precautions to be taken as regards the wearing and use of protective equipment and clothing,

2. In addition to the measures referred to in paragraph 1, and subject to Article 3 (3), appropriate measures shall be taken to ensure that:

(a) workers and/or their representatives in the undertaking or establishment have access to the results of asbestos-in-air concentration measurements and can be given explanations of the significance of those results;

~~(b) if the results exceed the limit values laid down in Article 8 the workers concerned and their representatives in the undertaking or establishment are informed as quickly as possible of the fact and the reason for it and the workers and/or their representatives in the undertaking or establishment are consulted on the measures to be taken or, in an emergency, are informed of the measures which have been taken.~~

(b) if the results exceed the limit value laid down in Article 8 the workers concerned and their representatives in the undertaking or establishment are informed as quickly as possible of the fact and the reasons for it and the workers and/or their representatives in the undertaking or establishment are consulted on the measures to be taken or, in an emergency, are informed of the measures which have been taken.

Article 15

Subject to Article 3 (3) the following measures shall be taken:

1. An assessment of each worker's state of health must be available prior to the beginning of exposure to dust arising from asbestos or materials containing asbestos at the place of work.

This assessment must include a specific examination of the chest. Annex II gives practical recommendations to which the Member States may refer for the clinical surveillance of workers; these recommendations shall be adapted to technical progress in accordance with the procedure set out in Article 10 of Directive 80/1107/EEC.

A new assessment must be available at least once every three years for as long as exposure continues.

An individual health record shall be established in accordance with national laws and practices for each worker referred to in the first subparagraph.

2. Following the clinical surveillance referred to in point 1, the doctor or authority responsible for the medical surveillance of the workers should, in accordance with national laws, advise on or determine any individual protective or preventive measures to be taken; these may include, where appropriate, the withdrawal of the worker concerned from all exposure to asbestos.

~~3. Information and advice must be given to workers regarding any assessment of their health which they may undergo following the end of exposure.~~

3. Information and advice must be given to workers regarding any assessment of their health which they may undergo following the end of exposure.

The doctor or authority responsible for the medical surveillance of workers may indicate that medical surveillance must continue after the end of exposure for as long as they consider it necessary to safeguard the health of the person concerned.

Such continuing surveillance shall be carried out in accordance with the laws and practices of the individual Member States.

4. The worker concerned or the employer may request a review of the assessments referred to in point 2, in accordance with national laws.

Article 16

Subject to Article 3 (3) the following measures shall be taken:

1. The employer must enter the workers responsible for carrying out the activities referred to in Article 3 (1) in a register, indicating the nature and duration of the activity and the exposure to which they have been subjected. The doctor and/or the authority responsible for medical surveillance shall have access to this register. Each worker shall have access to the results in the register which relate to him personally. The workers and/or their representatives shall have access to anonymous, collective information in the register.

~~2. The register referred to in point 1 and the medical records referred to in point 1 of Article 15 shall be kept for at least 30 years following the end of exposure, in accordance with national laws.~~

2. The register referred to in point 1 and the medical records referred to in Article 15(1) shall be kept for at least 40 years following the end of exposure, in accordance with national laws and/or practice.

3. The documents referred to in point 2 shall be made available to the responsible authority in cases where the undertaking ceases trading, in accordance with national laws and/or practice.";

Article 16a

Member States shall provide for adequate sanctions to be applicable in the event of infringement of national legislation adopted pursuant to this Directive. These sanctions must be effective, proportionate and dissuasive.

Article 17

Member States shall keep a register of recognized cases of asbestosis and

Article 18

1. Member States shall adopt the laws, regulations and administrative provisions necessary to comply with this Directive before 1 January 1987. They shall forthwith inform the Commission thereof. The date 1 January 1987 is, however, postponed until 1 January 1990 in the case of asbestos-mining activities.

2. Member States shall communicate to the Commission the provisions of national law which they adopt in the field covered by this Directive.

Article 19

This Directive is addressed to the Member States.

Done at Brussels, 19 September 1983.

For the Council

The President

G. VARFIS

ANNEX I

Reference method referred to in Article 7 (1) for the measurement of asbestos in air at the place of work

1. ~~Samples shall be taken within the individual worker's breathing zone: i.e. within a hemisphere of 300 mm radius extending in front of the face and measured from the mid-point of a line joining the ears.~~
2. ~~Membrane filters (mixed esters of cellulose or cellulose nitrate) of pore size 0,8 to 1,2 micrometres with printed squares and a diameter of 25 mm shall be used.~~
3. ~~An open-faced filter holder fitted with a cylindrical cowl extending between 33 and 44 mm in front of the filter exposing a circular area of at least 20 mm in diameter shall be used. In use, the cowl shall point downwards.~~
4. ~~A portable battery-operated pump carried on the worker's belt or in a pocket shall be used. The flow shall be smooth and the rate initially set at 1,0 litres per minute \pm 5 %. The flow rate shall be maintained within \pm 10 % of the initial rate during the sampling period.~~
5. ~~The sampling time shall be measured to within a tolerance of 2 %.~~
6. ~~The optimal fibre-loading on filters shall be within the range 100 to 400 fibres/mm².~~
7. ~~In order of preference, the whole filter, or a section of the filter, shall be placed on a microscope slide, made transparent using the acetone triacetin method, and covered with a glass coverslip.~~
8. ~~A binocular microscope shall be used for counting and shall have the following features:~~
 - ~~– Koehler illumination;~~
 - ~~– its substage assembly shall incorporate an Abbe or achromatic phase contrast condenser in a centring focusing mount. The phase contrast centring adjustment shall be independent of the condenser centring mechanism;~~
 - ~~– a 40 times bar focal positive phase contrast achromatic objective with a numerical aperture of 0,65 to 0,70 and phase ring absorption within the range 65 to 85 %;~~
 - ~~– 12,5 times compensating eyepieces; at least one eyepiece must permit the insertion of a graticule and be of the focusing type;~~
 - ~~– a Walton Beckett circular eyepiece graticule with an apparent diameter in the object plane of 100 micrometres \pm 2 micrometres, when using the specified objective and eyepiece, checked against a stage micrometer.~~

9. The microscope shall be set up according to the manufacturer's instructions, and the detection limit checked using a 'phase contrast test slide'. Up to code 5 on the AIA test slides or up to block 5 on the HSE/NPL mark 2 test slide must be visible when used in the way specified by the manufacturer. This procedure shall be carried out at the beginning of the day of use.

10. Samples shall be counted in accordance with the following rules:

~~— a countable fibre is any fibre referred to in the second subparagraph of point 1 of Article 7 which does not touch a particle with a maximum diameter greater than three micrometers,~~

~~— any countable fibre with both ends within the graticule area shall be counted as one fibre; any fibre with only one end within the area shall count as half,~~

~~— graticule areas for counting shall be chosen at random within the exposed area of the filter,~~

~~— an agglomerate of fibres which at one or more points on its length appears solid and undivided but at other points is divided into separate strands (a split fibre) is counted as a single fibre if it conforms with the description in the second subparagraph of point 1 of Article 7 and indent 1 of this paragraph, the diameter measured being that of the undivided part, not that of the split part, — in any other agglomerate of fibres in which individual fibres touch or cross each other (a bundle), the fibres shall be counted individually if they can be distinguished sufficiently to determine that they conform with the description in the second subparagraph of point 1 of Article 7 and indent 1 of this paragraph. If no individual fibres meeting the definition can be distinguished, the bundle is considered to be a countable fibre if, taken as a whole, it conforms with the description in the second subparagraph of point 1 of Article 7 and indent 1 of this paragraph,~~

~~— if more than one eighth of a graticule area is covered by an agglomerate of fibres and/or particles, the graticule area must be rejected and another counted,~~

~~— 100 fibres shall be counted, which will enable a minimum of 20 graticule areas to be examined, or 100 graticule areas shall be examined.~~

11. The mean number of fibres per graticule is calculated by dividing the number of fibres counted by the number of graticule areas examined. The effect on the count of marks on the filter and contamination shall be kept below three fibres/100 graticule areas and shall be assessed using blank filters.

Concentration in air = (number per graticule area × exposed area of filter) / (graticule area × volume of air collected).

ANNEX II

Practical recommendations for the clinical assessment of workers, as referred to in Article 15 (1)

1. Current knowledge indicates that exposure to free asbestos fibres can give rise to the following diseases:

- asbestosis,
- mesothelioma,
- bronchial carcinoma,
- gastro-intestinal carcinoma.

2. The doctor and/or authority responsible for the medical surveillance of workers exposed to asbestos must be familiar with the exposure conditions or circumstances of each worker.

~~3. Clinical surveillance of workers should be carried out in accordance with the principles and practices of occupational medicine; it should include at least the following measures:~~

- ~~- keeping records of a worker's medical and occupational history;~~
- ~~- a personal interview;~~
- ~~- a clinical examination of the chest;~~
- ~~- a respiratory function examination.~~

~~Further examinations, including a standard format radiograph of the chest and laboratory tests such as a sputum cytology test, are desirable. These examinations should be decided upon for each worker when he is the subject of medical surveillance, in the light of the most recent knowledge available to occupational medicine.~~

3. Health examination of workers should be carried out in accordance with the principles and practices of occupational medicine. It should include at least the following measures:

- keeping records of a worker's medical and occupational history,
- a personal interview,
- a general clinical examination, with particular reference to the chest,
- lung function tests (respiratory flow volumes and rates).

The doctor and/or authority responsible for the health surveillance should decide on further examinations, such as sputum cytology tests or a chest X-ray or a tomodesitometry, in the light of the latest occupational health knowledge available.

**Council Directive 91/382/EEC of 25 June 1991 amending Directive 83/477/EEC
on the protection of workers from the risks related to exposure to asbestos at
work**

Article 1

Directive 83/477/EEC is hereby amended as follows:

1. Article 3 (3) shall be replaced by the following:

“3. If the assessment referred to in paragraph 2 shows that the concentration of asbestos fibres in the air at the place of work in the absence of any personal protective equipment is, at the option of the Member States, at a level as measured or calculated:

(a) for chrysotile

-lower than 0,20 fibres per cm³ in relation to an eight-hour reference period, and/or
-lower than a cumulative dose of 12,00 fibre-days per cm³ over a three-month period;

(b) for all other forms of asbestos either alone or in mixtures, including mixtures containing chrysotile:

-lower than 0.10 fibres per cm³ in relation to an eight-hour reference period, and/or
-lower than a cumulative dose of 6.00 fibre-days per cm³ over a three-month period,

Articles 4, 7, 13, 14 (2), 15 and 16 shall not apply.”

2. Article 5 shall be replaced by the following:

“Article 5

The application of asbestos by means of the spraying process and working procedures that involve using low-density (less than 1g/cm³) insulating or soundproofing materials which contain asbestos shall be prohibited.”

3. In point (1) of Article 7, the third paragraph shall be replaced by the following:

“In accordance with Article 118a of the Treaty and taking account in particular of progress made in scientific knowledge and technology and of experience gained in applying this Directive, the Council shall review the provisions of the first sentence of the first paragraph by 31 December 1995, with a view to establishing a single method for measurement of asbestos-in-air concentrations as Community level;”

4. Article 8 shall be replaced by the following:

“Article 8

The following limit values shall be applied:

(a) concentration of chrysotile fibres in the air at the place of work:

0.60 fibres per cm³ measured or calculated in relation to an eight-hour reference period;

(b) concentration in the air at the place of work of all other forms of asbestos fibres, either alone or in mixtures, including mixtures containing chrysotile:

0.30 fibres per cm³ measured or calculated in relation to an eight-hour reference period.”

5. Article 9 shall be replaced by the following:

“Article 9

1. Without prejudice to the third paragraph of point 1 of Article 7, in accordance with Article 118a of the Treaty and taking account in particular of progress made in scientific knowledge and technology and of experience gained in applying this Directive, the Council shall review the provisions of this Directive by 31 December 1995.

2. The amendments required to adapt the Annexes to this Directive to take account of technical progress shall be made in accordance with the procedure described in Articles 9 and 10 of Council Directive 80/1107/EEC of 27 November 1980 on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work (*). OJ No L 327, 3.12.1980, p. 8.”

6. Article 12 is hereby amended as follows:

(a) the following subparagraph shall be added to paragraph 2:

“At the request of the competent authorities, the plan shall include information on the following:

- the nature and probable duration of the work,
- the place where the work is carried out,
- the methods applied where the work involves the handling of asbestos or of materials containing asbestos,
- the characteristics of the equipment used for:
- protection and decontamination of those carrying out the work,
- protection of other persons present on or near the worksite.”

(b) the following paragraph shall be added:

“3. At the request of the competent authorities, the plan referred to in paragraph 1 must be notified to them before the start of the projected work.”

**Directive 2003/18/EC of the European Parliament and of the Council of 27
March 2003 amending Council Directive 83/477/EEC on the protection of
workers from the risks related to exposure to asbestos at work**

Article 1

Directive 83/477/EEC is hereby amended as follows:

1. in Article 1, paragraph 2 shall be deleted;
2. Article 2 shall be replaced by the following:

"Article 2

For the purposes of this Directive, 'asbestos' means the following fibrous silicates:

- Asbestos actinolite, CAS No 77536-66-4(9),
- Asbestos grunerite (amosite) CAS No 12172-73-5(10),
- Asbestos anthophyllite, CAS No 77536-67-5(11),
- Chrysotile, CAS No 12001-29-5(12),
- Crocidolite, CAS No 12001-28-4(13),
- Asbestos tremolite, CAS No 77536-68-6(14).";

3. in Article 3:

- (a) paragraph 3 shall be replaced by the following:

"3. Provided that worker exposure is sporadic and of low intensity, and when it is clear from the results of the risk assessment referred to in paragraph 2 that the exposure limit for asbestos will not be exceeded in the air of the working area, Articles 4, 15 and 16 may be waived where work involves:

- (a) short, non-continuous maintenance activities in which only non-friable materials are handled,
- (b) removal without deterioration of non-degraded materials in which the asbestos fibres are firmly linked in a matrix,
- (c) encapsulation or sealing of asbestos-containing materials which are in good condition,
- (d) air monitoring and control, and the collection of samples to ascertain whether a specific material contains asbestos."

- (b) the following paragraph shall be inserted:

"3 bis Member States shall, following consultation with social partners in accordance with national law and practice, lay down practical guidelines for the determination of sporadic and low-intensity exposure, as provided for in paragraph 3.";

4. Article 4 shall be amended as follows:

(a) point 2 shall be replaced by the following:

"2. The notification shall be submitted by the employer to the responsible authority of the Member States, before the work commences, in accordance with national laws, regulations and administrative provisions.

The notification must include at least a brief description of:

- (a) the location of the work site,
- (b) the type and quantities of asbestos used or handled,
- (c) the activities and processes involved,
- (d) the number of workers involved,
- (e) the starting date and duration of the work,
- (f) measures taken to limit the exposure of workers to asbestos.";

(b) point 4 shall be replaced by the following:

"4. Each time a change in working conditions is likely to result in a significant increase in exposure to dust from asbestos or materials containing asbestos, a new notification must be submitted.";

5. in Article 5 the following paragraph shall be added:

"Without prejudice to the application of other Community provisions on marketing and use of asbestos, activities which expose workers to asbestos fibres during the extraction of asbestos or the manufacture and processing of asbestos products or the manufacture and processing of products containing intentionally added asbestos shall be prohibited, with the exception of the treatment and disposal of products resulting from demolition and asbestos removal.";

6. Article 6 shall be replaced by the following:

"Article 6

For all activities referred to in Article 3(1), the exposure of workers to dust arising from asbestos or materials containing asbestos at the place of work must be reduced to a minimum and in any case below the limit value laid down in Article 8, in particular through the following measures:

- 1. the number of workers exposed or likely to be exposed to dust arising from asbestos or materials containing asbestos must be limited to the lowest possible figure;

2. work processes must be designed so as not to produce asbestos dust or, if that proves impossible, to avoid the release of asbestos dust into the air;
3. all premises and equipment involved in the treatment of asbestos must be capable of being regularly and effectively cleaned and maintained;
4. asbestos or dust-generating asbestos-containing material must be stored and transported in suitable sealed packing;
5. waste must be collected and removed from the place of work as soon as possible in suitable sealed packing with labels indicating that it contains asbestos. This measure shall not apply to mining activities. Such waste shall then be dealt with in accordance with Council Directive 91/689/EEC of 12 December 1991 on hazardous waste(15).";

7. Article 7 shall be replaced by the following:

"Article 7

1. Depending on the results of the initial risk assessment, and in order to ensure compliance with the limit value laid down in Article 8, measurement of asbestos fibres in the air at the workplace shall be carried out regularly.
2. Sampling must be representative of the personal exposure of the worker to dust arising from asbestos or materials containing asbestos.
3. Sampling shall be carried out after consultation of the workers and/or their representatives in undertakings.
4. Sampling shall be carried out by suitably qualified personnel. The samples taken shall be subsequently analysed, in accordance with paragraph 6, in laboratories equipped for fibre counting.
5. The duration of sampling must be such that representative exposure can be established for an eight-hour reference period (one shift) by means of measurements or time-weighted calculations.
6. Fibre counting shall be carried out wherever possible by PCM (phase-contrast microscope) in accordance with the 1997 WHO (World Health Organisation) recommended method(16) or any other method giving equivalent results.
For the purpose of measuring asbestos in the air, as referred to in the first subparagraph, only fibres with a length of more than five micrometres, a breadth of less than three micrometres and a length/breadth ratio greater than 3:1 shall be taken into consideration.";

8. Article 8 shall be replaced by the following:

"Article 8

Employers shall ensure that no worker is exposed to an airborne concentration of asbestos in excess of 0.1 fibres per cm³ as an eight-hour time-weighted average (TWA).";

9. in Article 9, paragraph 1 shall be deleted;

10. Article 10 shall be amended as follows:

(a) in paragraph 1, the first subparagraph shall be replaced by the following:

"Where the limit value laid down in Article 8 is exceeded, the reasons for the limit being exceeded must be identified and appropriate measures to remedy the situation must be taken as soon as possible."

(b) paragraph 3 shall be replaced by the following:

"3. Where exposure cannot be reduced by other means and where compliance with the limit value makes necessary the wearing of individual protective breathing equipment, this may not be permanent and shall be kept to the strict minimum necessary for each worker. During periods of work which require the use of such equipment, provision shall be made for breaks appropriate to the physical and climatological conditions and, where relevant, in consultation with the workers and/or their representatives, in accordance with national laws and practice.";

11. the following Article shall be inserted:

"Article 10a

Before beginning demolition or maintenance work, employers shall take, if appropriate by obtaining information from the owners of the premises, all necessary steps to identify presumed asbestos-containing materials.

If there is any doubt about the presence of asbestos in a material or construction, the applicable provisions of this Directive shall be observed.";

12. in Article 11, paragraph 1 shall be replaced by the following:

"1. In the case of certain activities such as demolition, removal, repairing and maintenance in respect of which it is foreseeable that the limit value set out in Article 8 will be exceeded despite the use of technical preventive measures for limiting asbestos in air concentrations, the employer shall determine the measures intended to ensure protection of the workers while they are engaged in such activities, in particular the following:

(a) workers shall be issued with suitable respiratory and other personal protective equipment, which must be worn; and

(b) warning signs shall be put up indicating that it is foreseeable that the limit value laid down in Article 8 will be exceeded; and

(c) the spread of dust arising from asbestos or materials containing asbestos outside the premises or site of action shall be prevented.";

13. in Article 12(2), the first two subparagraphs shall be replaced by the following:

"2. The plan referred to in paragraph 1 must prescribe the measures necessary to ensure the safety and health of workers at the place of work.

The plan must in particular specify that:

- asbestos and/or asbestos-containing products are to be removed before demolition techniques are applied, except where this would cause a greater risk to workers than if the asbestos and/or asbestos-containing products had been left in place;

- the personal protective equipment referred to in Article 11(1)(a) shall be provided, where necessary;

- when the asbestos demolition or removal work has been completed, the absence of asbestos exposure risks in the workplace shall be verified in compliance with national legislation and practices.";

14. the following Articles shall be inserted:

"Article 12a

1. Employers shall provide appropriate training for all workers who are, or are likely to be, exposed to asbestos-containing dust. Such training must be provided at regular intervals and at no cost to the workers.

2. The content of the training must be easily understandable for workers. It must enable them to acquire the necessary knowledge and skills in terms of prevention and safety, particularly as regards:

(a) the properties of asbestos and its effects on health, including the synergistic effect of smoking;

(b) the types of products or materials likely to contain asbestos;

(c) the operations that could result in asbestos exposure and the importance of preventive controls to minimise exposure;

(d) safe work practices, controls and protective equipment;

(e) the appropriate role, choice, selection, limitations and proper use of respiratory equipment;

- (f) emergency procedures;
- (g) decontamination procedures;
- (h) waste disposal;
- (i) medical examination requirements.

3. Practical guidelines for the training of asbestos removal workers shall be developed at Community level.

Article 12b

Before carrying out asbestos demolition or removal work, firms must provide evidence of their ability in this field. The evidence shall be established in accordance with national laws and/or practice.";

15. in Article 14(2), point (b) shall be replaced by the following:

"(b) if the results exceed the limit value laid down in Article 8 the workers concerned and their representatives in the undertaking or establishment are informed as quickly as possible of the fact and the reasons for it and the workers and/or their representatives in the undertaking or establishment are consulted on the measures to be taken or, in an emergency, are informed of the measures which have been taken.";

16. in Article 15, point (3) shall be replaced by the following:

"3. Information and advice must be given to workers regarding any assessment of their health which they may undergo following the end of exposure.

The doctor or authority responsible for the medical surveillance of workers may indicate that medical surveillance must continue after the end of exposure for as long as they consider it necessary to safeguard the health of the person concerned.

Such continuing surveillance shall be carried out in accordance with the laws and practices of the individual Member States.";

17. in Article 16, point 2 shall be replaced by the following:

"2. The register referred to in point 1 and the medical records referred to in Article 15(1) shall be kept for at least 40 years following the end of exposure, in accordance with national laws and/or practice.";

18. in Article 16 the following point shall be added:

"3. The documents referred to in point 2 shall be made available to the responsible authority in cases where the undertaking ceases trading, in accordance with national laws and/or practice.";

19. The following Article shall be inserted:

"Article 16a

Member States shall provide for adequate sanctions to be applicable in the event of infringement of national legislation adopted pursuant to this Directive. These sanctions must be effective, proportionate and dissuasive.";

20. Annex I shall be deleted;

21. in Annex II, point 3 shall be replaced by the following:

"3. Health examination of workers should be carried out in accordance with the principles and practices of occupational medicine. It should include at least the following measures:

- keeping records of a worker's medical and occupational history,
- a personal interview,
- a general clinical examination, with particular reference to the chest,
- lung function tests (respiratory flow volumes and rates).

The doctor and/or authority responsible for the health surveillance should decide on further examinations, such as sputum cytology tests or a chest X-ray or a tomodensitometry, in the light of the latest occupational health knowledge available."

Article 2

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 15 April 2006. They shall forthwith inform the Commission thereof.

When Member States adopt these measures, they shall contain a reference to this Directive or shall be accompanied by such reference on the occasion of their official publication. The methods of making such a reference shall be laid down by the Member States.

2. Member States shall communicate to the Commission the text of the provisions of national law which they adopt in the field covered by this Directive.

Article 3

This Directive shall enter into force on the date of its publication in the Official Journal of the European Union.

Article 4

This Directive is addressed to the Member States.

Done at Brussels, 27 March 2003.

For the European Parliament

P. Cox

The President

For the Council

M. Stratakis

The President