

DESCRIPTION FOR MODULE "Preparing surface for insulation"

Module target	Assessing and examining the surface meant for insulation. Preparing the surface for application of thermal insulation material adhering to work safety and environment protection requirements.
Module objectives	<p>Understanding assessment criteria for surfaces to be insulated;</p> <p>Understanding the sequence of preparation operations for surfaces to be insulated and performing the preparation operations;</p> <p>Understanding and performing dismantling operations;</p> <p>Interpreting object drawings;</p> <p>Knowing the construction materials for preparing surface and their applications;</p> <p>Adhering to work and fire safety requirements in the construction site, taking appropriate action if necessary by providing first aid;</p> <p>To choose and apply working tools and accessories according to the respective surface preparation operations;</p> <p>Creating understanding of sanitation and water proofing operations, their implementation and the necessary materials.</p>
Module entry requirements	Module „Preparing object for insulation” has been mastered.
Module assessment	<p>At the end of module mastering the student takes a theoretical knowledge test and practical task regarding:</p> <ol style="list-style-type: none"> 1. criteria for assessing surfaces; 2. cleaning, leveling, strengthening of surfaces; 3. technological sequence for water proofing and sanitation operations.
Module significance and location on the map	Module "Preparing surface for insulation" is one of the base modules for mastering other modules in the building insulation field and should be mastered after the module "Preparing object for insulation".

CONTENT FOR MODULE "Preparing surfaces for insulation"

Learning outcomes	Theme	Advisable content	Descriptions of acquirement levels for learning outcomes		Theory – practice ratio	
			Satisfactory	Good	Theory 214	Practice 719
<p>Able: to assess the quality of surface to be installed, to recognize mechanical damages in communications' isolation;</p> <p>Knows: indications of damaged and uneven surfaces: adhesion, horizontal and vertical plane, the presence of microorganisms on surfaces, recognizing damaged roof linking elements, determine the moisture level of walls and</p>	<p>1. Assessing surfaces to be insulated</p>	1.1. Surface adhesion, examination of outer and inner walls;	Recognizes the plane deviations of the surface to be insulated, the presence of microorganisms on surfaces, damages to the roof structural lining elements and coverings, damages to the isolation of buildings' inner communications.	Explains deviations from the plane and the importance of not tolerating the presence of microorganisms during the preparations of a surface for insulation operations.	3	18
		1.2. Assessing surface plane on the vertical and horizontal axis for outer and inner walls;	Describes the adhesion power of the surface to be prepared.	Performs the inspection of surface to be insulated and assesses the surface compatibility with insulation operations while monitored by practice supervisor.	3	28
		1.3. Checking for the presence of microorganisms on outer and inner wall surface. Inspection at the object;	Determines the mechanical strength of foundations and names the damages to water proofing.	Characterizes the impact of adhesion on the quality of work.	3	21
		1.4. Assessment of roof structural lining elements and covering; inspection at the object;		Explains the causes of surface and foundations damages. Characterizes water proofing damages.		24
		1.5. Assessment of		Performs the inspection of surface to be insulated and	3	24



<p>foundations using measuring instruments;</p> <p>Understands: the significance of high quality preparation of the surface to be insulated and the consequences of not repairing the damages.</p>		<p>mechanical strength and water proofing ability of foundations; inspection at the object;</p> <p>1.6. Assessment of buildings' inner communications isolation; testing and inspection at the object.</p>		<p>assesses the surface compatibility with insulation operations while monitored by practice supervisor.</p>	2	12
<p>Able: to prepare surfaces for insulation;</p> <p>Knows: technologies and methods for preparing surfaces and communications, methods for disassembling, mechanical cleaning of surfaces, priming, leveling and treatment, sanitation operations;</p> <p>Understands: the sequence and</p>	<p>2. Preparing surfaces to be insulated</p>	<p>2.1. Disassembling the unnecessary elements and details from outer and inner walls;</p> <p>2.2. Mechanical and chemical cleaning of surfaces. Treating areas affected by microorganisms;</p> <p>2.3. Priming surfaces;</p> <p>2.4. Leveling the surfaces to be insulated on the vertical and horizontal plane;</p> <p>2.5. Treating roof lining</p>	<p>Names the main operations in the preparation cycle for surfaces to be insulated.</p> <p>Understands the impact of climatic conditions on the operations necessary for preparing surfaces to be insulated.</p> <p>Describes the methods of dismantling damaged roof constructions and communications' isolation, unearthing, strengthening and waterproofing</p>	<p>Characterizes the main operations in the cycle of preparing surfaces to be insulated.</p> <p>Explains the impact of climate conditions on the operations necessary for preparing surfaces to be insulated.</p> <p>Explains the methods of unearthing, strengthening and water proofing foundations.</p>	<p>2</p> <p>2</p> <p>2</p> <p>2</p>	<p>36</p> <p>60</p> <p>28</p> <p>80</p> <p>24</p>



significance of preparation operations for surfaces to be insulated.		elements with antiseptics. Assistance in exchanging damaged elements, treating the exchanged constructions with substances for wood protection;	foundations, treating elements with ground coat and antiseptics. Understands preparing constructions for sanitation operations	Explains the importance of sanitation operations in sustainable construction.	4	48
		2.6. Unearthing and strengthening foundations, eliminating moisture. Sanitation operations. Renewing and forming water proofing;	Understands the importance of quality control for the necessary operations.	Explains treating roof lining elements with antiseptics.		
		2.7. Disassembling the old and damaged isolation of inner communications;		Justifies the importance of self-supervision and quality control during the operations to be performed.	2	38
		2.8. Assessing work quality, determining and eliminating defects.		Plans and executes the assessment of object surfaces and the stages of surface preparation operations according to their technological sequence. Repairs defects basing on supervisor's instructions.	4	32



<p>Able: to read and employ drawings during the preparation operations of surfaces to be insulated;</p> <p>Knows: designations of materials in a drawing, how to determine details and linking elements of buildings highlighted in the drawing;</p> <p>Understands: indications and denominations in drawings, sketches of drawings.</p>	<p>3. Interpreting drawings for surface preparations operations</p>	<p>7.3. Interpreting building drawings;</p> <p>7.4. Lining elements and diagrams;</p> <p>7.5. Sketching simple constructive details.</p>	<p>Differentiates between drawings by their significance.</p> <p>Recognizes details and objects by indications in the drawing.</p> <p>Understands indications and symbols in drawing sketches.</p>	<p>Employs drawings in performing operations.</p> <p>Explains indications in construction drawings.</p> <p>Identifies the location and surface to be worked on by using drawings. Sketches specific component details.</p>	<p>36</p> <p>16</p> <p>40</p>	<p>36</p> <p>40</p>
<p>Able: to prime surfaces to be insulated, to level and treat them with protective</p>	<p>4. Construction materials for preparing surfaces, employing these</p>	<p>4.1. Priming materials, their types and characteristics, preparing for work and applying in</p>	<p>Recognizes priming materials, construction adhesives, materials for levelling surface, sanitation, water</p>	<p>Explains the significance of priming materials, construction adhesives, materials for levelling surface, sanitation, water proofing,</p>	<p>8</p>	<p>12</p>



<p>substances, to keep track of construction material quality and quantity while performing operations;</p> <p>Knows: priming materials, adhesives, levelling, sanitation, water proofing materials, construction chemicals.</p> <p>Knows work safety and instructions (for example, not to work on scaffolding during rain and wind);</p> <p>Understands: main conditions that influence the significance and role of construction materials in</p>	<p>according to technological necessity</p>	<p>accordance with technologies of the work to be implemented;</p> <p>4.2. Adhesives in construction, their types and uses, preparing for work and applying in accordance with technologies of the work to be implemented;</p>	<p>proofing, antiseptic materials and construction chemicals. Employs them.</p> <p>Differentiates between materials to be used for preparing surfaces before insulating by external features and indications on the packaging.</p>	<p>antiseptic materials and construction chemicals. Employs them.</p> <p>Characterizes differences between materials to be used for preparing surfaces before insulating. Uses construction material calculations in work planning.</p>	8	16
		<p>4.3. Materials for levelling walls, types and uses, preparing for work and applying in accordance with technologies of the work to be implemented;</p>			10	16
		<p>4.4. Sanitation materials, preparing for work and applying in accordance with technologies of the work to be implemented;</p> <p>4.5. Water proofing</p>			8	16
					12	20



<p>insulation and sanitation operations and employ these devices, to perform maintenance of the mechanisms according to instructions.</p> <p>Knows: the types and uses of tools and accessories employed in preparing surfaces for insulation;</p> <p>Understands: the methods for using the specific hand tools in performing operations</p>		<p>measuring instruments for preparing the surface to be insulated;</p> <p>5.3. Special tools for sanitation work.</p>		<p>technical condition, employs them. Performs maintenance of the mechanisms according to instructions.</p>	<p>2</p>	<p>12</p>
<p>Able: to perform operations for preparing surfaces while complying with work safety requirements, to act responsibly in</p>	<p>6. Work protection during surface preparation</p>	<p>6.1. Work protection, fire and electrical safety during surface preparation. Performing operations according to</p>	<p>Recognizes hazards at work place.</p> <p>Employs individual and communal protection devices according to work objectives.</p>	<p>Characterizes the influence of hazards at the construction object on the safety and health of workers.</p> <p>Selects and employs individual and communal protection devices according</p>	<p>2</p>	



<p>dangerous situations, to inform about accidents in complicated situations, to perform first aid;</p> <p>Knows: requirements for electrical and fire safety and environmental protection at the object, requirements for work safety while working at heights, performing disassembling operations, working with chemicals and dust. Diagrams for performing first aid at the construction object;</p> <p>Understands: hazards in the work place, the significance of employing</p>		<p>technological requirements and construction standards;</p> <p>6.2. Work hazards during object preparations, working at heights, disassembling, working with chemicals and dust;</p> <p>6.3. Individual and communal work protection devices;</p> <p>6.4. Providing first aid in case of emergency at the object.</p>	<p>Adheres to using safe, environmentally friendly work methods, fire and electrical safety requirements in the work place.</p>	<p>to work objectives.</p> <p>Complies with and employs safe, environmentally friendly work methods. Complies with fire and electrical safety requirements in the work place and acts accordingly in case of emergency.</p>	<p>1</p> <p>2</p> <p>2</p>	<p>16</p>
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<p>individual protection devices and the significance of mutual collaboration of the team, the necessity of work methods that are safe for the employee and preserve the environment in order to create a safe work environment.</p>						
<p>Able: to work in a team, form and critically analyze interactions with other people; Knows: mutual relations of team work; Understands: advantages of team work.</p>	<p>7. Team work</p>	<p>7.1. Team, its types and processes; 7.2. Social roles, status and norms; 7.3. Individual's conduct in the team.</p>	<p>Understands the terms "team" and "team work". . Recognizes processes in a team and knows the stages of decision making in the team.</p>	<p>Characterizes types of team work. . Understands various processes in the team and characterizes them, participates in the team decision making process during a modeled situation.</p>	<p>2 2 2</p>	
<p>After mastering this module the student, following practice supervisor's instructions, can assess foundations, outer walls, inner walls, attic, roof and utilities, prepare them for insulation operations, can establish a work place, check for microorganisms on inner and outer walls. Performs the strengthening and treatment of weak areas and those affected by microorganisms. Examines surface planes on the vertical and horizontal axis, performs disassembling operations and prepares surfaces for sanitation, exchanges</p>						



damaged parts of wooden structures, prepares foundations for insulation. Employs materials suitable for preparing the building before insulation in a correct technological sequence, applies them. Is able to act responsibly in dangerous situations. Complies with work protection and safety requirements in the construction object. Can provide first aid.

At the module conclusion the student takes an exam consisting of a theoretical and practical part.

Theory consists of a test which includes knowledge of:

- Principles for assessing surfaces before insulation;
- Preparing surfaces before insulation;
- Interpreting building drawings;
- Priming materials, adhesives, materials for levelling surfaces, sanitation and water proofing materials, construction chemicals, antiseptics for wood structures, their types and uses;
- Work safety at the object;
- Individual in social relations;

Practical part is passed by performing the following operations individually or in a work group while complying with work safety requirements:

- Assesses the surface plane on a vertical and horizontal axis;
- Assesses surface adhesion and the presence of microorganisms on foundations, roof, walls and communications;
- Determines the mechanical strength of surface for foundations, roof, walls and communications;
- Prepares surfaces for insulation by unearthing, disassembling, levelling, cleaning, priming;
- Explains indications in construction drawings;
- Recognizes construction materials to be used in surface preparation, knows how to employ them;
- Selects tools for preparing surface and employs them;
- Correctly establishes a safe work environment, provides first aid in case of emergency.