

Asbestos Plan of Work

Ukraine Improving Higher Education for Results Project

UIHERP

Table of Contents

1. Introduction	4
1.1 Purpose of the Plan of Work (PoW)	4
1.2 Scope of Activities	4
1.3 Regulatory Framework and Reference Documents	4
2. Project Information	5
2.1 Basic Information About the Project	5
2.2 Responsibilities and Key Personnel	7
3. Asbestos Survey Summary	8
3.1. Process of screening for the presence of asbestos-containing materials in buildings, infrastructure, and facilities.....	10
4. Risk Assessment.....	12
4.1 Asbestos Hazard Assessment Methodology.....	12
5. Rules for handling asbestos-containing materials.....	14
5.1. Avoiding the influence of fibers	14
5.2. Personal protective equipment (PPE)	14
5.3. Typical equipment and materials required for cleanup operations.....	16
5.4. Standard removal of loosely bound asbestos material or asbestos dust.....	17
5.5. Removal of loosely bound asbestos material with limited quantity	18
5.6. Method for cleaning asbestos-containing fibre cement panels.....	20
6. Waste Handling	21
6.1 On-Site Waste Management	21
6.2 Storage and Packaging Requirements	22
6.3 Transport and Disposal Procedures and waste documentation	23
7. Asbestos Management Plan (AMP) Template.....	24
7.1 Summary of ACM Inventory and Survey Results.....	24
7.2 Decision-Making for ACM Management	24
7.3. Emergency procedures	24
7.4 Emergency Contacts	26
7.5. Training and Consultation Requirements.....	26
8. Appendices	0
Annex 1: Catalogue of the most common abm products in Ukraine	0
Annex 2: Template of an Asbestos Register	4
Annex 3: Example of an asbestos register	4

Acronyms & Definitions

ACM	Asbestos Containing Material
AMP	Asbestos Management Plan
CERC	Emergency Response Component
IPF	Investment Project Financing
PDO	Project Development Objective
PIU	Project Implementation Unit
PPE	Personal protective equipment
RPE	Respiratory protective equipment

1. Introduction

1.1 Purpose of the Plan of Work (PoW)

The purpose of this document is to provide guidance on the process and actions to be undertaken should a material thought to contain asbestos be discovered and/or if there has been an incident involving uncontrolled or unexpected asbestos fibre release.

1.2 Scope of Activities

This Plan applies to all university employees, academic and administrative staff, students, contractors and their employees, and visitors while present on university premises.

1.3 Regulatory Framework and Reference Documents

The main document in Ukraine aimed at protecting the health of people working with asbestos and ACM and products is the implementation of measures aimed at creating conditions (in particular, requirements for technological processes of collection, packaging, transportation, storage, and loading and unloading operations) to reduce the incidence and mortality from diseases caused by exposure to asbestos-containing dust, are the **State Sanitary Norms and Rules “On the Safety and Protection of Workers from the Harmful Effects of Asbestos and Materials and Products Containing Asbestos,”** adopted by Order of the Ministry of Health of Ukraine No. 1013 of June 5, 2023.

In accordance with paragraph 2 of Section I of these State Sanitary Norms and Rules, the production and use of asbestos, regardless of its type, and asbestos-containing products and materials in technological processes and during construction and installation works is prohibited, except for works involving the processing of asbestos and ACM and products for the purpose of their removal.

Also, paragraphs 4 and 5 of this section state that compliance with these State Sanitary Norms and Rules is mandatory for business entities and citizens who carry out work with asbestos and ACM and products, and also applies to all types of work, namely:

- Reconstruction, technical re-equipment, repair of structures built using ACM and products;
- Processing of asbestos and asbestos-containing materials and products for the purpose of their removal, including technological processes of collection, loading, unloading, transportation, storage of asbestos and ACM and products;
- Removal, including burial, of asbestos-containing waste.

Law of Ukraine No. 2573-IX “On the Public Health System,” which was adopted by the Verkhovna Rada of Ukraine on September 6, 2022, came into force on October 1, 2023, and protects the health of builders and residents of new buildings from the negative effects of all types of asbestos. The requirements of paragraph 3 of Article 28 of the aforementioned Law clearly prohibit the production and use of asbestos, regardless of type, as well as ACM, in technological processes and during construction and installation work on any objects. Safety and protection measures against the harmful effects of asbestos and ACM are determined by state medical and sanitary rules.

All employees who work with asbestos must be provided with special clothing, special footwear, and other personal protective equipment against hazardous and harmful production factors in accordance with Order No. 62 of the State Committee of Ukraine for Industrial Safety, labor protection and mining supervision No. 62 dated April 16, 2009 (registered with the Ministry of Justice of Ukraine on May 12, 2009 under No. 424/16440) “Standards for the free provision of special clothing, special footwear, and other personal protective equipment to employees of general professions in various industries” and the Minimum Safety and Health Requirements for the Use of Personal Protective Equipment by Employees in the Workplace,

approved by Order of the Ministry of Social Policy of Ukraine No. 1804 dated November 29, 2018 (registered with the Ministry of Justice of Ukraine on December 27, 2018, under No. 1494/32946), as well as in accordance with the International Labor Organization's "Safety at Work with Asbestos".

On July 9, 2023, the day the **Law of Ukraine "On Waste Management"** came into force, the country switched to a new waste classification system. In order to bring the waste classification procedure into line with European requirements, namely the EU List of Waste, on October 20, 2023, Resolution No. 1102 of the Cabinet of Ministers of Ukraine approved a new National List of Waste and Procedure for Waste Classification.

From now on, waste classification must be carried out according to type and properties, with the aim of proper management and prevention of negative impacts on human health and the environment. This should be carried out in accordance with the **National Waste List and the Waste Classification Procedure**, taking into account the List of Properties that Make Waste Hazardous (Appendix 3 to the Law). According to Appendix 2 "LIST of hazardous waste components" of the Waste Classification Procedure, asbestos (dust and fibers) is classified as such and has the corresponding **code – C25**.

The transportation of cargo containing dusty hazardous materials is carried out in accordance with the requirements of the **Law of Ukraine "On the Transportation of Dangerous Goods"** and Order of the Ministry of Internal Affairs of Ukraine dated 04.08.2018 No. 656 **"On the Approval of Certain Regulatory and Legal Acts on the Road Transportation of Dangerous Goods."**

2. Project Information

2.1 Basic Information About the Project

The proposed Ukraine Improving Higher Education for Results Project Development Objective (PDO) is to improve efficiency, conditions for quality, and transparency in higher education system of Ukraine.

The achievement of the Project's PDO is expected via implementation of four components, as described in more detail below:

Part 1 - Sectoral Improvement in Governance, Financing, Quality, and Transparency

The aim of this part is to support the activities of the Government of Ukraine in implementing and monitoring sectoral reforms that impact governance, financing, quality, and transparency in higher education. This part includes two complementary sub -parts:

- Sub-part 1.1: Financing of strategic sector-wide investments to support autonomy, transparency, and monitoring, including, in particular: (a) development of information systems to engage stakeholders, enhance transparency, and ensure informed policy in the higher education sector of the Borrower; (b) development of standardized digital tools for assessing learning outcomes in higher education institutions; and (c) conducting communication campaigns.
- Sub-part 1.2: Support for the introduction and use of performance-based incentives in the higher education system of the Borrower.

Part 2 - Consolidation and Partnerships for Enhanced Efficiency and Quality

The aim of this part is to support the Government in improving financial efficiency in the higher education sector and to support the creation of preconditions for university mergers, including the development and implementation of technical and economic justifications for university mergers and partnerships, as well as the development of guiding principles and a "roadmap" for carrying out university mergers and partnerships. This part may also finance merger support packages on a pilot basis following the above measures.

Improving conditions for quality teaching and learning at individual state HEIs that have started the merger process, including: (a) equipping modern basic educational laboratories and advanced research laboratories; (b) equipping information technologies; (c) conducting minor repair and restoration works; and (d) conducting research and necessary technical assistance for planning merger processes.

Sub-part 2.1. Strategic Investments for Successful University Consolidation (\$3 million) Under this sub-part, the Project may finance investment packages as a pilot project for implementation in consolidated (reorganized) HEIs of the following measures related to key priorities in higher education: (i) improving the quality of teaching, learning, and research activities while ensuring digital transformation in the sector; (ii) implementing national reforms in governance and financial autonomy; and (iii) ensuring successful implementation of consolidation at the institutional and/or program level (i.e., unique to each consolidation). A key aspect of development is that this investment package should facilitate the consolidation process and support quality enhancement measures that would otherwise be unlikely, or that institutions could not implement independently without additional initial funding provided under the Project. The list of pre-defined investment packages for reorganized HEIs will consist of goods and small-scale repair works. They will be selected by the Ministry of Education and Science to facilitate the successful implementation of governance reforms and financial autonomy, as well as to improve quality and relevance. The consolidation support packages will include, in particular, laboratories for teaching, research and/or training, laboratory equipment, learning support tools and other educational facilities, modern digital infrastructure to support distance learning, and small-scale repair works. New construction will not be supported.

Part 3: Capacity Building and Enhancing the Educational Environment and Research Potential of Individual State HEIs including, in particular: a) development of change management plans; b) provision of digital educational resources, digital devices, multimedia equipment, and software, as well as modern digital infrastructure to ensure continuity of learning through remote and distance learning methods; c) provision of modern basic educational laboratories and advanced research laboratories; d) training of management staff to support higher education reforms; e) conducting refurbishment, installation and use of solar panels, rehabilitation, reconstruction, equipment installation, pre-feasibility; f) providing support to the Ministry of Education and Science and selected state HEIs for strengthening academic innovations, labor market links, strategic planning and change management, engaging entrepreneurs and businesses, human resources management, financial management, and taxation.

The Project will finance pre-defined categories of goods and services, including modern digital infrastructure for distance learning, digital devices, multimedia equipment and software, electronic learning management systems, and similar IT investments to enhance the quality of distance learning. Investments will also include modern basic educational and research laboratories, related equipment, targeted training of management for reform support, refurbishment, installation and use of solar panels, rehabilitation, reconstruction, equipment installation, pre-feasibility, and targeted assistance, among others, for the development of change management plans, academic innovations, labor market linkage, strategic planning and change management, business and entrepreneur engagement, human resources management, and financial management/taxation.

Part 4 - Project Management, Monitoring, and Evaluation

The purpose of this part is to support the effective management and implementation of the proposed project. As this is a complex and long-term development project, activities within the project require support from a special group of individual consultants, hereinafter referred to as the Project Implementation Unit (PIU). These consultants will enhance the Ministry of Education and Science's capacity for project implementation, providing expertise in project management, procurement, financial, legal management/control, monitoring and evaluation, as well as environmental and social management and safeguards, etc. The PIU will be engaged to support the implementation of the project on a regular basis throughout the project period under the leadership and supervision of the Coordinator/Co-Coordinator.

Part 5 - Support for Academic and Social Scholarships for Students of Higher Education Institutions

This part will support academic scholarships provided by the Ministry of Education and Science, and social scholarships provided by the Ministry of Social Policy of Ukraine. The Ministry of Education and Science administers academic scholarships, according to a well-established legislative and regulatory base, described in Appendix 10 of this Guide. The basic amount of the academic scholarship for students in HEIs averages 2000 UAH per month (approximately \$67 USD) as of 2022. The basic amount of the academic scholarship, appointed by the Government of Ukraine, is the same across different regions and HEIs, although institutions may assign additional awards to students. The number of scholarship recipients is determined based on semester performance, controlled by the Academic Council of the HEI. In 2022, the average annual beneficiaries are approximately 172,000 students enrolled in academic full-time programs. Under Part 5, the Project will reimburse the Ministry of Education and Science for academic scholarships paid during the 2021-2022 academic year, starting from the date of signing the amendments to the Loan Agreement at least until the end of April 2022, for students of professional pre-higher and higher education institutions. The Ministry of Social Policy of Ukraine assigns social scholarships to HEI students from vulnerable segments of the population, as described in Appendix 11 of this Guide. The law defines categories of students eligible for social scholarships, for example, students who are orphans or internally displaced persons, with special educational needs, or from low-income families. These scholarships range from 1180 to 3720 UAH (about \$40 - \$125 USD) depending on the category. The annual number of students receiving social scholarships is about 50,000. Under Component 5, the Project will reimburse social scholarships paid during the 2021-2022 academic year, starting from the date of signing the amendments to the Loan Agreement at least until the end of April 2022, for students of professional pre-higher and higher education institutions.

Part 6 - Emergency Response Component

The Emergency Response Component (CERC), outlined in Appendix 12 of this Guide, aims to support the country's future response in case the current emergency persists, or if a new unexpected emergency arises, following procedures regulated by paragraph 12, Section III of the Bank's Policy on Investment Project Financing (IPF) for projects in situations of urgent assistance needs or limited capacity. There is a possibility that the current emergency situation in Ukraine will continue for some time, requiring further changes in project design to provide urgent interventions. There is also the possibility that a natural disaster, epidemic, or other emergency situation may arise during implementation, causing serious negative economic and/or social consequences. Anticipating such an event, this CERC with zero allocation allows the Government of Ukraine to reallocate project funds to response measures in response to the relevant crisis or emergency.

2.2 Responsibilities and Key Personnel

Emergency responsibilities are summarised below:

Reporting	<i>The contractor (staff) is responsible for:</i> ➤ Compliance with emergency response procedures ➤ Immediate notification of the manager about the incident or suspected asbestos ➤ Recording the incident in accordance with internal procedures <i>The contractor (manager) is responsible for:</i> ➤ Collecting initial information ➤ Assessing the potential impact ➤ Preparing a report for the Ministry of Education and Science <i>University staff (Implementation Group):</i> ➤ Informing the university administration ➤ Transmitting information to the Ministry of Education and Science <i>The Ministry of Education and Science is responsible for:</i> ➤ Determining the need for further response
Isolating	<i>Contractor (staff):</i> ➤ Immediate cessation of work ➤ Restriction of access to the area ➤ Installation of temporary warning signs

	<i>Contractor (manager):</i> ➤ Organization of complete isolation of the area ➤ Assessment of the need for decontamination ➤ Call a specialized contractor (if necessary) <i>University staff:</i> ➤ Ensuring that students and staff are not allowed into the danger zone ➤ Informing building users <i>Ministry of Education and Science:</i> ➤ Monitoring compliance with procedures within the project
Communicating	<i>Contractor (staff):</i> ➤ Reporting all suspicions to the manager <i>Contractor (manager):</i> ➤ Official communication with the university implementation group ➤ Provision of written notification <i>University staff:</i> ➤ Communication with building users ➤ Transfer of information to the Ministry of Education and Science <i>Ministry of Education and Science:</i> ➤ Coordination of further actions
Investigating	<i>Contractor (manager):</i> ➤ Gathering information about the work carried out ➤ Checking the register of asbestos-containing materials <i>University staff:</i> ➤ Providing access to technical documentation
Resolving	<i>Contractor:</i> ➤ Implementation of corrective and preventive measures ➤ Organization of decontamination ➤ Engagement of a licensed asbestos removal company <i>University staff:</i> ➤ Control of access to the area until completion of work ➤ Acceptance of work after elimination of risk <i>Ministry of Education and Science:</i> ➤ Confirmation of implementation of measures

3. Asbestos Survey Summary

During the reconstruction and rehabilitation of buildings, infrastructure, and facilities, the removal of asbestos-containing materials may be required. As part of the preliminary site assessment, all materials containing asbestos shall be identified and classified in order to determine appropriate and safe removal and disposal methods.

Based on their potential to release carcinogenic asbestos fibers, asbestos-containing materials are classified into two main categories:

- firmly bound (non-friable) asbestos materials;
- weakly bound (friable) asbestos materials.

Firmly Bound (Non-Friable) Asbestos Materials

Asbestos-cement and other composite asbestos-containing products with a density of at least 1.5 kg/dm³ contain a relatively low proportion of raw asbestos (approximately 10–15%) and a high proportion of mineral binding agents (such as cement). In these materials, asbestos fibers are firmly embedded in the matrix.

Typical examples of non-friable asbestos products include:

- roofing and wall coverings;
- ventilation ducts and pipes;
- window sills and countertops;
- reinforcement elements, flowerpots, and floor coverings;
- brake linings;
- containers for chemical substances.

These materials release asbestos fibers mainly as a result of mechanical processing, such as:

- sawing;
- grinding;
- drilling;
- cutting;
- use of high-pressure washing equipment.

Fibre Cement Products

Fibre cement is one of the most widely used non-friable asbestos-containing materials worldwide, primarily applied in roofing and façade systems (including trademarks such as Eternit, Shyfer, Salomit, Socalit, Fulgurit, Torfit, and Bauphanit).

Main areas of application include:

- flat sheets for base structures and architectural cladding;
- flat sheets for wall coverings, fences, and soffits;
- corrugated façade panels;
- slate for full or partial architectural cladding;
- sewer pipes;
- ventilation ducts;
- under-roof elements;
- boards;
- roofing slate;
- corrugated roofing sheets;
- flower boxes and outdoor planters.

Internal Cladding and Fire Protection

Fibre cement materials have also been used in:

- fire-resistant walls and cable ducts;
- partitions;
- window sills;
- ceilings;
- electrical meter boxes.

Other Non-Friable Asbestos Materials

Products containing firmly bound asbestos also include:

- fire dampers in heating and ventilation systems;
- gaskets and sealing rings in heating pipes;
- insulation boards on enclosed radiators or storage heaters;
- insulation blankets made of spun asbestos fibers;
- PVC flooring with an asbestos-containing layer (near adhesives).

Weakly Bound (Friable) Asbestos Materials

Weakly bound asbestos, also referred to as “sprayed asbestos,” is characterized by a high asbestos content (over 25%) and a low proportion of binding agents. In such materials, asbestos fibers are loosely bonded and can easily be released into the air as dust.

Due to the increased health risks, these materials are considered the most hazardous.

Main Areas of Application

Weakly bound asbestos materials were mainly used for:

- fire protection of steel structures;
- insulation of fire-prone zones;
- thermal and acoustic insulation.

In construction and industry, they were applied as:

- crushed asbestos materials with released fibers resulting from mechanical processing of non-friable products;
- thermal insulation for heating pipes and engineering networks;
- fireproofing and soundproofing coatings;
- insulation in attics, suspended ceilings, installation shafts, and service cores;
- fire protection for tanks and technical facilities;
- thermal insulation for boilers, heat storage units, and protective clothing;
- moisture-resistant coatings in swimming pools, showers, and changing rooms;
- sprayed asbestos for fire protection of steel beams, ventilation ducts, and service penetration.

3.1. Process of screening for the presence of asbestos-containing materials in buildings, infrastructure, and facilities

Preparatory stage of inspection prior to internal renovation work

Prior to internal renovation work in higher education buildings, a preliminary inspection of buildings and infrastructure must be carried out to identify potentially hazardous materials (in particular those containing asbestos) and assess the risks to users.

The preparatory stage includes:

Determining the characteristics of the facility

- type of building/structure: educational buildings, laboratories, dormitories, administrative buildings, utility buildings, etc.;
- the functional purpose of the premises in which the repair work is planned: auditoriums, laboratories, library, workshops, archives, shelters, technical areas.

- year of construction and history of renovations;
- available technical documentation: designs, drawings, technical passports, records of previous repairs.

In addition, it is advisable to conduct interviews with the university's technical staff, engineering services, and employees.

Visual inspection

During the inspection, a detailed visual inspection of all areas of university buildings is carried out, in particular:

- attics, basements, technical floors;
- laboratory and educational premises;
- warehouses, archives, shelters;
- engineering rooms;
- doors, windows, partitions;
- engineering networks (water supply, drainage, heating);
- heat and sound insulation materials;
- ventilation ducts;
- floor coverings;
- suspended ceilings;
- pipelines and their insulation.

Annex 1 is used as a tool for structured inspection of premises and equipment that may potentially contain ACM, in order to avoid missing critical areas.

Documentation and sample selection

For a high-quality survey, it is advisable to use up-to-date building plans. If the presence of ACM is suspected, it is necessary to:

- record the exact location of the material;
- determine the approximate quantity (area, volume, and, if possible, weight);
- mark the sampling locations;
- conduct sampling in strict compliance with safety requirements;
- send the samples to an accredited laboratory.

Samples must be taken for each type of suspected material.

If asbestos is confirmed in one sample, similar materials in the building may also be considered potentially asbestos-containing.

Less homogeneous materials (different layers of coatings, repair areas) require additional sampling.

4. Risk Assessment

4.1 Asbestos Hazard Assessment Methodology

Based on the screening results, a risk assessment is carried out. This risk assessment is necessary to determine whether ACM (asbestos-containing materials) affect building occupants through the potential release of airborne fibres.

The assessment takes into account the current conditions at the site and makes it possible to determine whether immediate action is required to remove the ACM product or whether regular monitoring of the ACM is sufficient.

This risk assessment does not provide recommendations regarding the specific asbestos management or control method to be applied.

A risk assessment methodology is recommended that evaluates risk criteria by considering the location and characteristics of the asbestos-containing material, the degree of deterioration, and the extent to which the area where the ACM is located is used by occupants.

An overview of the applied criteria is provided below.

Assessment Criteria

I	Type of asbestos use	5–20
II	Type of asbestos	0–2
III	Condition of asbestos-containing material surface – Structure	0–10
IV	Condition of asbestos-containing material surface – Damage	0–6
V	External damage to asbestos-containing material	0–10
VI	Premises affected by asbestos-containing material – Use of premises	8–25
VII	Premises affected by asbestos-containing material – Location of material	0–25
	Total score	
	Measures	

Risk Level Classification

High: Immediate action required	80 or more
Medium: Monitoring interval – two years	from 70 to 79
Low: Monitoring interval – five years	up to 70

This table is a risk assessment tool for asbestos-containing materials (ACM) in a building or premises. It enables the determination of the level of hazard and the necessity of taking action based on a scoring system.

1. Assessment Block (I–VII)

Each criterion has its own scoring range. The higher the score, the higher the risk.

I. Type of Asbestos Use (5–20 points)

This criterion assesses how the material is used, for example:

- structural element,
- thermal insulation,
- cladding, etc.

More hazardous applications receive higher scores.

II. Type of Asbestos (0–2 points)

Different types of asbestos present different levels of hazard (for example, amphibole types are more hazardous than chrysotile).

III. Condition of ACM Surface – Structure (0–10 points)

This assesses the physical condition of the material:

- dense / bonded,
- porous,
- friable.

Friable materials receive higher scores.

IV. Condition of ACM Surface – Damage (0–6 points)

Assessment of whether there are:

- cracks,
- chips,
- delamination,
- mechanical damage.

V. External Damage (0–10 points)

Assessment of whether the material is exposed to:

- weather conditions,
- vibrations,
- access by unauthorized persons.

VI. Use of the Premises (8–25 points)

This considers how intensively the premises are used:

- permanent occupancy,
- educational institutions,
- hospitals,
- technical rooms.

The more people present and the more frequent the use, the higher the score.

VII. Location of the Material (0–25 points)

This assesses where the material is located:

- in areas accessible to people,
- within ventilation systems,
- in hard-to-reach locations.

Material located in accessible areas presents a higher risk.

2. Total Score

All points are summed to obtain the overall risk score.

5. Rules for handling asbestos-containing materials

5.1. Avoiding the influence of fibers

The general approach to handling ACM is that builders involved in demolition, renovation, or restoration work should avoid crushing/breaking ACM (including asbestos cement sheets from roofs or walls).

This means that the release of asbestos fibers into the air must be avoided at all costs. To ensure compliance with these principles, organizational and technical measures must be implemented, such as:

- moistening, dismantling;
- painting with a binding agent;
- vacuum cleaning using equipment with special filter classes;
- removal in an encapsulation zone (“black zone”) with negative pressure and access via airlock systems.

Examples of ACM removal from practice, in which operations are divided according to the level of impairment:

- No damage: ACM is removed without destruction, i.e., without tears, cuts, or chips. For example:
 - Pack loose and undamaged small asbestos cement sheets that are available into bags.
 - Remove the gasket, leaving it between the flanges, and cut the flanges in both places before placing the entire flange in a bag for asbestos waste.
- Minor obstacles (also external): During dismantling, the ACM is temporarily damaged. For example:
 - Unscrewing asbestos cement corrugated sheets before wrapping them in plastic film.
 - Scraping: Cutting off sealant with hand tools without power supply.
- Serious damage: The ACM must be seriously damaged and requires a tool to remove it. For example:
 - Removing asbestos insulation boards that have been glued to another surface by breaking them apart and scraping them off that surface.
 - Removal of sprayed asbestos or any other loosely bound asbestos product from surfaces (such as beams, ceilings, air ducts, and heating pipes).
 - Crushing, breaking, cutting, etc. of asbestos cement sheets or any asbestos cement products.

5.2. Personal protective equipment (PPE)

It is also necessary for workers and managers to wear disposable personal protective clothing (type 5 – against airborne particles and fibers), gloves, and FFP3 respirator masks during the assessment, removal, packaging, or handling of ACM material.

Figure 1: Example of personal protective clothing



There are usually different types of respiratory masks available on the market. Full-face respirators are recommended for removing loosely bound asbestos materials. For working with tightly bound asbestos-containing materials, such as asbestos cement, FFP3 half masks are recommended.

Figure 2: Example of FFP3 respirator masks



5.3. Typical equipment and materials required for cleanup operations

The table below lists equipment that can be used for asbestos removal, as well as an overview of modern methods and tools designed to protect areas contaminated with asbestos.

Equipment / Comments	Example of suppliers to demonstrate the type of equipment
Personal safety equipment	
Full-face respirator mask with FFP3 filter For removing weakly bound asbestos products with a high level of fiber exposure in a special decontamination area ("black zone")	➤ Scott ProFlow SC ➤ Dust filter Scott PRO2000 PF10 P3/PSL/PAPR-P
Respirator half mask with FFP3 filter Recommended for all other asbestos removal work with medium and low levels of asbestos fiber exposure	➤ Dräger X-plore 3300 half mask
Disposable FFP3 respirator half mask. Optional for work with medium and low levels of asbestos fiber exposure.	➤ 3M - FFP3 NR D - Series 9332
Protective fiber suit with sole	➤ Available on the Ukrainian market in various forms
Equipment	
Negative pressure device (e.g., 700 m ³ per hour) Including filters for asbestos removal and exhaust air hose For small work areas ("black zones") with an air volume of approximately 80 m ³	➤ Deconta green dec G 50 Deconta pre- and intermediate filters (filtration quality G3 (EU3) and G4 (EU4)) ➤ HEPA filter in accordance with EN 1822, class H13 or H14 Decont exhaust air hose
Negative pressure device (e.g., 2300 m ³ per hour) Including filters for asbestos removal and exhaust air hose For medium-sized work areas ("black zones") with an air volume of approximately 280 m ³	➤ Deconta green dec G 200 Deconta Pre- and intermediate filters (filtration quality G3 (EU3) and G4 (EU4)) ➤ HEPA filter in accordance with EN 1822, class H13 or H14 Deconta exhaust air hose
Negative pressure device (e.g., 4200 m ³ per hour) Including filters for asbestos removal and exhaust air hose For medium-sized work areas ("black zones") with an air volume of approximately 550 m ³	➤ Deconta green dec G 300 ➤ Deconta pre- and intermediate filters (filtration quality G3 (EU3) and G4 (EU4)) ➤ HEPA filter in accordance with EN 1822, class H13 or H14 Deconta exhaust air hose
Water management system (e.g., 45 liters)	➤ Deconta C 60 L water management system
Vacuum cleaner with filter system for dust class H	➤ Numatic HZQ190 230V 1000W asbestos vacuum cleaner ➤ HEPA-flow NVM-1CH vacuum cleaner bags for Numatic HZQ250/HZQ190
Sprayer for dispersing fibrous binder	➤ Gloria hand-held pump sprayer
Typical material for creating work areas ("black areas") and waste disposal	
Wood 8 x 8 cm / 10 x 10 cm For the construction of insulation zones, airlocks, etc.	Available in Ukraine
PE film, 150 micro meters – 250 micro meters For the construction of isolation zones, airlocks, packaging of large contaminated materials, etc	Available in Ukraine
Polyethylene garbage bag with label T100 80x120 cm Comment: All types of polyethylene garbage bags with a thickness of 100 microns can be used. Marking can be done with stickers or colored paint.	Available in Ukraine
Polyethylene big bags Big bags are used for large contaminated waste or large ACMs that can be lifted by a crane or lifting forks.	Available in Ukraine

Dispersion for binding fibers For binding invisible fibers after fine/precision cleaning of the "black zone"	Available in Ukraine
Small materials that can be used: 48 mm x 50 m electrical tape / spray adhesive / stapler for attaching foil to wood / etc.	Available in Ukraine

5.4. Standard removal of loosely bound asbestos material or asbestos dust

Disposal of ACM in a closed container ("isolated contamination zone" or "black zone") is a typical method of disposal for weakly bound ACM with a high asbestos content. The size of the black zone is limited by the capacity of the installed air extraction system (negative pressure containment devices), which must ensure a minimum air exchange rate of eight times per hour and a negative pressure of at least 20 pascals. The creation of a black zone will prevent asbestos fibers from escaping beyond the black zone and reduce risks to people and the environment. Entry to and exit from the black zone is via a system of air locks with a shower cabin, which prevents any release of asbestos fibers.

Requirements:

- Inside the premises, personal protective equipment must be worn (disposable coveralls, shoe covers, appropriate FFP3 respiratory protection equipment);
- Outside the sealed room, near the air lock system, there must be at least one person/employee to ensure safety, provide assistance, and monitor the situation.
- For safety reasons, at least two employees must always be present when working in the black zone.
- Construction work to create a "black zone": Sealing openings to adjacent rooms or to the outside (sealing windows, shafts, ventilation ducts, etc.);
- Negative pressure must be maintained using installed extraction equipment with a HEPA filter;
- A minimum three-chamber airlock system can provide access to the "black zone" with cleaning/shower rooms;
- If necessary, a separate airlock for cleaning materials and removal of bulky equipment or materials from the black zone.

Stages of removal work:

Preparation:

- Tight sealing of the entire isolated area, including the installation of necessary scaffolding, and sealing of openings to adjacent areas.
- Install at least a three-chamber airlock(s) for personnel with a shower for personnel.
- If necessary, install a two-chamber material lock for removing material and equipment from the black zone.
- Create negative pressure (eight air changes per hour and a minimum negative pressure of 20 pascals during the working period), including vacuum monitoring at a minimum of two points and exhausting the exhaust air to the outside.
- Verification of preparatory work by the manager.

Removal of ACM:

- Manual removal of ACM material from surfaces;
- Processing, collection, and packaging of by-products that cannot be cleaned of asbestos (including wood waste and mineral wool), porous or hardened asbestos, or other ACM that cannot be cleaned;
- Rough and fine cleaning of the black zone using vacuum cleaners, washing surfaces with cleaning agents, filtered and controlled air exchange;
- Use of dispersion to bind fibers to bind invisible fibers after fine cleaning of the black zone.

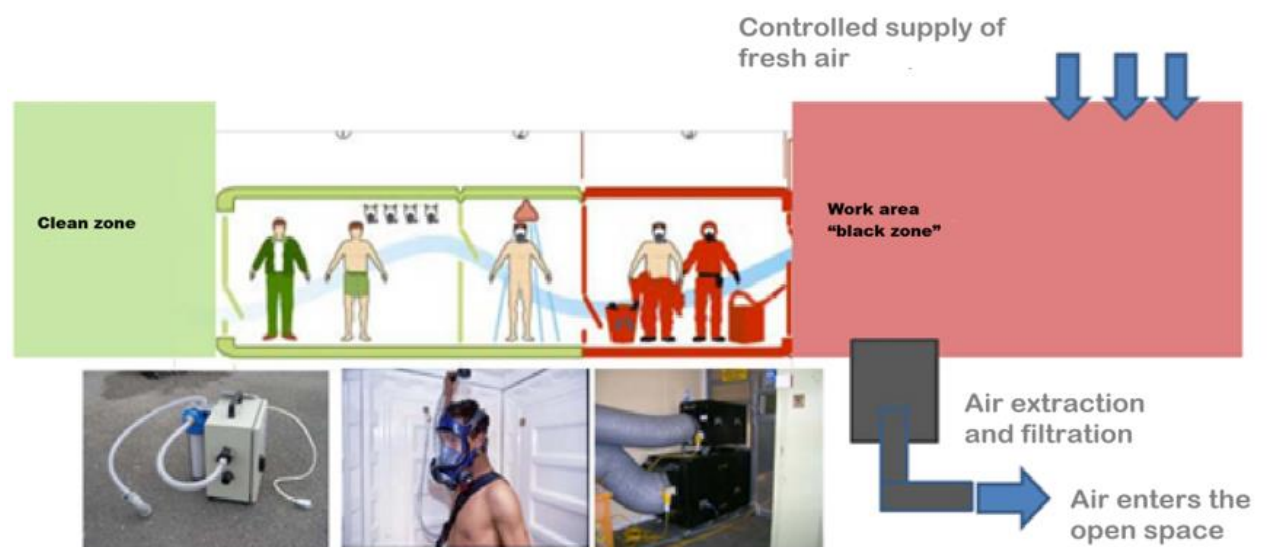
Comments:

- Asbestos removal should be carried out from top to bottom;
- The air flow in the isolated room should be directed from top to bottom and diagonally;
- Personnel should not work under negative pressure for more than two hours without a break.

Verification of the success of ACM removal work prior to opening the black zone

- Visual inspection of the black zone to verify the removal and cleaning process;
- Air sampling for cleaning the black zone is recommended after completion of removal work;
- Documentation of work and verification results in the final asbestos removal report

Figure 3: Example of a “black zone” installation and corresponding equipment



5.5. Removal of loosely bound asbestos material with limited quantity

Light Decontamination Zone (Mini-Enclosure)

Removal of ACM using a mini-enclosure allows for easier remediation of smaller quantities with limited surface area or weight, without constructing a full three-chamber airlock system.

Requirements:

- Negative pressure shall be maintained using an industrial vacuum cleaner;
- The volume of removed ACM shall not exceed **10 kg or 7 m²**. Otherwise, the standard removal method shall be applied;

- Full personal protective equipment shall be worn inside the mini-enclosure (disposable coveralls, overshoes, and appropriate **FFP3 respiratory protection**).

Removal steps:

- Prepare tight scaffolding enclosed with **0.2 mm plastic sheeting**, including single-chamber airlocks with rigid doors or double-chamber airlocks with overlapping plastic curtains;
- The vacuum hose shall be routed into the removal zone through a sealed opening;
- Remove asbestos exclusively using hand tools and an industrial vacuum cleaner;
- Apply a residual fiber-binding agent;
- ACM residues and other contaminated materials shall be packed in double-layer bags and stored at a temporary storage area until transport and disposal at an approved asbestos landfill.

Comments:

- Workers shall not work for more than **two consecutive hours**;
- This method is suitable only for removal of limited quantities of asbestos;
- Directed airflow shall be maintained using an **H-class vacuum cleaner in accordance with EN 60335-2-69**.

Burial using bags with gloves

Removal of ACM using glove bags allows relatively cost-effective remediation of surfaces and pipes. This method is particularly suitable for isolated asbestos deposits. Glove bag removal may be carried out by one well-trained worker either sequentially or in parallel with other activities.

Requirements:

- Maximum diameter of insulated pipes: **250 mm**;
- Flat surfaces not exceeding **1 m²**;
- Consider the use of mobile scaffolding or platforms for work at height;
- Personal protective equipment shall be worn (disposable coveralls, overshoes, and appropriate **FFP3 respiratory protection**).

Removal steps:

- Prepare scaffolding, glove bags, and tools;
- Place the installation, including the ACM to be disconnected, inside the glove bag;
- Remove asbestos deposits using the built-in gloves (taking the weight into account);
- Maintain negative pressure using an **H-class industrial vacuum cleaner**;
- ACM residues and other contaminated materials shall be sealed inside the glove bag, double-wrapped in plastic, and stored at a temporary storage area until transport and disposal at an approved facility.

Comments:

- Mark the removal area with signs and barrier tape at a sufficient distance and prohibit access to it by persons who are not employees;
- Clean designated areas during off-peak hours.

5.6. Method for cleaning asbestos-containing fibre cement panels

The removal of fiber-cement panels containing asbestos (“slate,” “eternit,” or similar brands) falls under the removal of so-called non-friable asbestos, as these panels consist of a smaller amount of asbestos that is firmly embedded in a cement matrix. However, when fiber-cement panels are mechanically damaged or destroyed, dust from ACM fibers is released or carried into the environment, where it can be found on all surfaces. The best practice is to prevent or minimize dust release during removal without destruction.

Main stages of restoration work:

- The following sequence of work should be followed (in accordance with TRGS 519, section 16.2):
 - Protect all work from falling using appropriate climbing equipment and scaffolding.
 - Before dismantling or final moistening of the surface, spray the weathered surface with dust-binding agents (residual fibrous binding agents). After filtration, the water must be drained into the sewer. Uncontrolled drying of the surface must not be allowed.
 - Removable fasteners should be removed so as not to damage asbestos-cement products. Fasteners should be collected in appropriate sealed containers. Sheets and panels with built-in rear fasteners should be removed.
 - Asbestos-cement products should be separated from the base in the opposite direction to the installation direction and removed, in the case of a roof, from the ridge to the eaves.
 - When removing fasteners, prevent products from slipping. Loosened products should be lifted, not broken off. They must not be pulled by their edges or adjacent products, or pulled out of the ceiling.
 - Uncoated asbestos-cement products should be kept moist after removal until they are packed in big bags (or films approved for asbestos waste), unless they have been treated with binding agents to remove fiber residues.
 - Asbestos cement products should be transported in such a way as to avoid the release of asbestos fibers.
 - Garbage chutes should not be used.
 - Loading should only be carried out manually or with the aid of lifting devices. The material must not be thrown away.
 - Immediately after removing asbestos cement products, surfaces contaminated with asbestos dust, such as battens, rafters, purlins, formwork, should be thoroughly cleaned by vacuuming with industrial vacuum cleaners or wiping with a damp cloth.
 - During the work, make sure that building openings, including windows, doors, and gates in the immediate vicinity of the work site, are closed.
 - After completing work on roofs, gutters must be cleaned and washed. The wash water must be filtered before being discharged into the sewer system.
 - Protective suits and respirators should be put on and taken off outdoors.

Other ideas include:

- Nails/rivets should be removed with sharp tools.
- If fasteners cannot be removed, small sheets can be pulled out one at a time.
- Asbestos cement panels can be dismantled from the ridge to the eaves for roofs, and from top to bottom for walls.

- When removing fastening materials, the product must be secured so that it does not slip.
- Where possible, products should be lifted rather than broken.
- Inlays or plant coverings can be scraped off with a wood scraper.
- Broken parts and debris can be wrapped in dust-proof film or bags.
- Asbestos cement products must be transported in such a way as to prevent the release of asbestos dust (packaging).
- Only use class H (H13/H14) vacuum cleaners for cleaning.
- The material must be stored and transported in suitable closed containers.

Actions to be avoided:

- Breaking, cutting, throwing, and milling sheets.
- Drilling, sawing, and grinding with high-speed machines.
- Cleaning with high-pressure devices.
- Shaking out of canvases or backing cloth.

5.7. Metal air ducts and steam pipes with acm sealing rings

Requirements:

- Assessment of asbestos content in sealing rings (preferably by laboratory analysis)

Stages of removal work:

- Pipe or air duct flanges with ACM sealing rings should not be opened if the entire pipe needs to be dismantled;
- Flanges should be moistened on all sides, for example, using a hand-held water sprayer;
- Flanges should be cut intact (unopened) and wrapped in double plastic film to protect them from dust;
- Flanges should be transported to a scrap metal processing plant for remelting in steel production.

Comments:

- When the flanges are opened, both sides of the flanges and the surrounding air become contaminated.

6. Waste Handling

6.1 On-Site Waste Management

Separation of ACM from other waste on site:

- Before starting dismantling and clearing the site (if there is no risk of accidental collapse of the facility or its individual structural elements), the contractor (performer) of such works must ensure the removal (separation) of components that may contain hazardous waste.

- During dismantling and clearing work, measures should be taken to minimize impacts that are hazardous to human health and the environment, in particular those related to possible asbestos dust emissions.
- During dismantling and clearing work, waste should be sorted or collected separately by component at the point of generation for further processing (recycling), use as secondary materials or energy resources, and disposal.
- During dismantling and clearing work, waste should be sorted or collected separately by component at the point of generation for further processing (recycling), use as secondary materials or energy resources, and disposal.

6.2 Storage and Packaging Requirements

ACM, which generate dust when handled, must be packaged. The choice of materials for packaging ACM must be made taking into account the requirements for their strength, tightness, dust resistance, and resistance to ultraviolet radiation from sunlight.

- **Asbestos cement waste in lump form (corrugated slate, flat slate, pipes):**
 - Thoroughly wet this type of waste and keep it moist until packaging begins for further transportation.
 - Minimize cutting, breaking, or crushing this type of waste that is to be packaged.
 - Packaging for this type of waste should consist of two layers of polyethylene film approximately 200 microns (0.2 mm) thick, and the bags themselves should be relatively small for ease of transportation. The openings of bags containing ACM must be securely tied, sealed with adhesive tape, or secured by any other method, and marked with a **CAUTION ASBESTOS** warning sign!
 - When loading waste directly into the cargo compartment of a vehicle, it must be carefully placed on two layers of polyethylene film less than 1 m high, completely wrapped, and sealed with adhesive tape. The package must be marked with a warning sign saying **"CAUTION: ASBESTOS!"**
 - **Asbestos-containing heat-insulated pipes, boilers, heaters, and equipment:**
 - Packaging for this type of waste must contain two layers of polyethylene film approximately 200 microns (0.2 mm) thick, be securely tied, sealed with adhesive tape, or secured by any other method.
 - Mark the packaging with a warning sign **"CAUTION ASBESTOS!"**
 - **Asbestos waste and asbestos dust:**
 - Store this type of waste in a damp condition (except where wetting is impossible) in a plastic barrel or container.
 - Securely fasten the lid of the barrel or container using the provided clamps, screws, or bolts.
 - Mark the packaging with a warning sign **"CAUTION ASBESTOS!"**
- OR**
- Store this type of waste in double polyethylene bags with a thickness of about 200 microns (0.2 mm). Use bags with a maximum size of 1200 mm (length) x 900 mm (width). Moisten the dust in the bags before tying them, and the weight of the loaded bag should not exceed 30 kg. Bags should be only half full.
 - Each bag must be tied, tightly twisted, and its mouth bent and sealed with adhesive tape.

- Mark each bag with a warning sign **“CAUTION ASBESTOS!”**
 - **Asbestos sludge, uncontaminated by hazardous substances:**
 - Store this type of waste in a plastic barrel or container.
 - Securely fasten the lid of the barrel or container using the provided clamps, screws, or bolts.
 - Mark the packaging with a warning sign saying **“CAUTION: ASBESTOS!”**
 - **Asbestos tiles, gaskets, brake linings, clutch discs, acoustic insulation, textiles, gloves, protective clothing, and respirators:**
 - Store this type of waste in double polyethylene bags with a thickness of approximately 200 microns (0.2 mm). Use bags with maximum dimensions of 1200 mm (length) x 900 mm (width).
 - Each bag must be tied, tightly twisted, and its opening bent and sealed with adhesive tape.
 - Mark each bag with a warning sign **“CAUTION ASBESTOS!”**
 - Place the bags in a closed container for further transport (triple protection).
- If the integrity of the packaging with ACM is compromised, the damage may be repaired using adhesive tape, followed by repackaging in sealed containers. e. When forming a transport package, packaging units (bags) with ACM must be securely fastened to a pallet or without a pallet using heat-shrink film or other means.
- Reuse of asbestos-free bags is not permitted. They may be shredded and then melted down (for recycling purposes).
 - Bags (or other containers) that contained loose asbestos fibers should be disposed of by packing them in dense cable stacks in a specially designated area (room) marked with warning signs indicating personal protective equipment.

6.3 Transport and Disposal Procedures and waste documentation

The burial of hazardous materials at the landfill must be documented in an official document indicating the date, weight, name, and location of the landfill. The disposal of hazardous materials at a landfill site must be documented in an official document indicating the date, weight, name, and location of the landfill site. This concept must include signed confirmation from the nearest appropriate approved landfill site that can accept ACM.

The contractor must perform or carry out all transportation in full compliance with national legislative and technical regulations. Accordingly, transport containers and equipment require specific hazard labels depending on the weight of the cargo being transported.

According to recent amendments to waste management legislation in Ukraine, specially designated sites must be created for the disposal of hazardous waste. In addition, recent changes to the licensing conditions for handling hazardous materials require all market operators to obtain a new license for any waste management operations, including the disposal of hazardous waste. However, since Ukraine currently does not have special sites for the disposal of ACM products, asbestos-cement products (e.g., roofing sheets) are usually disposed of in solid municipal or construction waste landfills.

7. Asbestos Management Plan (AMP) Template

An asbestos management plan sets out how asbestos or ACM that is identified at the workplace will be managed, for example what, when and how it is going to be done.

7.1 Summary of ACM Inventory and Survey Results

The asbestos register is a document that lists all identified (or assumed) asbestos in a workplace. The asbestos register is intended to ensure workers and others in the workplace do not accidentally disturb asbestos. The asbestos register must:

- record any asbestos or ACM that has been identified or is likely to be present at the workplace from time to time. This would include:
 - the date on which the asbestos or ACM was identified (or assumed)
 - the location, type and condition of the asbestos
- state that no asbestos or ACM has been identified at the workplace if the person knows that:
 - asbestos or ACM has not been identified (or assumed) to be present at the workplace, and
 - asbestos or ACM is not likely to be present from time to time at the workplace.

Appendix 2 provides a template of an asbestos register, while Appendix 3 provides an example of how it should be completed.

A comprehensive asbestos register may also include:

- details of any asbestos assumed to be in the workplace
- results of any analysis that confirms a material at the workplace is or is not asbestos
- dates when the identification was carried out
- details of inaccessible areas, and
- details of any past asbestos removal work.

It may also be useful to attach photographs or drawings to visually show the location of the asbestos or ACM in the workplace.

7.2 Decision-Making for ACM Management

The person with management or control of the workplace must ensure the asbestos management plan is reviewed and, if necessary, revised at least once every five years or when:

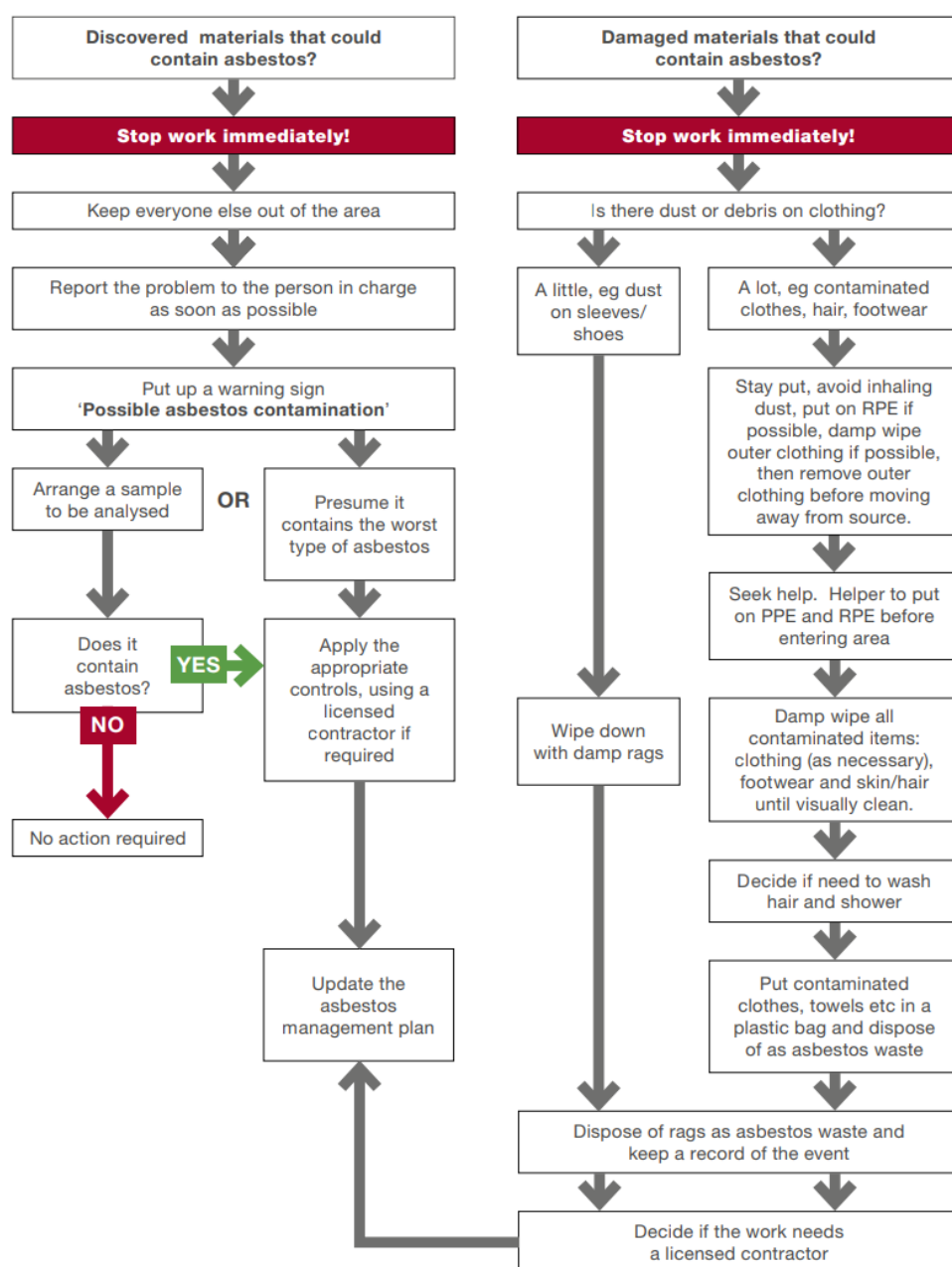
- there is a review of the asbestos register or a control measure
- asbestos is removed from or disturbed, sealed or enclosed at the workplace
- the plan is no longer adequate for managing asbestos or ACM at the workplace.

7.3. Emergency procedures

Emergency procedures should include managing uncontrolled spills of asbestos materials in the workplace. Steps should be taken to:

- warn anybody who may be affected;
- exclude from the area anyone not needed to deal with the release;
- identify the cause of the uncontrolled release;
- regain adequate control as soon as possible;
- make sure anyone in the work area affected who is not wearing personal protective equipment (PPE), including respiratory protective equipment (RPE), leaves the affected area immediately. Minimise the spread of asbestos by ensuring they are suitably decontaminated;
- clean up dust and debris ;
- decontaminate anyone who is contaminated with dust and debris;
- ensure rags, clothing or PPE is decontaminated or disposed of as contaminated waste;
- consider lone and/or remote workers to ensure they can alert someone if necessary.

Figure 4. Flow chart



7.4 Emergency Contacts

1. State Emergency Services

- Ambulance — 103
- State Emergency Service of Ukraine (fire, explosion, structural collapse, hazardous materials) — 101

- Police — 102
- Unified Emergency Number — 112

2. Internal Contacts

- Site Manager
- HSE Manager / Occupational Health and Safety (OHS) Specialist
- Supervising Engineer
- Emergency Response Responsible Person

(Full name, phone number, and email address should be provided.)

3. External Specialised Services

- Laboratory for Sample Analysis- The Y.I. Kundiev Institute of Occupational Medicine (Kyiv), which has a phase-contrast microscope. The Kundiev Institute has in-depth knowledge of asbestos and related health issues in Ukraine among all state institutions, and its experts are well versed in local and international standards.
- Hazardous Waste Disposal Company- EcoSystem – national online platform containing the Register of Licensed Hazardous Waste Management Operators

7.5. Training and Consultation Requirements

The Contractor must ensure that the information, training, and instruction provided to workers is suitable and adequate, taking into account:

- the nature of the work carried out by the worker;
- the nature of the risks associated with the work at the time the information, training, or instruction is provided; and
- the control measures implemented.

The Contractor must ensure, so far as is reasonably practicable, that the information, training, and instruction are provided in a manner that is readily understandable to any person to whom they are given.

The Contractor must ensure that workers who are reasonably believed to be involved in asbestos removal work or asbestos-related activities at the workplace are appropriately trained in the identification of asbestos and asbestos-containing materials (ACM), as well as in their safe handling and the implementation of suitable control measures.

This training may include, but is not limited to, the following topics:

- the purpose of the training;
- the health risks associated with asbestos exposure;
- the types, uses, and likely presence of asbestos in the workplace;
- the Contractor's and the workers' roles and responsibilities under the Asbestos Management Plan;

- the location of the asbestos register, how it can be accessed, and how to interpret the information contained within it;
- the processes and safe work procedures to be followed to prevent exposure, including exposure resulting from any accidental release of airborne asbestos;
- where applicable, the correct use of personal protective equipment (PPE), including respiratory protective equipment (RPE);
- the implementation of control measures and safe work methods to eliminate or minimise risks associated with asbestos and to limit exposure to workers and other persons (for example, safe work practices for minor works that workers may carry out);
- the exposure standard and control levels for asbestos; and
- the purpose of any exposure monitoring or health monitoring that may be undertaken.

This training is of a general nature and does not replace the specific competency-based training required for workers undertaking licensed asbestos removal work. Workers performing licensed asbestos removal activities must complete the relevant accredited units of competency in accordance with applicable regulatory requirements.

8. Appendices

Annex 1: Catalogue of the most common abm products in Ukraine

Product	Scope of application	Picture
Corrugated asbestos cement sheets	Roof covering Fence.	 
Pipes for collecting and removing asbestos cement waste	Municipal buildings	 
Fire protection and thermal insulation of premises	Insulation for ceilings	 

Door to the attic/technical floor	Fire-resistant doors		
Asbestos cord	Used in heating networks and as a sealant in ventilation and heating systems		
Asbestos textiles	Insulation for heating network pipes		
Sealing rings	Sealing material between heating network pipes	 	

Loosely bound asbestos insulation	Loosely bound insulation material with a mixture of gypsum or similar soft structures, used to insulate heating pipes		
Strongly bonded asbestos insulation	A tightly bound insulating material containing asbestos in the form of a mixture added to bitumen or cement and used to insulate heating pipes.		
Asbestos-containing insulation panels for hot water tanks	Loosely bonded pressed asbestos-containing boards used for insulation of boilers and hot water tanks		
Asbestos cement pipes	Used for internal and external pipelines transporting bottled and atmospheric wastewater, in the construction of non-pressure tubular hydraulic structures and drainage collectors for drainage systems, in underground cable laying, communication lines, in the construction of columnar foundations for light low-rise buildings, as well as in the form of support posts for fences and barriers.		

Asbestos cement air ducts (channels)	Air and smoke ducts in private and municipal buildings		
Fireproof pastes and plasters	Fire protection of building structures, air ducts, and products		
Asbestos brake pads	For commercial transport, industrial transport, the railway sector, and power plant generators		

Annex 2: Template of an Asbestos Register

Workplace address:	
Name of competent person:	

Date asbestos was identified or assumed to be in the workplace	Type of material (identified/ assumed)	Is it friable or non-friable?	Condition of asbestos	Specific location of identified or assumed asbestos	Is this an inaccessible area?

Annex 3: Example of an asbestos register

Workplace address:	
Name of competent person:	

Date asbestos was identified or assumed to be in the workplace	Type of material (identified/ assumed)	Is it friable or non-friable?	Condition of asbestos	Specific location of identified or assumed asbestos	Is this an inaccessible area?
7/2/2026	AC roof sheeting (assumed)	Non-friable	Good, minor deterioration on western end	Whole roof to main building	Not routinely accessed
7/2/2026	Fibro wall cladding (assumed)	Non-friable	Sound condition structurally, paint lifting in some places	Exterior of main building	Accessible. Unlikely to be damaged.
7/2/2026	Pipe insulation (assumed)	Friable	Cracked at bends in pipe	Plant room: behind boiler for water system	Only accessed by maintenance staff
7/2/2026	Cement flue (identified)	Non-friable	Good condition, coated	Plant room: on top of boiler	Only accessed by maintenance staff
7/2/2026	Floor tiles (identified and confirmed by testing)	Non-friable	Good condition, tiles under filing cabinet starting to lift	Main office: asbestos-backed vinyl floor tiles	Inaccessible