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Committee of Senior Labour Inspectors (SLIC)

ASBESTOS IS DEADLY SERIOUS! PREVENT EXPOSURE!

REPORT

EUROPEAN COMMISSION
Employment, Social Affairs and Equal Opportunities DG

Rights, Working Conditions, Adaptation to Change
Health, safety and hygiene at work

Members of the SLIC Working Group
Assessment and Development of User Guides –
ASBESTOS CAMPAIGN 2006

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1. INTRODUCTION

EU campaign to raise awareness of dangers of asbestos

Asbestos-contaminated products and buildings continue to represent a dangerous hazard to EU citizens, costing the lives of many people. In addition to passing legislation banning the use and handling of this deadly fibre, the EU is running a campaign to remind people of the risks associated with exposure to asbestos. The campaign forms part of a concerted effort to identify and safely dispose of asbestos.

Dangers of asbestos

In the final year of the European Union's 2000–2006 strategy on occupational safety and health, various measures were undertaken to address the continued problem of asbestos. These included legislation and an EU campaign to make citizens aware of the danger of exposure to asbestos.

According to the International Labour Organisation (ILO), around 100 000 people worldwide still die from exposure to asbestos every year. A fibrous form of six minerals, asbestos was widely used in Europe between the 1940s and 1980s, with three forms of asbestos acting as a key component of various products. Chrysotile, crocidolite and gruenerite asbestos were used in thermal insulation, fire protection and a whole array of building materials.

All six forms of asbestos are classified as class 1 carcinogens, namely substances that can lead to cancer. Inhaling asbestos fibres can result in asbestosis, which is scarring of the lung tissue, lung cancer and mesothelioma, which is cancer of both the membrane sacs housing the lungs and the membrane lining of the abdominal cavity. With lung cancer, 95 % of patients are incurable, and no treatment is available for mesothelioma.

Current scientific knowledge indicates that there is no way of properly judging what counts as a dangerous level of exposure. Furthermore, inhaling such microscopic fibres does not automatically lead to cancer. Medical evidence suggests that the fatal consequences of hazardous exposure can take between 20 and 40 years to develop. As the decline in the use of asbestos only began in the 1980s, the number of asbestos-related deaths is unlikely to fall in the forthcoming years.

EU asbestos campaign

The European Asbestos Conference 2003 in Dresden (Dresden Declaration, Annex 1) gave a major impetus for all international activities to ban asbestos production and use. The conference's web-page has seen increasing interest with up to 2000 visits per month.

The Dresden Declaration called upon the EU to take action in its 2002–2006 OSH strategy to produce good practice guidelines and initiate a

European campaign to support Directive 2003/18/EC.

At its meetings in Rome (November 2003) and Dublin (May 2004), the SLIC agreed to launch an inspection campaign in 2006 and to prepare a guide to good practice in cooperation with ACSH (Annex 2). The guide should focus on:

- occurrence of asbestos exposure, relevant fields of activity and levels of risk;
- cases where asbestos may be present and identifying materials which contain asbestos;
- inventory of types of structures, installations and materials which may contain asbestos;
- risk of asbestos exposure in the course of demolition, maintenance and renovation work and waste disposal;
- risk assessment
- safety measures for workers engaged in asbestos disposal
- protective measures
- classification of risks according to exposure situations.

The country reports in the 2003 Dresden Conference survey indicate that the main challenges for labour inspectorates arise in maintenance, removal and demolition work. Here there are practical problems with:

- identifying asbestos;
- appropriate working methods;
- proper enclosure of work;
- proper personal protective equipment;
- training;
- waste removal.

Based on our experience in past SLIC campaigns we chose the following objectives for the asbestos campaign:

- monitoring the implementation of Directive 2003/18/EC;
- focussing on the protection of workers removing asbestos and being accidentally exposed in the course of maintenance and servicing;
- a common theme relevant to all Member States;
- delivering and reporting across Europe;
- sustainable impact of campaign;
- focussed impact and resourcing;
- evaluation.

The following subjects were identified as problematic in asbestos-related work:

- identifying asbestos (Is it asbestos or not? Which type of asbestos?);

- inventory of asbestos-containing material (location, amount, state);
- accidental exposure in refurbishment and maintenance work;
- risk assessment and appropriateness of working methods;
- removal and disposal of asbestos cement material, especially from private buildings;
- waste disposal and OSH;
- licensing and certification of companies specialising in removal and disposal of asbestos;
- information for the general public and training of inspectors, employers and workers.

The underlying principles of the campaign were:

- focus on a single topic: protection of workers in demolition, maintenance and removal (DMR) activities;
- combine information/training and inspection/enforcement;
- Member States to add any national topics at their discretion;
- collect data in a common format, report to secretariat to allow evaluation of:
    - application of Directive
    - standards found
    - action taken.

To tackle these problems with a common rationale, the campaign concentrated on three fields of asbestos DMR work involving different technical and safety measures, and different levels of organisational provision:

- DMR work with weakly bound asbestos;
- DMR work with asbestos-cement products;
- waste disposal.

Awareness raising and training were an indispensable part of the SLIC campaign because of the evident lack of information in many countries and deficiencies in the training of experts. So we had to find a way of integrating information and training activities into the inspection campaign.

Another important feature of this campaign was its tripartite approach. Representatives of the Advisory Committee on Safety and Health at Work (ACSH) participated in the working group's activities for the inspection campaign, and were fully integrated in drawing up the practical guidelines. National labour inspectorates were asked to actively involve social partners in training and information schemes in their countries

Finally, the SLIC Asbestos Campaign 2006 was launched in a joint press conference by SLIC, ILO and the Finnish Presidency on 30 August 2006 (for the press release, see Annex 3).

2. LEGISLATION IN THE MEMBER STATES

The actual risk of exposure depends on both the concentration of fibres in a product and how 'firmly bound' the material is. An old product, for example, is likely to be in a degraded state and hence more likely to release deadly fibres. For these reasons, the EU has passed several pieces of legislation focusing on the issue of exposure to asbestos.

- Directive 83/477/EEC on the protection of workers from the risks related to exposure to asbestos at work — passed in September 1983 — stated that the 'limit values pertaining to in-air concentrates are: for chrysotile: 0.60 fibres per cm^3 for an eight-hour reference period; for all other forms of asbestos: 0.30 fibres per cm^3 for an eight-hour reference period';

- in 1991, Directive 91/382/EEC amended the earlier directive to make the limit values more stringent; and

- in 2003, Directive 2003/18/EC prohibited the extraction of asbestos as well as its manufacture and processing.

A general ban on the production and marketing of asbestos materials has been in place since 2005 and, since 2006, it has been illegal to handle asbestos.

Transposition of Directive 2003/18/EC

Directive 2003/18/EC has been in force since April 2003 and should have been transposed into national laws, regulations, and/or administrative provisions by April 2006. Despite this obligation, the transposition of the directive was still under discussion in several Member States at the time of our asbestos campaign.

The questionnaires designed and used for our campaign were based on provisions laid down in the directive. In countries where the directive had not been transposed, the campaign documents were not applicable.

In some Member States the new legislation adapted to the directive entered into force in 2006, leading to some misunderstandings and misinterpretation of the questionnaires by the people concerned.

3. THE SLIC-ACSH GUIDE ON BEST PRACTICE

Following the recommendations of the *Dresden Declaration* a joint working group of the Senior Labour Inspectors' Committee (SLIC) and employers' and employees' representatives in the European Commission's Advisory Committee on Safety and Health at Work (ACSH) was set up to draft practical guidance on best practices for the remaining activities with a risk of asbestos exposure.

This *Practical Guide on Best Practice to Minimise Asbestos Risks' in work that involves (or may involve) asbestos* is the result of this joint activity. It is a further step towards ridding European workplaces of asbestos.

The main target groups are employers, employees and labour inspectors.

- For inspectors, the guide describes the key points to be examined during an inspection visit.
- For employers, the guide presents state-of-the-art technical, organisational and personal safety and protective measures which they are obliged to apply.
- For employees, the guide gives information about protective measures, focuses on key points in which workers should be trained, and encourages them to actively contribute to safe and healthy working conditions.

The best practice guide aimed to:

- help identify asbestos and asbestos products during use, maintenance and servicing of plant, equipment and buildings and raise awareness of their presence;
- describe good practice for removing asbestos (including dust suppression, enclosure and protective equipment) and handling asbestos-cement products and waste;
- encourage an approach to protective equipment and clothing that takes account of human factors and individual variability.

The guide covers the following topics:

Asbestos	Health effects of asbestos
Asbestos-containing materials	Risk assessment and planning prior to work
Decision process	Training and information
Equipment	General principles of minimising exposure
Work that might involve asbestos	Lower-risk work with asbestos
Notifiable works with asbestos	Demolition
Workers and working environments	Waste disposal
Monitoring and measurement	Other persons involved
Asbestos in other places (vehicles, machinery etc.)	Medical surveillance

The Guide was translated into all Member States' languages and made available to employers and employees, and used in training labour inspectors.

Reports on the practical experience with the Guide were focussed on:

- Access to and use of the Guide by workers, employers and inspectors:
  - the guide was made generally available on the SLIC and national websites. Some countries published the guide as a booklet (e.g. PT, CZ, ES, SI) for experts and firms doing asbestos work; others distributed it to all inspectors.
  - Because of its volume it was difficult to use the Guide as a practical handbook on site. For practitioners (workers and employers) it was too much paper to handle.
  - The Guide was used as background information and as a compendium of good practice examples and working methods.
  - In most countries the social partners reacted favourably to the Guide as a source of information on European standards of good practice.

- Useful features of the Guide:
  - The Guide provided examples of good practice and information about less familiar areas of former asbestos use and sources of potential exposure.
  - The checklists proved to very useful.
  - Many welcomed the fact that, with the Guide, SLIC gave all Member State inspectorates a common standard for inspection. It should be used beyond the campaign.
  - In training and information seminars to prepare for the inspection campaign, the Guide was useful especially for experts, inspectors and company representatives.

- Areas where more information and good practice guidance would be useful:
  - In many countries asbestos work is related to 'sporadic exposure at low intensity'; the Guide should provide more information on good practice for 'low intensity'.
  - The workers at risk are mainly working in maintenance; more information and easy-to-understand (graphic, pictorial) information would be useful. Similarly, the subject of accidental exposure should be better covered: how to avoid it, and what to do in the case of.
  - During the campaign railway trains, recycling of (roof) tiles and transport containers were revealed to be sources of asbestos exposure and good practice guidance would be useful.

- Sections of the Guide in need of improvement:
  - The chapter on work in hot environments (Chapter 14) should be more specific as regards practical examples.
  - Most working group members expressed a wish for more sketches, graphics and pictures like the ‘asbestos house’.

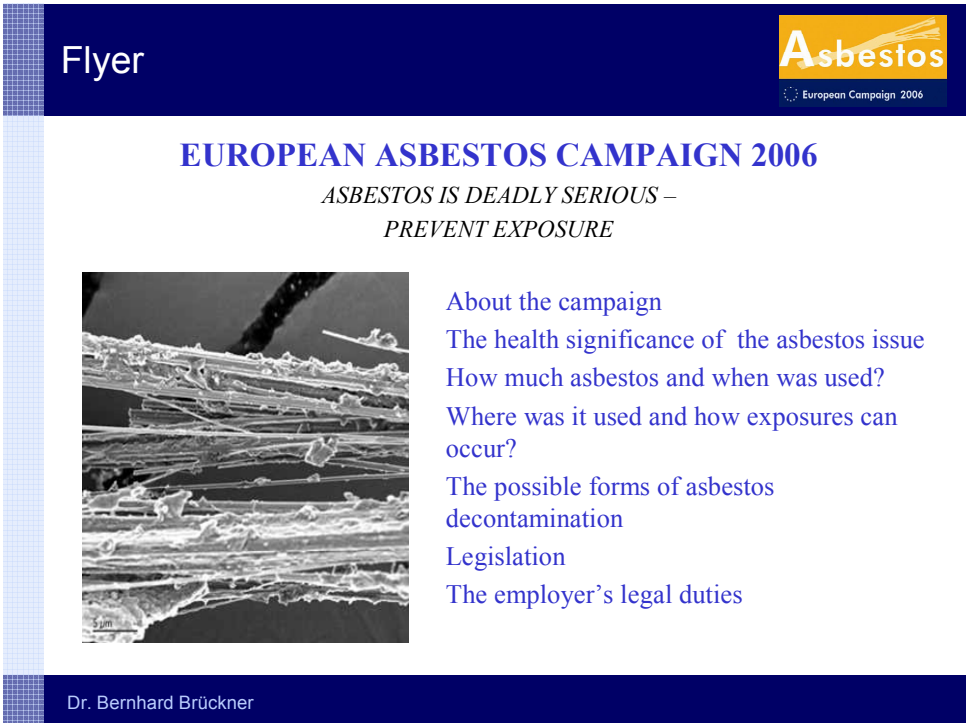
Conclusion: Both the social partners’ representatives and the inspectors emphasise the practical value of the Guide. The criticisms of details show that all target groups made use of that document at least as training material and basic literature, and recommend improvements such as greater focus on the target group and applicability on site. The highest praise came from employers citing the potential of the Guide to become a commonly accepted ‘European Standard for Good Practice in Asbestos Removal Work’ and raising standards in work involving risks of exposure to asbestos.

All parties were in favour of revising and updating the Guide later, and continuing to promote its distribution and use.

4. INFORMATION ACTIVITIES

Flyer

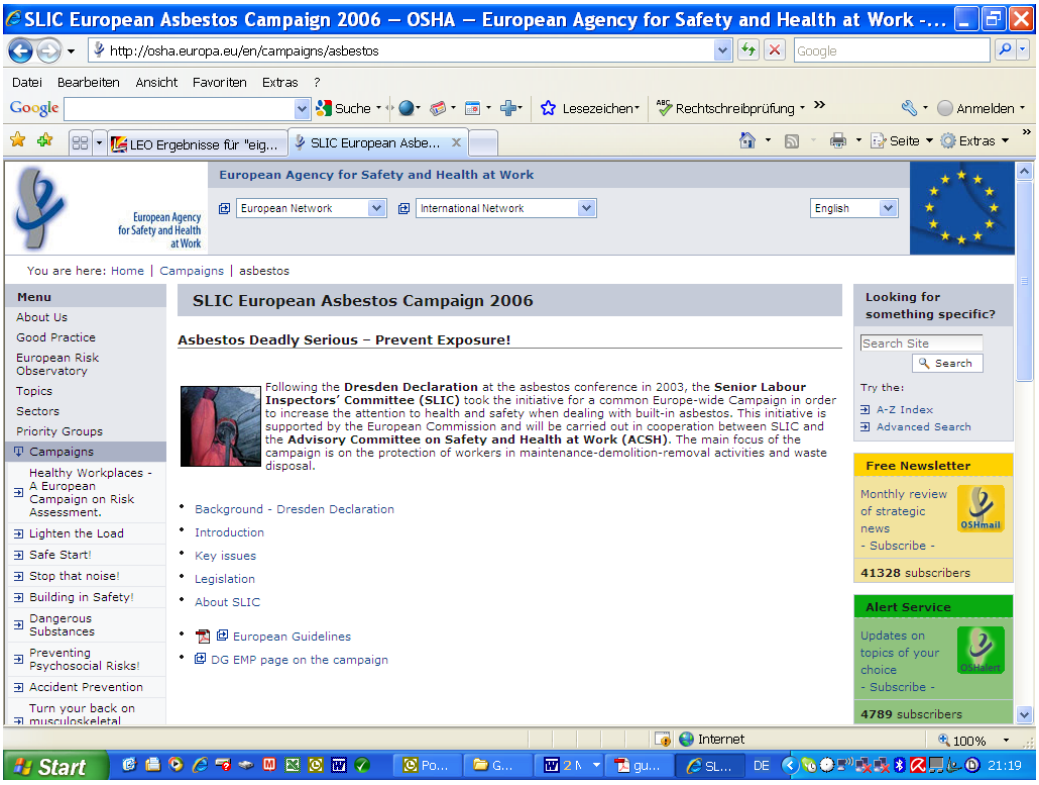
In addition to the best practice Guide mentioned in Chapter 3, the working group produced a short leaflet for quick communication through national media and for distribution during the campaign and on inspection visits (Annex 4).



Internet
All documents, the campaign flyer and the best practice Guide were available for download on the Commission's website.

Labour Inspectorates provided up-to-date information on their national websites.

The European Agency for Safety and Health at Work (EU-OSHA) produced a new website specifically for the SLIC Asbestos Campaign.



This web page was well received. The number of pages viewed during the asbestos campaign (counted by EU-OSHA) was:

2006: 1 618 pages viewed (since launch).

2007: 3 606 pages viewed (up to 28 May).

5. IMPLEMENTATION AND RESULTS OF SLIC ASBESTOS CAMPAIGN 2006

5.1 Prerequisites

For SLIC campaigns to be uniformly implemented at national level, and thus for meaningful results to be gathered, compared and analysed for all Member States participating in the campaign, it is important to identify clear and tangible topics where all Member State inspectorates have the resources and expertise to inspect and report/provide data in a usable format.

For the purpose of the SLIC Asbestos Inspection Campaign 2006, therefore, an inspection programme was developed, with pre-set quantitative targets and a number of checklists, for use in all Member States by inspectors visiting asbestos removal sites.

Below we list the three topics targeted with special checklists. For all of them there are provisions in the new Asbestos Directive (2003/18/EC)[1], and all relate to work practices, procedures or systems to be used on-site. They can be readily identified on-site by inspectors to check compliance/non-compliance with the legislation.

- Checklist *'Demolition, Maintenance and Removal of Asbestos-Cement Products'*
- Checklist *'Removal of Weakly bound Asbestos Products'*
- Checklist *'Waste Disposal of Asbestos-Containing Materials'*.

As explained above, it was essential that these checklists should address matters that were dealt with by all the relevant inspectorates in the Member States.

It was also important that the checklists do not reflect nuances and interpretations which may arise in one Member State but not in another, that they relate to the minimum requirements specified in the Directive, and that they are useful for identifying non-compliance during inspection, thus justifying the inspector's intervention.

To support general understanding of the Directive, we also produced a glossary with definitions and explanations of the terms most often used (see Annex 5).

Only if this situation is achieved can the campaign yield meaningful and comparable results and data.

The checklists supplied by the working group relate to planned work activities involving the removal of asbestos-containing materials.

[1] Directive 83/477/EEC, as last amended by Directive 2003/18/EC.

It was assumed that inspectors are trained to carry out site inspections and are aware that asbestos-containing materials are being removed at the workplace in question.

Inspectors may be specially trained in asbestos-related inspections, but should at the very least have the ability and expertise to inspect such sites and work activities correctly without the specific need to enter an enclosure or undergo (personal) decontamination, unless they have been specially trained in these defined activities.

The inspections can therefore be performed correctly and in full by general/construction inspectors and by any available specialist/designated asbestos inspectors, using the checklists to ensure that similar information is obtained per site and per Member State. The information can then be compared and analysed to give overall global findings for the EU.

5.2 General implementation

The campaign ran from September to November 2006, but some countries started their activities as early as June or July because of specific regional seasons for construction activities. Many Member States extended the campaign until December 2006 in order to reach the target number of inspection visits.

Due to past inspection activities and to historical and political differences affecting asbestos and its handling, the Member States' labour inspectorates adopted a different focus for inspections within the framework of this campaign. In Member States where asbestos trading and handling had been banned for years, removal and waste disposal activities took priority; others concentrated on topics such as supervising licensed companies.

Training was offered in nearly all Member States for asbestos-specialist inspectors; in some countries all OHS inspectors were involved in the campaign and subsequently trained. The training objective was to update their knowledge of the legal provisions and the state of the art in asbestos-related work, and to familiarise them with the campaign questionnaire.
Some countries organised joint seminars for labour inspectors and external health and safety experts. In all events the SLIC material was used and proved to be useful, providing uniform information for all target groups.

Based on the agreed Country Programme (see Annex 6) and the pre-set quantitative inspection targets, 3 127 sites in 22 Member States were inspected during this campaign, exceeding the planned number of 2 881 sites. Five countries did not report any inspections: in Malta and Iceland there was no asbestos-related activity; Italy, Hungary and Norway could not join the campaign for specific internal organisational reasons.

Country Programme — Sites inspected

Country	Inspections (number of sites)	
	Planned	**Inspected**
Austria	60	104
Belgium	50	76
Czech Republic	30	57
Cyprus	10	28
Denmark	40	40
Estonia	50	32
Finland	100	67
France	500	770
Germany	300	496
Greece	50	38
Hungary	50	
Iceland	5	
Ireland	60	55
Italy		
Latvia	200	71
Lithuania	50	39
Luxembourg	20	12
Malta		
Netherlands	100	184
Norway		
Poland	114	117
Portugal	32	40
Slovakia	60	8
Slovenia	50	61
Spain	500	433
Sweden	200	234
UK	250	250
Total	**2881**	**3127**

The following table shows in more detail the number, size class (number of workers) and type of sites inspected:

Number and size class of sites inspected	1 – 5	6 – 20	21 – 50	> 50
	2657 (85 %)	374 (12 %)	80 (3 %)	16 (1 %)
Number and type of sites inspected	D	M	R	W
	878 (28 %)	440 (14 %)	1622 (51 %)	454 (15 %)
Total number of sites inspected	3127			
Percentage of planned inspection visits	109 % (of 2881 planned visits)			

5.3 Results of inspection campaign

5.3.1 Demolition, maintenance and removal of asbestos-cement products

14 Member States gave detailed reports on the inspections of DMR activities. The reporting countries represent 39 % of sites inspected (Annex 7).

Types of asbestos-cement product and of activity inspected:

Inspection:			
Type of asbestos-cement (AC) product	coated	uncoated	surface intact
– corrugated sheet roof: 56 %	17 %	56 %	27 %
– roof tiles: 9 %	26 %	62 %	14 %
– flat roof covering: 3 %	24 %	62 %	14 %
– façade tiles: 23 %	35 %	30 %	35 %
Other types of firmly bound asbestos: 9 %			
Demolition:	35 %		
Maintenance:	15 %		
Removal:	51 %		

The main activities inspected in all 14 reporting countries were the removal and/or demolition of uncoated corrugated sheet roof and facade tiles.

In 59 % of all cases the companies employed proved to be correctly qualified for DMR work, leaving 49 % for further inspection activities (not specifically documented).

Working conditions and OSH measures were inspected, focussing on:

- general and organisational measures;
- work methods and safety measures;
- personal protective equipment;
- hygiene measures;
- handling of waste;
- supervision.

The results in the following tables show a situation of broad compliance, but with interesting details requiring further attention by labour inspectorates.

GENERAL AND ORGANISATIONAL MEASURES			
Inspected items		**Completely or to large extent (% of sites)**	**Partly or not at all (% of sites)**
Overall evaluation of compliance		**66 %**	**34 %**
Expert responsible for DMR activities		65 %	35 %
Authorised and/or competent and appointed responsible persons on site		81 %	19 %
Skilled personnel		84 %	16 %
	Workers' training certificates on-site	55 %	45 %
Person responsible for on-site monitoring appointed		65 %	35 %
	Information on-site about how, when , and where air monitoring is to be performed	30 %	70 %
	Asbestos consultant/analyst appointed	36 %	64 %
Working time limits in force		77 %	23 %

GENERAL AND ORGANISATIONAL MEASURES (continued)			
Inspected items		**Completely or to large extent (% of sites)**	**Partly or not at all (% of sites)**
Restriction of employment for young workers/ pregnant women		96 %	4 %
Coordinator appointed		70 %	30 %
Notification of work to authority		74 %	26 %
Risk assessment and consultation of workers		71 %	29 %
Work plan/work instruction		59 %	41 %
	Description of proposed method of removing asbestos	72 %	28 %
	Work plan accompanied by site plan/drawing	36 %	64 %
	Emergency plan available	52 %	48 %
Medical surveillance		71 %	29 %

The table ‘Work Methods and Safety Measures’ shows how DMR work is done in practice and if fundamental safety measures are applied.

WORK METHODS AND SAFETY MEASURES

Inspected items	**Acceptable**	**Not acceptable**
Overall evaluation	**74 %**	**26 %**
Methods such as brushing, high-pressure cleaning, grinding not applied	84 %	16 %
Tiles are washed with water or sprayed	68 %	32 %
Detachable fastenings with suitable tool removed	87 %	12 %
AC tiles removed as a whole	83 %	16 %
AC tiles removed in reverse order	84 %	17 %
Suitable vacuum cleaners are in use	56 %	44 %
Sub-construction immediately suction-cleaned	49 %	51 %
For transfer of AC tiles only manual handling is applied or hoisting equipment is in use	90 %	10 %
Guttering is cleaned and flushed after work	53 %	47 %
Use of weight-distributing covering or catwalks	68 %	33 %
Protective equipment against falls from height are used	79 %	22 %
Working area demarcated and marked	77 %	23 %
Openings are closed to prevent the contamination of other working areas	74 %	26 %
Only authorised persons are in working area	86 %	14 %
Suitable tarpaulins or sheets to collect and catch fragments are in use	77 %	23 %

The overall compliance of working methods and basic safety measures are obviously much better than general measures: 74 % compared with 66 %. If the use or non-use of vacuum cleaners is disregarded, the ratio improves again, thus indicating that external (client and/or public) observation of work performance is the driving force for complying with regulations, and not care for workers’ health and safety.

The figures on the use of personal protective equipment and hygiene measures suggest a similar interpretation.

Overall evaluation	**Suitable**	**Not suitable**
Personal protective equipment	83 %	17 %
Hygiene measures	68 %	32 %

Measures to secure waste and to dispose of it properly were also in good compliance (84 %), except for transportation, where 31 % of companies inspected lacked the relevant licence.

At least in the reporting countries, independent expert supervision of work results seemed to be an effective instrument. In 79 % of sites inspected, the authorities could accept the provisions as compliant.

Following the inspections of DMR work with asbestos-cement products, labour inspectors had to take 1144 enforcement actions:

Oral instruction	42 %
Advice letter	20 %
Binding order	24 %
Administrative fine	6 %
Prosecution	1 %
Prohibition of work/activity	4 %
Closure of site	5 %
Revocation of licence	0 %

5.3.2 Demolition, maintenance, and removal of weakly bound asbestos products

14 Member States gave detailed reports on the inspections of DMR activities with weakly bound asbestos products (Annex 8).

246 inspections were carried out, 66 % on sites with removal work, 28 % with demolition and 6 % with maintenance activities. 89 % of companies performing DMR work had the necessary qualifications.
There were reported to be 615 workers, 25 of whom were temporary workers.

The following table gives an overview of general working conditions.

GENERAL AND ORGANISATIONAL MEASURES			
Inspected items		**Completely or to large extent (% of sites)**	**Partly or not at all (% of sites)**
Overall evaluation of compliance		**70 %**	**30 %**
Expert responsible for DMR activities		69 %	31 %
Authorised and/or competent and appointed responsible persons on site		86 %	14 %

GENERAL AND ORGANISATIONAL MEASURES (continued)			
Inspected items		**Completely or to large extent (% of sites)**	**Partly or not at all (% of sites)**
Skilled personnel		71 %	29 %
	Workers' training certificates on-site	65 %	35 %
Person responsible for on-site monitoring appointed		89 %	11 %
	Information on-site about how, when , and where air monitoring is to be performed	49 %	61 %
	Asbestos consultant/analyst appointed	73 %	27 %
Working time limits in force		73 %	27 %
Restriction of employment for young workers/ pregnant women		85 %	15 %
Coordinator appointed		50 %	50 %
Notification of work to authority		62 %	38 %
Risk assessment and consultation of workers		75 %	25 %
Work plan/work instruction		67 %	33 %
	Description of proposed method of removing asbestos	65 %	35 %
	Work plan accompanied by site plan/drawing	64 %	36 %
	Emergency plan available	61 %	39 %
Medical surveillance		67 %	33 %

Removal and handling of weakly bound asbestos products is undeniably hazardous work. Yet, as indicated by the high percentage of partly or not-at-all complying inspection statements, the level of general and organisational protective measures applied by employers on-site does not measure up to the workers' risk exposure. Correct work plans including a description of methods were lacking in 1/3 of sites; this finding casts doubt on the quality of risk assessment for these activities.

WORK METHODS AND SAFETY MEASURES		
Inspected items	**Acceptable**	**Not acceptable**
Overall evaluation	**69 %**	**31 %**
Enclosure on-site	82 %	18 %
Decontamination unit on-site	79 %	21 %
Decon. connected directly to enclosure via airlock	68 %	32 %
Decon. unit operating on-site (under negative pressure)	73 %	27 %
HEPA (High Efficiency Particulate Air Filter) vacuum(s) on site (in enclosure/airlock)	84 %	16 %
Viewing panels in enclosure	40 %	60 %
Enclosure regularly visually checked	70 %	30 %
NPUs (Negative Pressure Unit) match/reflect the method statement (i.e. number/size/location)	78 %	22 %
Valid test certificates for each identified NPU and HEPA on-site	46 %	54 %
Valid clearance for the decon. unit(s) on site	45 %	55 %
Maintenance records e.g. for RPE (Respiratory Protective Equipment) on-site	36 %	64 %
Correct monitoring records and results on-site	64 %	36 %
Layout of decon. /enclosure/position of NPU/ waste disposal area reflects the method statement and the accompanying site drawing or plan	76 %	24 %
Adequate/clear and appropriate warning signs/demarcations of zones on-site	88 %	12 %
Designated area for asbestos waste on site (temporary storage prior to going for disposal)	87 %	13 %
Storage of asbestos waste secure	87 %	13 %
Clean/dirty ends of the decon. clearly marked from the outside of unit	74 %	26 %

Removal of weakly bound asbestos products is more strictly regulated, and detailed technical provisions are described in each country's national regulations. Use of suitable equipment and protective devices is a prerequisite for any company in the field of asbestos removal work. The quality of on-site safety measures may be highlighted by checks on maintenance, documentation and organisation of proper use and functioning of technical installations. The low scores for these issues in combination with the weak performance in general OHS measures point to a need for improvements in the site-management of asbestos removal works.

Overall evaluation	**Adequate**	**Not adequate**
Personal protective equipment (not included: availability of valid RPE certificates on-site, which for 59 % is not the case)	82 %	18 %
Hygiene measures (separate cleaning of working clothes and other clothing only for 37 %)	81 %	19 %

Supervision and control measures, securing of waste and transport seemed not to be satisfactorily organised on sites carrying out DMR activities with weakly bound asbestos.

Dust-free disposal was acceptable (83 %), but evidence of permission to use landfills was provided in only 66 % of cases, and the licence for transportation was missing in 57 %.

Following the inspections of sites carrying out DMR activities with weakly bound asbestos, labour inspectors took 263 enforcement actions:

Oral instruction	49 %
Advice letter	28 %
Binding order	16 %
Administrative fine	1 %
Prosecution	0 %
Prohibition of work / activity	3 %
Close down site	2 %
Revocation of licence	1 %

5.3.3 Waste disposal of asbestos-containing materials

13 Member States reported inspection results from asbestos waste disposal sites (Annex 9). In Greece, no national disposal site exists and all waste is transported abroad.

The main way of disposing of asbestos waste is landfill; only two thermal destruction plants were inspected; eight other sites were visited with no specific technical description (e.g. holding points, local waste collection points).

Item inspected		Evaluation: Compliance (% of sites)	
		Completely or to large extent	Partly or not at all
General and organisational measures			
	Risk assessment, including consultation of workers	62 %	38 %
	Correct instruction of workers	69 %	31 %
Technical safety measures			
Working area: delivery			
	Demarcated working areas	79 %	21 %
	Delivery of waste in appropriate packing	69 %	31 %
	Suitable big plastic bags, containers	73 %	27 %
	Labelling of transport containers	66 %	34 %
	Rejection of incorrectly packed/secured/labelled containers	46 %	54 %
	Re-packing by skilled personnel	30 %	70 %
Working area: landfill			
	Correct disposal, avoiding release of fibres	74 %	16 %
	Covering in good time	84 %	16 %

Item inspected		Evaluation: Compliance (% of sites)	
		Completely or to large extent	Partly or not at all
Technical safety measures (continued)			
Working area: destruction of fibres			
	Authorisation exists	92 %	8 %
	Dust-free loading of device	47 %	53 %
	Dust-free destruction process	70 %	30 %
	Monitoring of asbestos-free end product	43 %	56 %
Personal protective equipment			
General situation		69 %	31 %
	Suitable protective clothing is worn	79 %	21 %
	Normal working clothing appropriate	71 %	29 %
	Suitable respiratory masks are used	59 %	41 %

ENFORCEMENT ACTION TAKEN BY INSPECTORS	
Oral instruction	39 %
Letter of formal notice	44 %
Binding order	16 %
Administrative fine	0
Prosecution	0
Prohibition of work/activity	1 %

General working conditions in asbestos waste disposal sites seem to be satisfactory and in compliance with national regulations. Nevertheless, one third of sites show poor compliance. Even higher percentages of non-compliance were found at interfaces in the delivery or production line and in unusual situations, e.g. rejecting incorrectly packed containers and re-packing, dust-free loading of devices, using respiratory masks etc.

These inspection results indicate the need for further information and training of employers and site managers, and of employees.

6. NATIONAL ASBESTOS MANAGEMENT SYSTEM

In the framework of the SLIC Asbestos Campaign 2006 the survey on National Asbestos Management Systems was updated. The aim of this exercise was to collect information from Member States on how the Health and Safety Inspectorates manage the system for selecting and authorising companies to remove asbestos in buildings, industrial plants and waste processes, and how they provide access to this information, which is of common interest.

National Asbestos Management System *(2006)*

	1	2	3	4	5			6	7	8	9	10	11	12
M S	**Certif. by Independent Third Party**	**Agreement Ministry of Labour**	**Other State Body**	**Qualif. Previous experience required**	**Qualif. For personnel**			**Technical Capac. requirements**	**Financial Capacity of removal Company**	**Notif. of each removal site**	**National Records**	**Training**	**Medical Surveillance - initial - periodical**	**RPE identified problem see annex**
					Empl/HSOff/Work									
AT			X	O	X	X	X	X	O	X	X	X	X	O
BE		X		O	O	X	X	X	O	X	O	X	X	X
BG	O	O	O[2]	O	O	O	X	X	O	X	X	X	X	O
CY			X	O	X	O	X	X	O	X	X	X	X	O
CZ	X			O	-	X	X	X	O	X	O	X	X	O
DE		X		O	X	O	O	X	O	X	X	X	X	O
DK			X	O	X	X	X	X	O	X	X	X	X	O
EE[3]	O	O	O	O	O	O	X	O	O	X	X	O	X	O
EL		X								X	X			O
ES	O	O	O[4]	X	X	X	X	X	O	X	X	X	X	X
FI		X		O	-	-	-	X	O	X	O	X	X	O
FR	X			X[5]	-	-	X	X	O	X	O	-	X	O
HU														
IE	-	-	-	-	X	X	X	X	O	X[6]	X	X	X	X
IT														

Key: X = Yes; O = No

[2] No authorisation but compliance with requirements of the Ministries of health and environment required
[3] New legislation expected
[4] No authorisation but completion of national register required
[5] Where no information on previous experience known
[6] Determined by action level / exposure limit value

National Asbestos Management System *(2006)*

	1	2	3	4	5			6	7	8	9	10	11	12
M S	**Certif. by Independent Third Party**	**Agreement Ministry of Labour**	**Other State Body**	**Qualif. Previous experience required**	**Qualif. For personnel**			**Technical Capac. requirements**	**Financial Capacity of removal Company**	**Notif. of each removal site**	**National Records**	**Training**	**Medical Surveillance - initial - periodical**	**RPE identified problem see annex**
					Empl/HSOff/Work									
LT		X		O	X	X	X	X	O	X	X	X	X	O
LU [7]	-	-	-	O	-	-	-	X	O	X	O	O	X	O
LV	-	-	-	O	-	X	X	O	O	X	X	X	X	O
MT		X		O	O	X	X	X	O	(X) [8]	X	X	X	O
NL	X			X	O	X	X	X	O	X	X	X	X	O
PL	O	O	O[9]	X	X		X	X	O	X	X	X	X	O
PT	-	-	-	O	X	-	-	O	O	O	O	O	X	O
RO														
SE		X		O	O	O	X	X	O	X	X	X	X	O
SK		X		X	X	X	X	X	O	X	X	X	X	O
SI		X		O	O	O	X	X	O	X	X	X	X	O
UK		X		X	X	-	X	X	O	X	X	X	X	O
IS		X		X	O	X	X	X	O	X	O	X	O	O
NO														

Key: X = Yes; O = No

[7] National (asbestos removal) legislation to be modified in 2007
[8] Only kept at regional level
[9] No authorisation required but hazardous waste legislations requires permit to produce asbestos-containing waste or approval of the hazardous waste management

Comments on the table (2006)

1, 2 and 3	There exists an authorisation system for asbestos removers in 16 out of 24 of the Members State who answered the questionnaire.
4	Out of 24 member States, 5 require previous experience.
5	Few Member States have specific requirements qualifications; in general, training for employees is a legal requirement.
6	Technical capacities are a pre-requisite for 20 out of 24 member States.
7	Financial capacity was not a factor.
8	Except for one country, notification of each working site is required; in general, this notification (which often requires a work plan or method) is sent to the local office of the enforcing authority.
9	A majority keep national records.
10	Training is required in almost all member States; many countries require 'training' via State-authorised training providers but the duration and interval between training varies.
11	Medical surveillance is required from by a competent health / medical professional, generally independent of the employer. The frequency varies from between 1 to 5 years.
12	Only 3 countries reported problems with RPE, as follows: • Face-fit, maintenance, and training for proper use – FFP3 and power-assisted full face respirators; don't require air-fed (IRE); • Assisted ventilation respirators – protection factor not sufficient in some cases; overcome by reduced exposure levels e.g. adequate methods of removal and general protective measures (air renewal) (BE); • Half-face + P3 particle filters, half-face or full-face power assisted respirators to TMP3. Continued use of filters without replacement according to manufacturers' instructions. Important to ensure 'good fit', correct use, and in the case of air-fed apparatus, ensuring intake air is free from contaminants (ES).

7. EVALUATION OF SLIC ASBESTOS CAMPAIGN

A Member States Report was produced to evaluate the results of the campaign and the acceptance and implementation of the Asbestos Directive. It was used to document compliance with essential provisions of the Directive (Annex 10).

2.	EU Directives	Reference to Checklist(s)	Average Score (%):	
			1 (Range)	4 (Range)
2.1	Risk assessment subject to consultations with workers and/or representatives *(Art 3 paragraph 4)*	No 1.11.2	59 (24 – 100)	32 (0 – 76)
2.2	Notification of the work site by the employer to the responsible authority of the Member State (*Art. 4*)	No 1.10.1	72 (12 – 100)	23 (0 – 88)
2.3	Identification of presumed asbestos-containing materials before demolition or maintenance work (*Art. 10a*)	No 1.11.1	67 (20 – 100)	26 (0 – 78)
2.4	Drawing up of a plan of work before demolition work or asbestos removal work (*Art. 12*)	No 1.12	63 (25 – 100)	28 (0 – 75)
2.5	Use of warning signs to clearly demarcate the place in which the activity takes place (*Art. 13*)	No 3.1	62 (18 – 99)	19 (0 – 80)
2.6	Procedure to collect and remove waste from the place of work as soon as possible in suitable sealed packing with labels indicating that it contains asbestos (*Art. 6*).	No 3.3 (wb) No 3.4 (ac) No 6.1	68 (35 – 100)	17 (0 – 55)
2.7	Evidence of the ability of the firm before asbestos removal work or asbestos demolition (*Art. 12b*)	No 05	70 (8 – 100)	27 (0 – 93)
2.8	Appropriate training for the workers who are, or are likely to be, exposed to asbestos-containing dust (*Art. 12a*)	No 1.5.2	58 (13 – 100)	31 (0 – 88)
2.9	Register indicating the nature and duration of the activity and the exposure to which the workers responsible for carrying out the activities have been subjected (*Art. 16*).	No 1.13.2	57 (8 – 98)	34 (2 – 93)

2.	EU Directives	Reference to Checklist(s)	Average Score (%):	
			1 (Range)	4 (Range)
2.10	Specific medical surveillance of the workers exposed or likely to be exposed to asbestos-containing dust (*Art. 15*)	No 1.13.1	61 (5 – 99)	33 (1 – 95)
2.11	Assessment of the risk to determine the nature and degree of the exposure of the workers to dust arising from asbestos or materials containing asbestos (*Art. 3*)	No 1.11.1 No 1.1	61 (16 – 100)	28 (0 – 85)
2.12	Use of adapted work processes to avoid the release of asbestos dust into the air (*Art. 6*)	Chapter 2	58 (5 – 100)	21 (0 – 95)
2.13	Use of suitable respiratory equipment or other personal protective equipment (*Art. 11*)	Chapter 4 Chapter 3	65 (8 – 96)	20 (0 – 93)
2.14	Regular measurement of asbestos fibres in the air at the workplace (*Art. 7*)	Chapter 7	51 (2 – 100)	33 (0 – 96)

The table on the next page shows the proportion of full compliance with provisions of the EU Directive in the 21 reporting Member States (no reports were available from HU, IC, IT, MT, NO, CZ who replied only to the specific technical questionnaires).

Table: Member State Compliance with EU Asbestos Directive (% full compliance/score 1)

2.1	59	45	79		89	35	59	67	71.5	75	63			53		42	38	83		67.3		61	24	62.5	48	38.2	35	100
2.2	72	74	88		100	100	38	65	90	87	95			76		24	12	67		92.8		75	45	75	56	64	88	100
2.3	67	56	88		93	20	81	66	78	*	86			67		44	27	100		84.5		72	38	62.5	48	52	66	100
2.4	63	64	42		93	25	53	59	71	62	84			73		26	38	60		94		68	55	100	56	60.5	47	100
2.5	62	28	87		75	17.5	59	52	79	60	71			59		56	58	67		90.8		63	31	75	70	32.9	75	99
2.6	68	52	83		79	35	*	50	84.5	76	71			47.7		42	41.3	92		95		71	41	100	92.4	46.7	56	94
2.7	70	100	87		36	7.5	*	61	84	*	68			75		31	35	*		98		*	*	75	100	61.9	98	100
2.8	58	35	86		14	12.5	*	57	79	75	61			55		43	19	83		96		70	38	100	56	40.1	55	92
2.9	57	22	78		68	7.5	*	48	40	90	63			58		79	46	67		97.2		61	45	75	52	36.6	13	98
2.10	61	72	83		7	5	*	14	80	90	63			55		59	62	60		96		69	66	75	70	49.1	50	99
2.11	61	32	82		93	20	*	46	70	80	90			60		51	15.5	83		90.2		60	41	100	48	34.7	32	100
2.12	58	57	47		64	5	*	58	80	73	71			60		24	12	60		90.2		77	20.5	100	100	33	47	75
2.13	65	49	83		96	7.5	44	68	88	83	87			64		43	36	60		95.8		77	43	87.5	86.5	51.7	38	82
2.14	51	82	82		14.3	7.5	*	42	29	*	71			69		57	2	100		84.2		*	24	87.5	22	37.4	16	99
	All MS	**AT**	**BE**	**CZ**	**CY**	**DK**	**EE**	**FI**	**FR**	**DE**	**EL**	**HU**	**IS**	**IE**	**IT**	**LV**	**LT**	**LU**	**MT**	**NL**	**NO**	**PL**	**PT**	**SK**	**SL**	**ES**	**SV**	**UK**

To show where the problems arise in implementing EU directives it is useful to indicate the provisions with the highest rate of total non-compliance (score 4); the following table lists priority fields which may need more attention from labour inspectors in the coming years:

Priority	No.	Description
1	2.9	Register indicating the nature and duration of the activity and the exposure to which the workers carrying out the activities have been subjected (*Art. 16*).
2	2.14	Regular measurement of asbestos fibres in the air at the workplace (*Art. 7*)
3	2.10	Specific medical surveillance of the workers exposed or likely to be exposed to asbestos-containing dust (*Art. 15*)
4	2.1	Risk assessment subject to consultations with workers and/or representatives *(Art. 3 paragraph 4)*
5	2.8	Appropriate training for the workers who are, or are likely to be, exposed to asbestos-containing dust (*Art. 12a*)
6	2.4	Drawing up of a plan of work before demolition work or asbestos removal work (*Art. 12*)
7	2.11	Assessment of the risk to determine the nature and degree of the exposure of the workers to dust arising from asbestos or materials containing asbestos (*Art. 3*)
8	2.7	Evidence of the ability of the firm before asbestos removal work or asbestos demolition (*Art. 12b*)
9	2.3	Identification of presumed asbestos-containing materials before demolition or maintenance work (*Art. 10a*)

The provisions with priority 1 to 9 all show a rate of total non-compliance (score 4) above 25 %. Evidently the main failures relate to the management of asbestos handling work. On-site management comprises all factors a contractor has to consider when providing state-of-the-art service: adequate technical equipment and maintenance, organisation of site, information and training of employees, documentation and formal duties. All data available suggest that the contractors' employers and management were not aware of their statutory obligations when exposing workers to high-risk asbestos work. This tendency poses great challenges for the labour inspectorates.

Enforcement

Qualitative analysis of the use of enforcement action gives clear priority to 'softer' enforcement by oral instructions (39 %), binding orders (28 %) and advice letters (21 %). In some countries those were the only actions applied. This fact is striking given that the legal relevance of such actions and their impact on employers varies between Member States and in some case may be quite restrictive.

Greater differences emerge when we look at the 'harder' enforcement measures such as fines, prohibition of work or prosecution, which were used quite rarely: 3 % on average. In some countries the figure rises to 10–15 %, or even 25 % for administrative fines.

About 50 % of Member State labour inspectorates did not apply these measures at all, although it is true that not all of them are available in national legislation.

Consideration should be given to a stricter inspection strategy for dealing with deficiencies in asbestos-related work.

8. CONCLUSIONS AND RECOMMENDATIONS

Generally speaking the campaign and information activities were widely noticed and accepted in most countries. Exceptions seem to be countries with only a few inspectors involved and a smaller number of sites to be inspected due to earlier national campaigns; this was the case in Ireland and Austria, for example. The translated campaign documents were used for the national campaigns and published in national designs. In some countries such as the UK, Sweden and Denmark the SLIC campaign was a starting point for specific and long-running asbestos programmes, or it helped to get the asbestos problem on the public agenda again (e.g. Austria, Germany). Austria, Luxembourg and Sweden also mention the low qualifications of workers, especially those in small businesses. This is also related to very different systems of notification and certification in EU Member States. This subject should be discussed further.

Evaluations of specific questionnaires and the overall Member States Report reveal a great need for training and information of all parties involved in asbestos-related work, including inspectorates. The campaign results highlight the need to concentrate on common EU practical guidelines as a minimum standard and starting point for all involved.

- The campaign raised awareness of the danger of asbestos among inspectors, employers and employees and to some extent the general public.

- A trend can be observed towards smaller-scale work with asbestos-containing material, now often done by small and micro businesses. This down-scaling has led to a decline in employers' and employees' awareness, knowledge and experience of the risks and necessary OSH measures. This is clear from the high degree of non-compliance on key factors for asbestos risk management such as risk assessment, information and training of workers, preparation of work plans and proof of competence.

- In all Member States the health hazard of (legal) handling of asbestos-containing material is still on the agenda; it needs continuous action by labour inspectorates to keep OSH standards high and to keep risk levels as low as achievable. As one outcome of the campaign some labour inspectorates have already decided to continue inspection activities and develop new inspection strategies (e.g. UK, IE, SL).

- We found a high level of non-compliance with asbestos-related OSH-legislation and regulations, suggesting that there is a need to tighten up inspection strategies, and to apply stricter administrative interventions and coercive measures. Inspection strategies also need to focus more on the organisational aspects of DMR activities to achieve sustainable effects.

- Prevention of asbestos-related health hazards can't be managed by labour inspectorates alone. It requires commitment by all players in this field. Information and training of inspectors, social partners and experts will help to build commitment; with common standards for work with asbestos-containing material, efforts could be combined and the activities of each group would be more effective. SLIC should consider developing a common training and information strategy for stakeholders.

- The new Guide was widely used as information material. There was broad acceptance by national and international experts, as it displayed a common European standard of good practice; it will also be used in other EU-funded programmes and projects. The guide should be further developed to reflect state-of-the-art techniques and updated regularly. The European Commission should be asked to provide funds to update the guide in cooperation with SLIC and ACSH, and to improve language versions.

- One side-effect of the campaign was that the first steps were taken towards internet-based exchange of experience. To further develop this communication an asbestos forum for labour inspectors in the CIRCA network would be promising; members of the present SLIC working group could act as future contact persons.

- The regulations on notification of asbestos-related works and certification of competence of companies and/or workers differ widely between Member States. The absence of regulation in this field seems to be a major factor leading to low competence on sites, and hampers adequate monitoring by labour inspectorates. Europe-wide approximation of the relevant legislation would merit careful consideration.

ANNEXES

1. Dresden Declaration 2003

2. SLIC Decisions

3. Helsinki Campaign Launching Press Conference 2006; press release

4. Campaign Flyer *Asbestos Is Deadly Serious - Prevent Exposure*

5. Glossary: Definitions and Explanations

6. Programme for Campaign 2006

7. Evaluation: Work Demolition, Maintenance and Removal of Asbestos-Cement Products

8. Evaluation: Removal of Weakly-Bound Asbestos Products

9. Evaluation: Waste Disposal of Asbestos-Containing Materials

10. Member States Report