



Polskie Stowarzyszenie Gipsu



**Instytut Technologii Eksploatacji
– Państwowy Instytut Badawczy**

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Installation of partition wall systems 712[06].S1.02

Teacher's Guidebook



Publisher

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This Guidebook provides methodological guidance for the 712[06].S1.02 modular unit program “Installation of partition wall systems” being a part of the modular teaching program for the occupation of Bricklayer (712[06].).

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1. INTRODUCTION

We are providing you with “Teacher’s Guidebook” “Installation of partition wall systems”, which will help teachers in conducting lessons within the school training in the occupation of Bricklayer (712[06]).

The Guidebook contains:

- prerequisite skills,
- list of professional skills that a student acquires during the classes,
- samples of lesson scenarios,
- recommended tasks which aim at teaching a student practical skills,
- list of literature that students can use in the process of education,

It is recommended that different teaching methods should be used in the process of training with particular focus on:

- demonstration with explanation,
- guiding text method,
- learning through projects,
- practical classes.

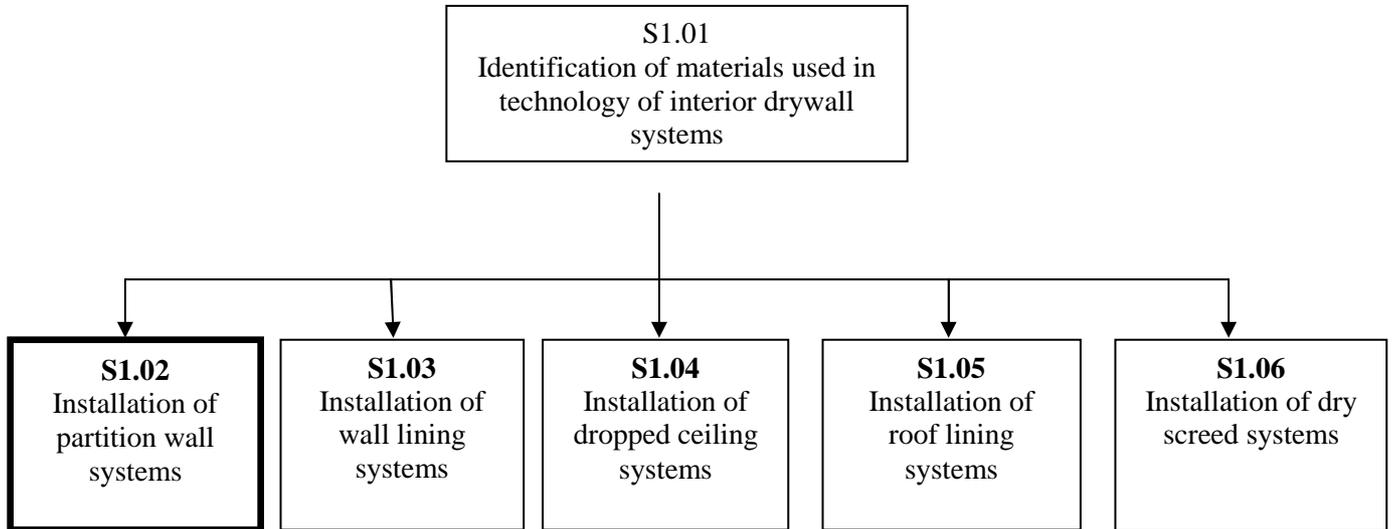
The forms in which students’ work is organised can vary, ranging from students’ independent work to team work.

In order to check students’ knowledge and skills, the teacher can use test tasks included in Chapter 6 and containing different types of tasks.

The said Chapter contains also:

- test plan in a tabular form,
- evaluation scale (points) for tasks and grading scheme,
- proposed grading standards,
- instructions for the teacher,
- instructions for a student,
- answer sheet,
- set of test tasks.

Diagram of modular units



2. PREREQUISITE SKILLS

Before starting the modular unit program “Installation of partition wall systems”, a student should be able to:

- use technical building terminology,
- read and construe technical building drawings,
- use technical building documentation,
- organize the workplace in line with rules of ergonomics and safety,
- ensure the proper transportation of building materials,
- use different sources of information,
- identify materials used in Technology of Interior Drywall Systems,
- prepare mortar,
- select materials and equipment for construction works,
- take basic measurements in construction works,
- assemble scaffolding for construction works.

3. LEARNING OBJECTIVES

Upon completion of the modular unit programme, a student should be able to:

- prepare the workplace for the installation of partition walls,
- prepare the place where the materials for the installation of partition walls can be stored,
- ensure a proper transportation of all the necessary materials used in the installation of partition walls,
- establish the position of partition walls,
- prepare and cut to size boards for partition wall installation,
- select and assemble the steel profiles for the installation of partition walls,
- fix the boards to the wall profiles,
- fit insulation between boards,
- fix door frames,
- install walls with cavities in which service lines such as plumbing lines and sewage pipes can be concealed,
- fix shelves, walls and board frames to boards,
- complete the finishing works such as mudding, joint filling, finishing external angles, board cleaning,
- make an inventory of the materials needed for wall installation,
- assess the quality of the work done,
- respect the occupational health and safety rules as well as environmental law requirements.

4. SAMPLES OF LESSON SCENARIOS

Lesson scenerio 1

Person in charge:

Modular training program: Bricklayer 712[06]

Specialisation module: Technology of Interior Drywall Systems 712[06].S1.

Modular unit: Installation of partition wall systems 712[06].S1.02

Subject: Criteria of selecting partition wall systems.

General Objective: Getting familiar with material and structure solutions of plasterboard-made partition walls.

Upon completion of the training, a student is able to:

- identify the types of partition wall structures used in interior drywall systems,
- explain the criteria of selecting an appropriate type of plasterboard partition walls,
- identify structures of particular types of partition walls.

Teaching-learning methods:

- practical tasks,
- guiding text method.

Forms of students' work organisation:

- individual work,
- group work.

Time: 180 minutes.

Teaching aids:

- sets of tasks developed by the teacher for each group of students
- instruction how to use the guiding text method,
- task sheet,
- guiding questions,
- sketch pad, size A4,
- drawing instruments.

Lesson plan:

PRELIMINARY STAGE

Activities related to the organisation and management of the lesson, giving the lesson subject, familiarising students with the guiding text method.

PROPER STAGE

INFORMATION GATHERING

1. What types of partition walls are used in interior drywall systems?
2. What are the types of plasterboard-made wall structures?
3. What are the structures of particular types of partition walls?

PLANNING

1. Determine the time needed for the task completion.
2. Establish the sources where you can find information on technologies of wall partition systems.

ARRANGEMENTS

1. The teacher and students establish the sequence of activities.
2. Students are provided with the resources indispensable for task completion.
3. The teacher determines criteria of the completed work.

TASK PERFORMANCE

1. Write a list of materials used for making partition walls.
2. Write a list of types of plasterboard partition walls and identify their use.
3. Write down the elements needed for making partition walls.
4. Draw cross-sections of particular partition wall types.

CHECKING

1. Were partition wall types identified correctly?
2. Were the structures of particular partition walls identified correctly?

FINAL STAGE

Students and the teacher together indicate which stages of the task turned out to be most difficult for them. The teacher sums up the whole task and points out the new important skills which were developed in the course of the task performance as well as shortcomings which occurred.

Homework

In available sources find drawings or photographs depicting different applications of plasterboard-made partition walls. Bring the materials you have found and present them in the classroom.

The way to receive feedback from students after the classes have ended:

- anonymous evaluation sheets concerning the way of conducting the classes, difficulties encountered during the task, acquired skills and reference materials used,
- analysis of students' activity during the classes.

Lessom scenario 2

Person in charge:

Modular training program: Bricklayer 712[06]

Specialisation module: Technology of Interior Drywall Systems 712[06].S1.

Modular unit: Installation of partition wall systems 712[06].S1.02.

Subject: Assembly of plasterboard partition walls of two-layer structure.

General objective: developing skills of plasterboard partition wall assembly.

Upon completion of the training, a student is able to:

- select materials and equipment for the partition wall assembly,
- organize the workplace for the assembly in line with safety rules,
- assemble a partition wall,
- assess the work done by himself.

Teaching-learning methods:

- production tasks.

Forms of students' work organisation:

- group work.

Time: 220 min.

Teaching aids:

- a model of the partition wall structure,
- technical documentation,
- insulation panels of mineral wool,
- insulation tapes,
- basic measuring instruments,
- screw-driving machine,
- drilling machine, occupational safety rules,
- reference material from Chapter 6 of Teacher's Guidebook.

Lesson plan:

Phase 1: Preliminary

1. Activities related to the organisation and management of the lesson,
2. Preliminary instruction, occupational safety rules.

Phase 2: Proper

1. Distribution of training/production tasks.
2. Organization of the workplace for task performance.
3. Task performance:
In groups of 4, students:
 - get familiar with technical documentation of the assembly,
 - take the tools needed for task performance from a storeroom,
 - establish the position of the partition wall,
 - fix profiles to structural elements,

- prepare plasterboards for the assembly,
- assemble plasterboards,
- fill the interlayer space with insulation material,
- perform finishing works,
- the teacher supervises the students.

Phase 3: Final

1. Acceptance and assessment of training/production works.
2. Final instructions.
3. Following the assembly, students analyze the work done.

Lesson concluding:

- 1) Each student indicates his strengths and weaknesses.
- 2) The teacher analyzes students' works and concludes whether the works were performed correctly.
- 3) Students present their work following the sequence of the works performed.
- 4) The group together with the teacher assess their work.

Homework

In available sources find drawings or photographs depicting different structures of partition walls. Bring the materials you have found and present them in the classroom.

The way to receive feedback from students after the classes have ended:

- anonymous evaluation sheets concerning the way of conducting the classes, difficulties encountered during the task performance, acquired skills and reference materials used,
- analysis of students' activity during the classes.

5. TASKS

5.1. Partition wall systems and their selection criteria

5.1.1. Tasks

Task 1

Identify the construction components of the partition wall structure presented by the teacher.

Tips for task performance:

Before a student starts doing the task, the teacher should discuss its scope and performance technique.

The way to do the task:

To do this task a student should:

- 1) get familiar with the partition wall structure (reference material from Chapter 4.1.1),
- 2) organize the workplace for task performance,
- 3) identify elements of the partition walls,
- 4) present the completed task,

Recommended teaching-learning methods:

- the guiding-text method

Teaching aids:

- reference material from Chapter 6 of Student's Handbook,
- drawing instruments,
- drawings of the partition wall structure.

Task 2

Draw a projection and cross-section of a wall of single structure with a two-sided one-layer plasterboard lining.

Tips for task performance:

Before a student starts doing the task, the teacher should discuss its scope and performance technique.

The way to do the task:

To do this task a student should:

- 1) get familiar with the partition wall structure (reference material from Chapter 4.1.1),
- 2) organize the workplace for task performance,
- 3) draw a cross-section of a wall of single structure with one-sided plasterboard lining,
- 4) draw a cross-section of a wall of single structure with two-sided plasterboard lining,
- 5) present the completed task,
- 6) assess correctness and aesthetics of the task completed.

Recommended teaching-learning methods:

- the guiding-text method

Teaching aids:

- sketch pad, size A4,
- drawing instruments,
- reference material from Chapter 6 of Student's Handbook,

Task 3

In the drawings/ pictures provided by the teacher, classify partition walls executed in the technology of drywall systems by their application.

Tips for task performance:

Before a student starts doing the task, the teacher should discuss its scope and performance technique.

The way to do the task:

To do this task a student should:

- 1) get familiar with types partition wall structures (reference material from Chapter 4.1.1),
- 2) organize the workplace for task performance,
- 3) identify application of particular types of partition walls and write them below the drawings,
- 4) present the completed task,

Recommended teaching-learning methods:

- the guiding-text method

Teaching aids:

- sketch pad, size A4,
- reference material from Chapter 6 of Student's Handbook,
- paper clips,
- drawings or pictures of partition walls.

5.2. Steps in the partition wall installation

5.2.1. Tasks

Task 1

On the basis of the technical documentation of the room, establish the position of a partition wall. Mark this position on all four structural walls.

Tips for task performance:

Before a student starts doing the task, the teacher should discuss its scope and performance technique.

The way to do the task:

To do this task a student should:

- 1) get familiar with the room in which the task is to be performed,

- 2) get familiar with technical documentation of the room,
- 3) organize the workplace for task performance,
- 4) take the measurements needed,
- 5) mark the position of the partition wall on the walls, the ceiling and the floor,
- 6) present the completed task
- 7) assess correctness and aesthetics of the task completed.

Recommended teaching-learning methods:

- the guiding-text method,
- practical tasks,
- demonstration with explanations.

Teaching aids:

- technical documentation of the room,
- measuring instruments (bricklayer's laser),
- drawing instruments,
- reference material from Chapter 6 of Student's Handbook,

Task 2

On the earlier determined position of the partition wall, fix horizontal and vertical profiles enabling further installation of the partition walls.

Tips for task performance:

Before a student starts doing the task, the teacher should discuss its scope and performance technique.

The way to do the task:

To do this task a student should:

- 1) get familiar with the earlier established position of the partition wall (Task 1),
- 2) organize the workplace for task performance,
- 3) select materials for fixing profiles,
- 4) select appropriate profiles and other materials,
- 5) present the completed task
- 6) assess correctness and aesthetics of the task completed.

Recommended teaching-learning methods:

- the guiding-text method,
- practical tasks,
- demonstration with explanations.

Teaching aids:

- profiles needed to make a plasterboard wall,
- tools and equipment needed for fixing profiles,
- reference material from Chapter 6 of Student's Handbook,

Task 3

Establish the position of door frames according to the technical documentation and fix profiles for their assembly. Present the completed task.

Tips for task performance:

Before a student starts doing the task, the teacher should discuss its scope and performance technique.

The way to do the task:

To do this task a student should:

- 1) get familiar with the wall in which the door frame is to be installed,
- 2) get familiar with technical documentation of the room,
- 3) organize the workplace for task performance,
- 4) establish the position of the door frame,
- 5) fix profiles in the door frame,
- 6) present the completed task
- 7) assess correctness and aesthetics of the task completed.

Recommended teaching-learning methods:

- the guiding-text method,
- practical tasks,
- demonstration with explanations.

Teaching aids:

- technical documentation referring to the door frame position,
- profiles needed to fix door frames,
- tools for profile fixing,
- reference material from Chapter 6 of Student's Handbook,

Task 4

– Assemble a fragment of the partition wall with cavities for water and sewerage line installation. Present the completed task.

Tips for task performance:

Before a student starts doing the task, the teacher should discuss its scope and performance technique.

The way to do the task:

To do this task a student should:

- 1) get familiar with the room in which the task is to be performed,
- 2) get familiar with technical documentation of the partition wall with cavities,
- 3) organize the workplace for task performance,
- 4) establish the position of the wall with cavities,
- 5) select material for the execution of the wall,
- 6) fix the profiles
- 7) fix plasterboards,
- 8) present the completed task,
- 9) assess correctness and aesthetics of the task completed.

Recommended teaching-learning methods:

- the guiding-text method,
- practical tasks,
- demonstration with explanations.

Teaching aids:

- plasterboards,

- steel profiles,
- tools and equipment for the assembly,
- reference material from Chapter 6 of Student's Handbook,

Task 5

Make a fragment of a curved-line wall with a two-sided plasterboard lining.

Tips for task performance:

Before a student starts doing the task, the teacher should discuss its scope and performance technique.

The way to do the task:

To do this task a student should:

- 1) get familiar with the room in which the task is to be performed,
- 2) get familiar with technical documentation of the room,
- 3) get familiar with technical documentation of the curved-line wall,
- 4) organize the workplace for task performance,
- 5) take the measurements needed,
- 6) mark the position of the partition wall,
- 7) fix profiles,
- 8) fix one layer of plasterboards,
- 9) present the completed task
- 10) assess correctness and aesthetics of the task completed.

Recommended teaching-learning methods:

- the guiding-text method,
- practical tasks,
- demonstration with explanations.

Teaching aids:

- technical documentation,
- steel profiles,
- plasterboards,
- tools and equipment for the assembly,
- reference material from Chapter 6 of Student's Handbook,

5.3. Joint filling and finishing works

5.3.1. Tasks

Task 1

Fill a joint in a fragment of a plasterboard partition wall ending at the floor.

Tips for task performance:

Before a student starts doing the task, the teacher should discuss its scope and performance technique.

The way to do the task:

To do this task a student should:

- 1) get familiar with the wall in which joints are to be filled,

- 2) select the joint filling quality level,
- 3) organize the workplace for task performance,
- 4) select materials and equipment for aligning the board so that it is plumb,
- 5) perform joint filling on the indicated part of a partition wall,
- 6) present the completed task,
- 7) assess correctness and aesthetics of the task completed.

Recommended teaching-learning methods:

- the guiding-text method,
- practical tasks,
- demonstration with explanations.

Teaching aids:

- fragment of a plasterboard partition wall,
- materials for joint filling,
- tools for joint filling,
- reference material from Chapter 6 of Student's Handbook,

Task 2

Finish a fragment of an angle in the plasterboard partition wall.

Tips for task performance:

Before a student starts doing the task, the teacher should discuss its scope and performance technique.

The way to do the task:

To do this task a student should:

- 1) get familiar with the wall in which the angle is to be finished,
- 2) select the finishing technique depending on the type of the angle (external/internal)
- 3) select the joint filling quality level,
- 4) organize the workplace for task performance,
- 5) select materials and equipment for aligning the board so that it is plumb,
- 6) finish the indicated partition wall angle,
- 7) present the completed task,
- 8) assess correctness and aesthetics of the task completed.

Recommended teaching-learning methods:

- demonstration with instructions,
- production task.

Teaching aids:

- fragment of a plasterboard partition wall,
- materials for joint filling,
- tools for joint filling,
- materials for finishing the angle,
- reference material from Chapter 6 of Student's Handbook,

Task 3

Check dimensional tolerances for the plasterboard partition wall.

Tips for task performance:

Before a student starts doing the task, the teacher should discuss its scope and performance technique.

The way to do the task:

To do this task a student should:

- 1) get familiar with the wall for which dimensional tolerances are to be checked,
- 2) check if the wall is completed and finished,
- 3) select appropriate measuring instruments,
- 4) take the wall measurements needed and check tolerances for the wall execution,
- 5) present the completed task,
- 6) assess correctness and aesthetics of the task completed.

Recommended teaching-learning methods:

- the guiding-text method,
- practical tasks,
- demonstration with explanations.

Teaching aids:

- fragment of a plasterboard partition wall,
- measuring tools,
- reference material from Chapter 6 of Student's Handbook,

6. EVALUATION OF STUDENTS' ACHIEVEMENTS

Samples of testing and assessment tools

TEST 1

A two-level test for the modular unit “Installation of partition wall systems”.

The Test consists of 20 tasks of two difficulty levels:

- tasks 1, 2, 4, 5, 6, 7, 8, 9, 11, 13, 14, 16, 17, 19 – represent a basic level,
- tasks 3, 10, 12, 15, 18, 20 – represent an above-basic level.

Points awarded for task completion: 0; 0.5 or 1 point

For each correct answer a student scores 1 point. A wrong or no answer score 0 points. In open tasks a student scores 0.5 point when he answers correctly at least 50% of the task.

The following grading standards are proposed – a student will be awarded the following school grades:

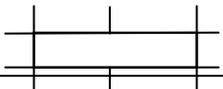
- poor – if at least 7 tasks at the basic level have been done satisfactorily,
- satisfactory – if at least 10 tasks at the basic level have been done satisfactorily,
- good – for satisfactory completion of 14 tasks including at least 3 at the level above the basic one
- very good – for completion of 16 tasks including at least 4 from the above-basic level.

Test plan with an answer key

(Translator's remark: P = basic level; PP = the above-basic level)

Nr zadania	Operational task (assessment of student's achievements)	Kategoria celu	Poziom wymagań	Correct answer
1.	Identify the most important parameters of a partition wall	A	P	-rigidity -strength -acoustic insulation -fire resistance
2.	Identify the basic elements of the partition wall structure in drywall systems.	A	P	-plasterboards -steel profiles -mineral wool insulation - joint compound/"mud"
3.	Identify the mass of a plasterboard partition wall in its standard version (12.5 cm thick)	A	PP	a
4.	Identify major partition wall systems	B	P	• single structure with two-sided one-layer plasterboard lining • single structure with two-

				sided, two-layer plasterboard lining. • double structure with two-sided two-layer plasterboard lining. • wall with cavities
5.	What materials are used for acoustic insulation in partition walls	A	P	b
6.	Identify particular structural elements of a partition wall	B	P	1-plasterboard, 3-horizontal profile, 7-sealing tape, 8-insulation layer.
7.	Identify where the partition wall system depicted in point 6 is used	C	P	a
8.	Identify the type of the partition wall depicted in the picture	C	P	c
9.	Identify the height of a single-structure wall with a two-sided two-layer plasterboard lining	B	P	b
10.	Identify the maximum height of a double-structure wall with a two-sided two-layer plasterboard lining	B	PP	b
11.	Identify characteristic elements for the below presented double-structure wall with a two-sided, two-layer plasterboard lining	C	P	c
12.	Identify where double-structure walls with a two-sided two layer plasterboard lining are used	B	PP	c
13.	Identify particular elements of a partition wall with cavities	B	P	2. CW profile 4. lacing of plasterboards type H2 7. System-included joint compound/"mud", joint tape and finishing compound 8. sealing tape, 50 mm thick
14.	Identify the basic steps in the partition wall assembly.	A	P	a) positioning, b) structure assembly c) panelling d) joint filling e) finishing the surface
15.	Identify basic criteria which allow one to start the assembly of plasterboard-made partition wall.	B	PP	- finishing all „wet works”, - window frames have been installed. - maintaining the room temperature at min. 10° C., - maintaining humidity below 70%.

16.	Establish where a line indicating the position of the wall on the basis of technical documentation must be marked	C	P	a
17.	Identify the sequence of fixing profiles	B	P	b
18.	Draw the profile structure for skylight windows of the 1150 mm illumination width.	C	PP	
19.	Identify the sequence of activities when cutting boards to size	B	P	b
20.	Identify basic dimensional tolerances for the positioning of planes and edges which will be assessed during the acceptance of the completed works	B	PP	<ul style="list-style-type: none"> - divergence of a surface from the plane, i.e. is there any corrugation of the wall lining surface - divergence of the plane edge from the straight line, i.e. are there deviations vertically or horizontally from the place where two planes intersect, e.g. internal angles, or external angles of wall linings, - deviation of a plane and the edge from the vertical direction, - deviation of intersecting planes from the angle specified in technical documentation

Testing procedure

Instructions for the teacher

1. Together with your students establish a test-date at least a week in advance.
2. Discuss with students the aim of testing and assessment.
3. Familiarize students with types of tasks included in the test and with the rules of awarding points.
4. Conduct a mock test in which students will be asked to provide answers to the task types as the ones included in a real test.
5. Discuss with students the way in which answers shall be given (answer sheet).
6. Ensure conditions for students independent work.
7. Distribute sets of test tasks and answer sheets to students, inform them about the time limit for doing the test.
8. Create proper atmosphere during the whole test (relieve tension, encourage for checking one's potential).
9. A few minutes before the end of the test, remind students of the time left for the test completion.
10. Collect answer sheets and test sheets.
11. Check the results and enter them into a report sheet.

12. Analyze the results obtained and choose these tasks which posed most difficulty to students.
13. Establish the reasons why students had problems to acquire the knowledge and skills.
14. Work out conclusions for further work in order to avoid teaching failures – unsatisfactory results of the test conducted.

Instruction for students

1. Read the instruction carefully.
2. Sign the answer sheet with your name and surname.
3. Get familiar with test tasks.
4. The test consists of 20 tasks of different difficulty levels. It includes tasks of the following types: open, gap-fill, multiple-choice and True/False.
5. Give your answers on the enclosed answer sheet only. Put a cross (X) in the appropriate column or write the correct answer. If you make a mistake, put a circle around the incorrect answer and then put a cross (X) next to the correct answer.
6. The test consists of 2 parts containing tasks of different difficulty levels: tasks 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 19 – represent the basic level, whereas tasks: 15, 16, 17, 18 and 20 – represent the above-basic level.
7. Work on your own because only then you will get satisfaction of completing the task.
8. When you find answering a question difficult, leave it for a later time and return to it when you have time.
9. You have 90 minutes to complete the test.

Good luck!

Resources for a student:

- instructions,
- a set of test tasks,
- an answer sheet.

A SET of TEST TASKS

1. Identify the most important parameters of a partition wall:
 - a)
 - b)
 - c)
 - d)

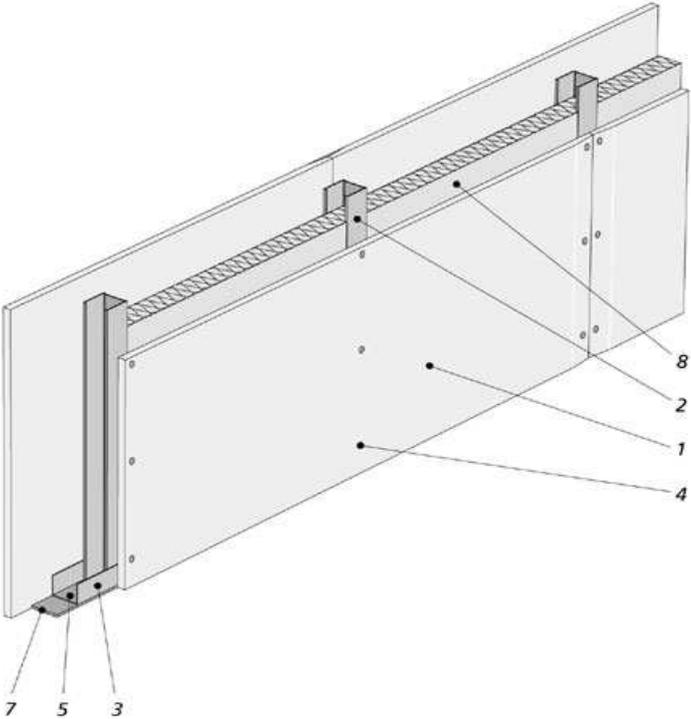
2. Identify the basic elements of the partition wall structure in drywall systems:
 - a)
 - b)
 - c)
 - d)

3. Identify the mass of a plasterboard-made partition wall in its standard version (12.5 cm thick):
 - a) 25 kg/m^2 ,
 - b) 65 kg/m^2
 - c) 125 kg/m^2 ,
 - d) 165 kg/m^2 ,

4. Identify major partition wall systems.
 - a)
 - b)
 - c)
 - d)

5. What material is used for acoustic insulation in partition walls?
 - a) foamed polystyrene,
 - b) mineral wool,
 - c) insulation foam,
 - d) different.

6. Identify particular structural elements (indicated by numbers) of a partition wall.

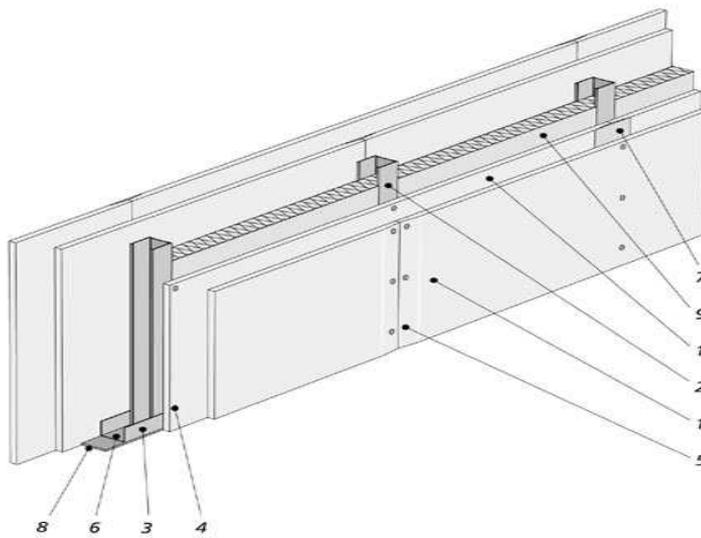


- a) 1 -
- b) 3-.....
- c) 7-
- d) 8-

7. The partition wall system depicted in point 6 is used:

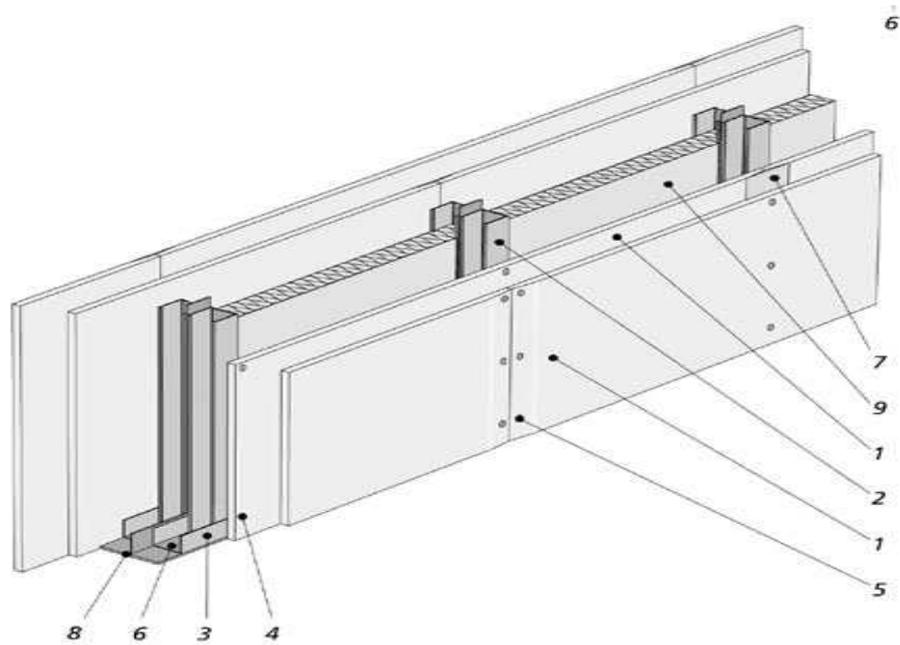
- a) within a single flat,
- b) between rooms in office buildings,
- c) between flats,
- d) between rooms and the corridor in office buildings.

8. The partition wall system depicted in the picture below is:



- a) a double structure with a two-sided two-layer plasterboard lining,
 - b) a wall with cavities for service lines,
 - c) a single structure with a two-sided two-layer plasterboard lining,
 - d) an ordinary partition wall made of plasterboards.
9. The height of the wall of a single structure and with a two-sided two-layer plasterboard lining is:
- a) 4.5 m,
 - b) 5.0 m,
 - c) 6.5 m,
 - d) 7.0 m.
10. The maximum height of a wall of a double structure with a two-sided two-layer plasterboard lining:
- a) 5.0-7.0 m,
 - b) 6.5 -10.0 m,
 - c) 7.5 – 11.0 m,
 - d) 9.0 m.

11. The elements characteristic for the below presented wall of double structure with a two-sided two-layer plasterboard lining include:

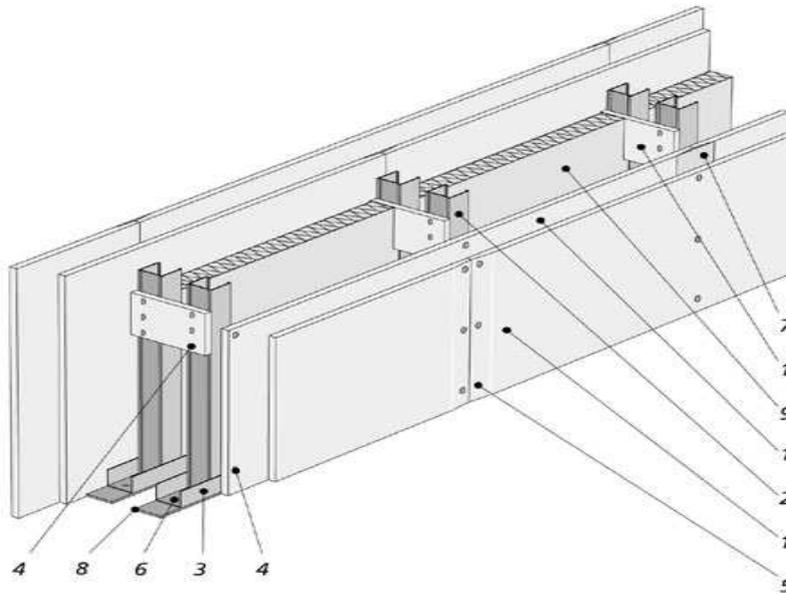


- a) 8 – insulation tape,
- b) 9- mineral wool,
- c) 2- the second vertical steel profile,
- d) 7-the system included “mud”

12. Walls of double structure with a two-sided and two-layer plasterboard lining are used:

- a) within one flat,
- b) between rooms in office buildings,
- c) between flats,
- d) in office buildings between rooms and the corridor.

13. Identify particular elements (indicated by numbers) a partition wall with cavities:



- a) 4-
- b) 8-
- c) 2-
- d) 7-

14. Identify the basic steps in the partition wall assembly:

- a).....
- b).....
- c).....
- d).....
- e).....

15. Identify basic criteria which allow one to start the assembly of a plasterboard-made partition wall:

- a).....
- b).....
- c).....

16. While determining the position of the wall on the basis of technical documentation, the line indicating its position must be marked on:

- a) the wall axis,
- b) the wall's external line,
- c) profile's external edge,
- d) both external lines of the wall.

17. Profile fixing is accomplished in the following way:
- first vertical, then horizontal,
 - horizontal perimeter, vertical perimeter, remaining ones,
 - always on one side,
 - external ones always first.
18. Draw the profile structure in skylight windows of the illumination width of 1150 mm.
19. The sequence of activities while cutting plasterboards to size is as follows:
- cutting the cardboard on the other side of the board, breaking the gypsum core, one-sided nicking of the board (on the front side) with the assembler's knife,
 - one-sided nicking of the board (on the front side) with the assembler's knife, breaking the gypsum core, cutting the cardboard on the other side,
 - the sequence is optional,
 - one-time cutting with a saw.
20. Identify basic dimensional tolerances for the positioning of the completed planes and edges which will be assessed during the construction works acceptance:
-,
 -,
 -,
 -,
 -

ANSWER SHEET

Name and surname

Installation of partition wall systems

Mark the correct answer, write in a missing phrase or an answer.

Question number	Answers					Points scored
1	a	b	c	d		
2	a	b	c	d		
3	a	b	c	d		
4	a	b	c	d		
5	a	b	c	d		
6	a	b	c	d		
7	a	b	c	d		
8	a	b	c	d		
9	a	b	c	d		
10	a	b	c	d		
11	a	b	c	d		
12	a	b	c	d		
13	a	b	c	d		
14	a	b	c	d	e	
15	a	b	c	d	e	
16	a	b	c	d		
17	a	b	c	d		

18						
19	a	b	c	d		
20	a	b	c	d	e	
Total						

TEST 2

A two-level test for the modular unit “Installation of partition wall systems.”

The Test consists of 20 tasks of two difficulty levels:

- tasks 1, 2, 4, 5, 6, 8, 9, 10, 13, 14, 16, 17, 18, 19 – represent the basic level,
- tasks 3, 7, 11, 12, 15, 20 – represent the above-basic level.

Points awarded for task completion: 0; 0.5 or 1 point

For each correct answer a student scores 1 point. A wrong or no answer score 0 points. In open tasks a student scores 0.5 point when he answers correctly at least 50% of the task.

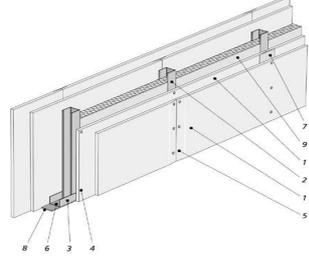
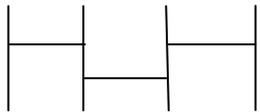
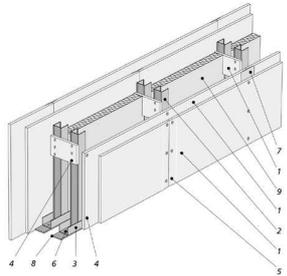
The following grading standards are proposed – a student will be awarded the following school grades:

- poor – if at least 7 tasks at the basic level have been done satisfactorily,
- satisfactory – if at least 10 tasks at the basic level have been done satisfactorily,
- good – for satisfactory completion of 14 tasks including at least 3 at the level above the basic one
- very good – for completion of 16 tasks including at least 4 from the above-basic level.

Test plan with an answer key

(Translator’s remark: P = basic level; PP = the above-basic level)

Nr zadania	Operational task (assessment of student’s achievements)	Kategoria celu	Poziom wymagan	Correct answer
1.	Identify the shapes of partition walls assembled in drywall systems.	B	P	straight line and arc-shaped walls
2.	Identify fire-resistance of plasterboard-made walls.	B	P	a. yes
3.	Identify which materials used for plasterboard wall assembly possess insulation properties.	C	PP	plasterboard, mineral wool
4.	Identify the range of drywall system application.	B	P	- between flats, - within one flat -in office buildings, between the rooms, - in office buildings between rooms and the corridor,
5.	Identify the rules for overlap joining of profiles.	B	P	for a CW 100 profile -1 m, for a CW 75 profile – 0.75 m

6.	Draw a wall of a single structure with a two-sided two-layer plasterboard lining.	C	P	
7.	Identify the structure of plasterboard partition walls which is used between flats	B	PP	Double structure walls with separated profiles
8.	Identify the partition wall structure depicted in the picture	C	P	A double structure with two-sided two-layer plasterboard lining
9.	Identify the height of the wall of single structure with two-sided two-layer plasterboard lining	B	P	a) 5 m, b) 11 m.
10.	Identify the rules of plasterboard assembly (is a shift/an offset needed) in multi-layer walls.	C	P	c) Yes, a shift (an offset) of ca. 60 cm.
11.	Identify the way of arranging plasterboards in high walls.	B	PP	
12.	Draw a cross-section of a partition wall with cavities.	C	PP	
13.	Identify elements used for the assembly of piping and wiring in a plasterboard wall with cavities.	D	P	c

14.	Identify basic “disappearing works” in the partition wall assembly.	B	P	- execution of a steel profile structure, - mineral wool fitting, - panelling and the use of joint tape, - joint filling and mudding.
15.	Identify plasterboard types used for the assembly of an arc-shaped partition wall	C	PP	c
16.	Identify materials used for finishing a given angle type	D	P	c
17.	Identify the position (depth) of screw heads in relation to the plasterboard surface.	B	P	c
18.	Identify cycles of covering screws with “mud”.	B	P	b
19.	Identify the sequence of activities at cutting boards to size.	B	P	a) one-sided nicking of a plasterboard (from the front side) with the assembler’s knife, b) breaking the gypsum core, c) cutting the cardboard on the other side of the plasterboard.
20.	Identify the purpose for which a primer is used	C	PP	To make absorbabilty of a plasterboard and “mud” uniform.

Testing Procedure

Instructions for the teacher

1. Together with your students establish a test-date at least a week in advance.
2. Discuss with students the aim of testing and assessment.
3. Familiarize students with types of tasks included in the test and with the rules of awarding points.
4. Conduct a mock test in which students will be asked to provide answers to the task types as the ones included in a real test.
5. Discuss with students the way in which answers shall be given (answer sheet).
6. Ensure conditions for students independent work.
7. Distribute sets of test tasks and answer sheets to students, inform them about the time limit for doing the test.
8. Create proper atmosphere during the whole test (relieve tension, encourage for checking one's potential).
9. A few minutes before the end of the test, remind students of the time left for the test completion.
10. Collect answer sheets and test sheets.
11. Check the results and enter them into a report sheet.
12. Analyze the results obtained and choose these tasks which posed most difficulty to students.
13. Establish the reasons why students had problems to acquire the knowledge and skills.
14. Work out conclusions for further work in order to avoid teaching failures – unsatisfactory results of the test conducted.

Instructions for students

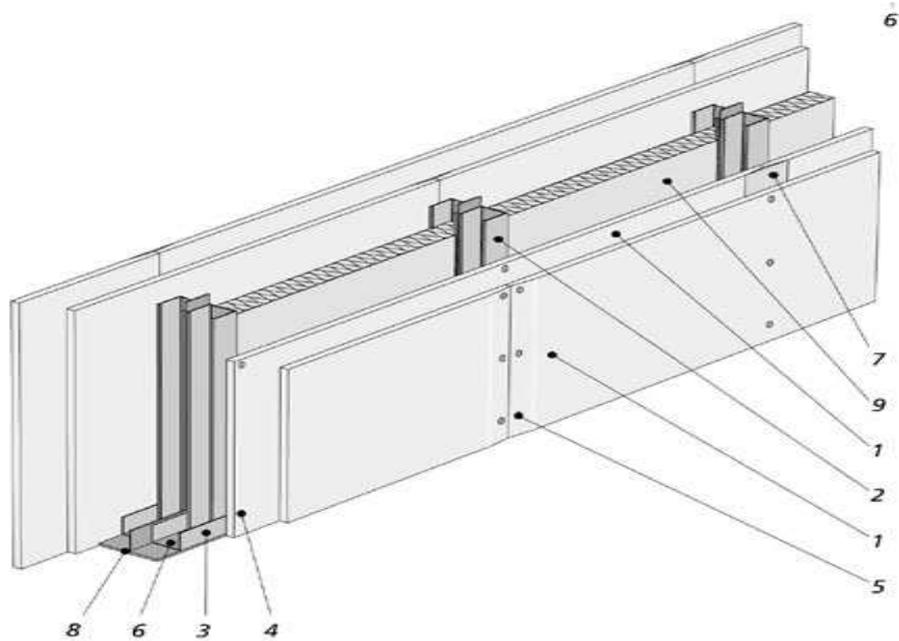
1. Read the instruction carefully.
2. Sign the answer sheet with your name and surname.
3. Get familiar with test tasks.
4. The test consists of 20 tasks of different difficulty levels. It includes tasks of the following types: open, gap-fill, multiple-choice and True/False.
5. Give your answers on the enclosed answer sheet only. Put a cross (X) in the appropriate column or write the correct answer. If you make a mistake, put a circle around the incorrect answer and then put a cross (X) next to the correct answer.
6. The test consists of 2 parts containing tasks of different difficulty levels: tasks 1, 2, 4, 5, 6, 8, 9, 10, 13, 14, 16, 17, 18, 19 – represent the basic level, whereas tasks: 3, 7, 11, 12, 15, 20 – represent the above-basic level.
7. Work on your own because only then you will get satisfaction of completing the task.
8. When you find answering a question difficult, leave it for a later time and return to it when you have time.
9. You have 90 minutes to complete the test.

Good luck !

Resources for a student:

- instructions,
- set of test tasks,
- answer sheet.

8. Identify the partition wall system depicted in the picture below:



- a) double structure with a two-sided two-layer plasterboard lining,
 - b) wall with cavities for service line installation,
 - c) single structure with a two-sided two-layer plasterboard lining,
 - d) regular plasterboard wall.
9. Identify the wall heights for the below described structures:
- a) of single structure with a two-sided two-layer plasterboard lining -,
 - b) of double structure with a two-sided two-layer plasterboard lining -.....,
10. While attaching many layers of plasterboards, one must apply a vertical shift (offset) of edges:
- a) by any distance,
 - b) by 0 cm,
 - c) by ca. 60 cm,
 - d) by $\frac{1}{4}$ of the plasterboard's width.
11. Draw correct fixing of plasterboards to the grid.

12. Draw a cross-section of a partition wall with cavities for service lines and identify its characteristic elements:

.....,
.....,
.....,
.....
.....

13. While assembling sanitary fittings and equipment on the plasterboard partition wall, one should:

- a) additionally reinforce the wall with plasterboards,
- b) additionally reinforce the wall with profiles,
- c) apply special assembly frames,
- d) make the fragment of the wall of other materials.

14. Identify the basic “disappearing works” in the partition wall assembly:

- a).....,
- b).....,
- c).....,
- d).....

15. To make arc-shaped walls of plasterboards, the best policy is to use:

- a) all types of plasterboards,
- b) plasterboards of 12.5 mm in thickness,
- c) special plasterboards, 6 mm thick and reinforced with glass fibre,
- d) special curved-line boards.

16. To finish external and internal angles, one uses:

- a) paper tapes for both types of angles,
- b) for internal angles taping is optional,
- c) paper tapes for internal angles, aluminium tapes for external angles,
- d) aluminium tapes only.

17. The correct position of screw heads in relation to the surface should be as follows:

- a) at the level of the surface,
- b) 0.5 mm below the surface,
- c) 0.5 -1.0 mm below the surface,
- d) at least 1 mm below the surface.

18. How many times and in what cycles do we cover screw heads with “mud”/joint compound?

- a) once, at final sanding,
- b) twice: when joints are sanded and then at final sanding,
- c) once, when joints are sanded,
- d) it depends how deep the screw heads are.

19. Identify the sequence of activities when boards are cut to size:

- a)
- b)
- c)

20. What is the purpose of using the primer:

.....,
.....,

ANSWER SHEET

Name and surname

Installation of partition wall systems

Mark the correct answer, write in a missing phrase or an answer.

Question number	Answers				Points scored
	a	b	c	d	
1	a	b	c	d	
2	a		b		
3					
4	a	b	c	d	
5	a	b	c	d	
6					
7	a	b	c	d	
8	a	b	c	d	
9	a		b		
10	a	b	c	d	
11					
12					
13	a	b	c	d	
14	a	b	c	d	
15	a	b	c	d	
16	a	b	c	d	

17	a	b	c	d	
18	a	b	c	d	
19					
20					
Total					

7. BIBLIOGRAPHY

1. Baranowicz W.: Wytyczne w zakresie ochrony przeciwpożarowej oraz wzór instrukcji bezpieczeństwa pożarowego dla obiektów szkół. MEN, Warszawa 1997
2. Specialist magazines of companies specializing in Drywall systems.
3. Jerzak M.: Bezpieczeństwo i higiena pracy w budownictwie. PWN, Warszawa 1980
4. Ketler K.: Murarstwo, cz. 2, REA, Warszawa 2002
5. Labour Code (currently binding)
6. Mac S., Leowski J.: Bezpieczeństwo i Higiena Pracy. Podręcznik dla szkół zasadniczych. WSiP, Warszawa 1999
7. Maj T.: Organizacja Budowy. WSiP, Warszawa 2009
8. Martinek W., Szymański E.: Murarstwo i tynkarstwo. WSiP, Warszawa 1999
9. Popek M., Wapińska B.: Podstawy budownictwa. WSiP, Warszawa 2009
10. Poradnik majstra budowlanego. Praca zbiorowa. Arkady, Warszawa 1997
11. Regulation of the Minister of Building and Building Materials of 28.03.1972 on occupational safety and work hygiene at building, assembly and dismantling works (Journal of Laws, No 13, item. 93)
12. Regulation of the Minister of Labor and Social Policy of 26.09.1997 on general safety and hygiene at work. Journal of Laws no 129, item 844
13. Regulation of the Minister for Internal Affairs of 3.11.1992 concerning fire-protection of buildings and other building structures and areas. Journal of Laws No. 92, item 460; Journal of Laws No 102/95, item 507
14. Regulation of the Council of Ministers of 28.07.1998r. on the definition of the circumstances and reasons for accidents at work and the method of documenting them, as well as the scope of information included in the register of accidents at work . Journal of Laws no 115, item 744
15. Szymański E., Wrześniowski Z.: Materiały budowlane. WSiP, Warszawa 1997
16. Szymański E.: Materiałoznawstwo budowlane. WSiP, Warszawa 1999
17. Wasilewski Z.: BHP na placu budowy. Arkady, Warszawa 1989
18. Wojewoda K.: Magazynowanie, składowanie i transportowanie materiałów budowlanych. Zeszyt 3. Podręcznik dla ucznia. REA, Warszawa 1999
19. Wolski Z.: Roboty podłogowe i okładzinowe, WSiP, Warszawa 1998
20. Zastosowanie płyt kartonowo-gipsowych w budownictwie, materiał instruktażowy dla szkół budowlanych, Polskie Stowarzyszenie Gipsu, Warszawa 2004

Bibliography should be updated as new publications appear on the market.