
CLASSIFICATION OF THE FIRE RESISTANCE ACCORDING TO PN-EN 13501-2:2016-07

Sponsor: Norgips Sp. z o.o.

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**Notified Body
No.** Not applicable

Name of the product: **Non-loadbearing wall
SD-2x12,5 GKB A + GKF DF/CW 50 W 50**

Classification report no.: 004.BO.20.K

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1. Introduction

This classification report defines the resistance to fire classification assigned to element non-loadbearing wall SD-2x12,5 GKB A + GKF DF/CW 50 W 50 in accordance with the procedures given in PN-EN 13501-2:2016-07.

2. Details of classified product

2.1. General

The element non-loadbearing wall SD-2x12,5 GKB A + GKF DF/CW 50 W 50 is defined as a type of product in accordance with EAD 210005-00-0505 (March 2019) entitled „Internal partition kits for use as non-loadbearing walls“.

2.2. Description

Test product was non-loadbearing wall SD-2x12,5 GKB A + GKF DF/CW 50 W 50 with following construction:

- perimeter framing horizontal: Norgips Super System UW 50 steel profiles (steel thickness: 0,6 mm),
- perimeter framing vertical: Norgips Super System CW 50 steel profiles (steel thickness: 0,6 mm),
- studs: Norgips Super System CW 50 steel profiles (steel thickness: 0,6 mm)
- lining (first layer): type A plasterboards Norgips GKB with thickness of 12,5 mm,
- lining (second layer): type DF plasterboards Norgips GKF with thickness of 12,5 mm,
- fixings: first layer of plasterboards is fixed with screws Norgips WFM $\varnothing 3,5 \times 25$ mm at a pitch of 75 cm; second layer of plasterboards is fixed with screws Norgips WFM $\varnothing 3,5 \times 35$ mm at a pitch of 25 cm,
- wall filling (insulation): mineral wool Isover Aku-Płyta with thickness of 50 mm.

Full description of product is presented in test report listed in point 3.1 below.

The structural details of the wall are shown in figures 1 to 6.

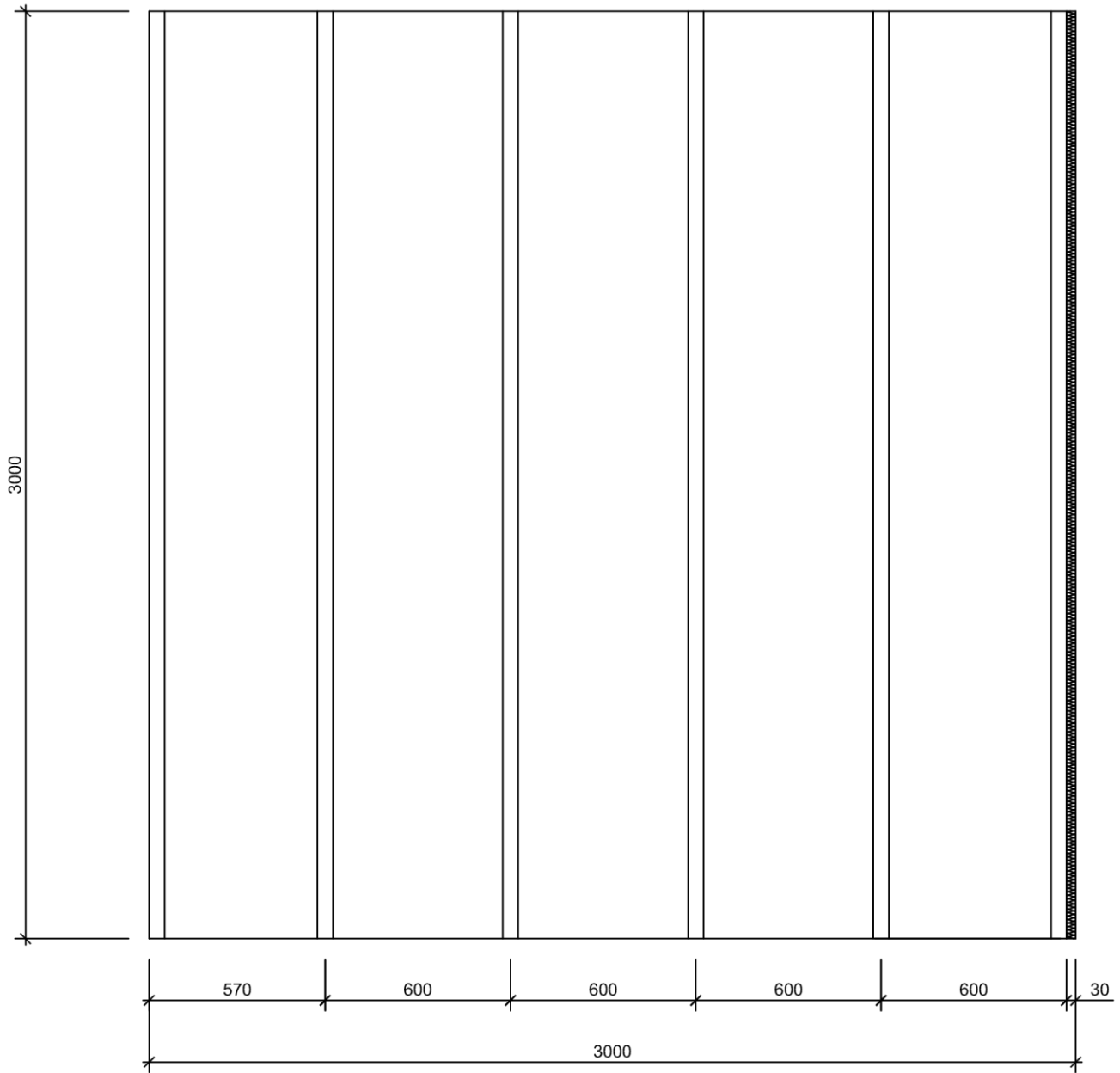


Fig. 1. Arrangement of steel profiles - view from the heated side.

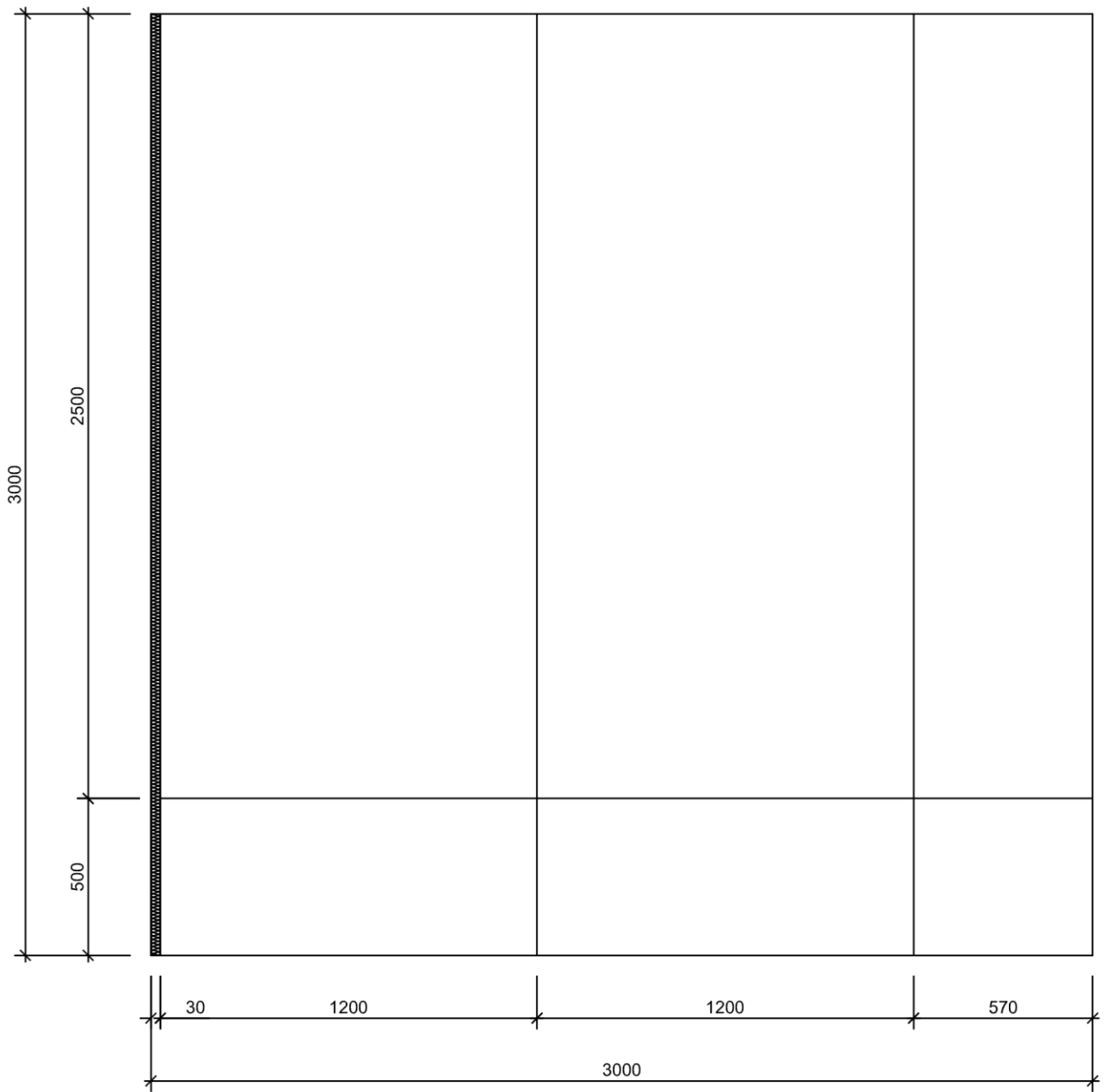


Fig. 2. Arrangement of the 1st layer (inner layer) of plasterboards from the unexposed side.

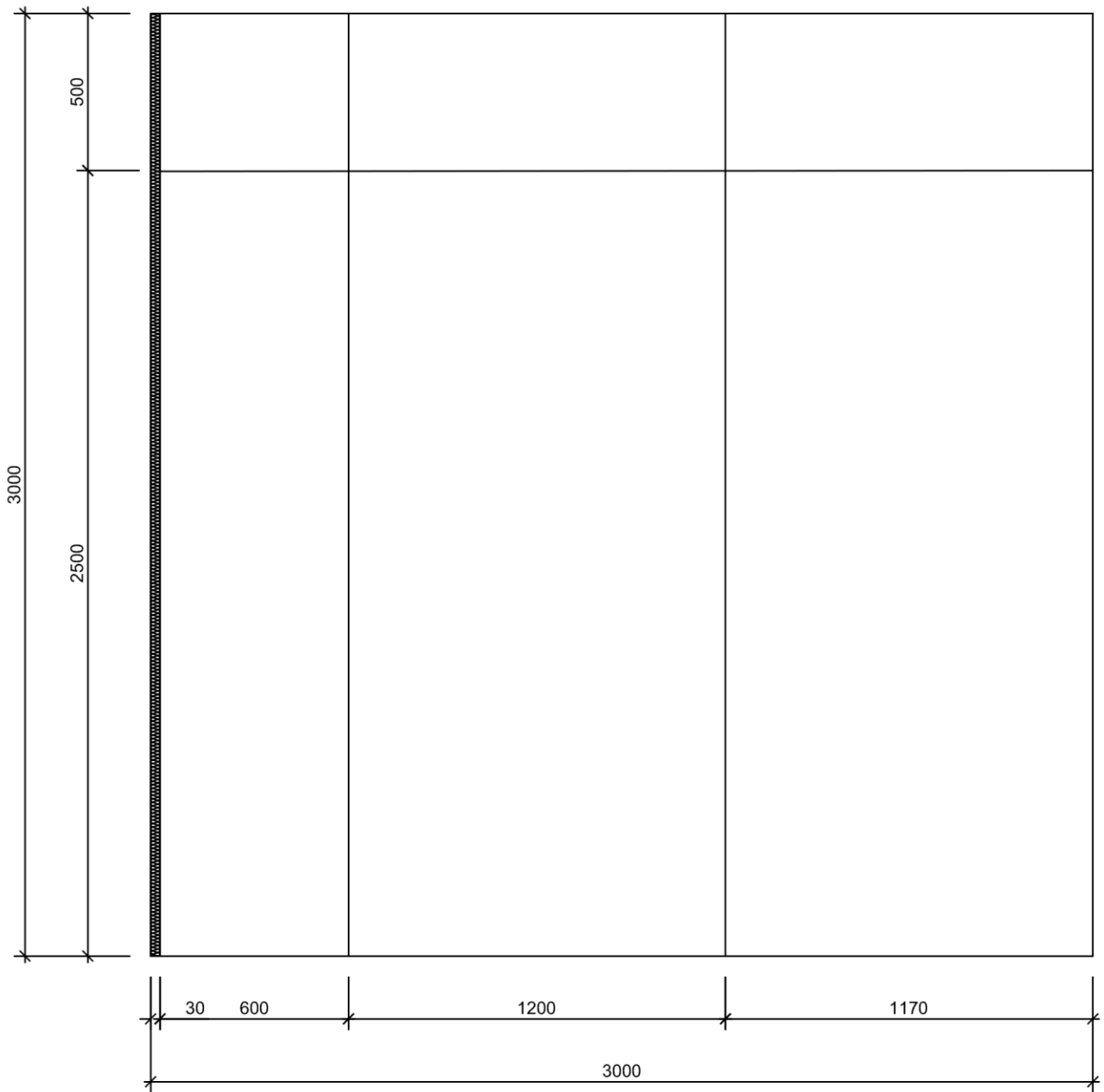


Fig. 3. Arrangement of the 2nd layer (outer layer) of plasterboards from the unexposed side.

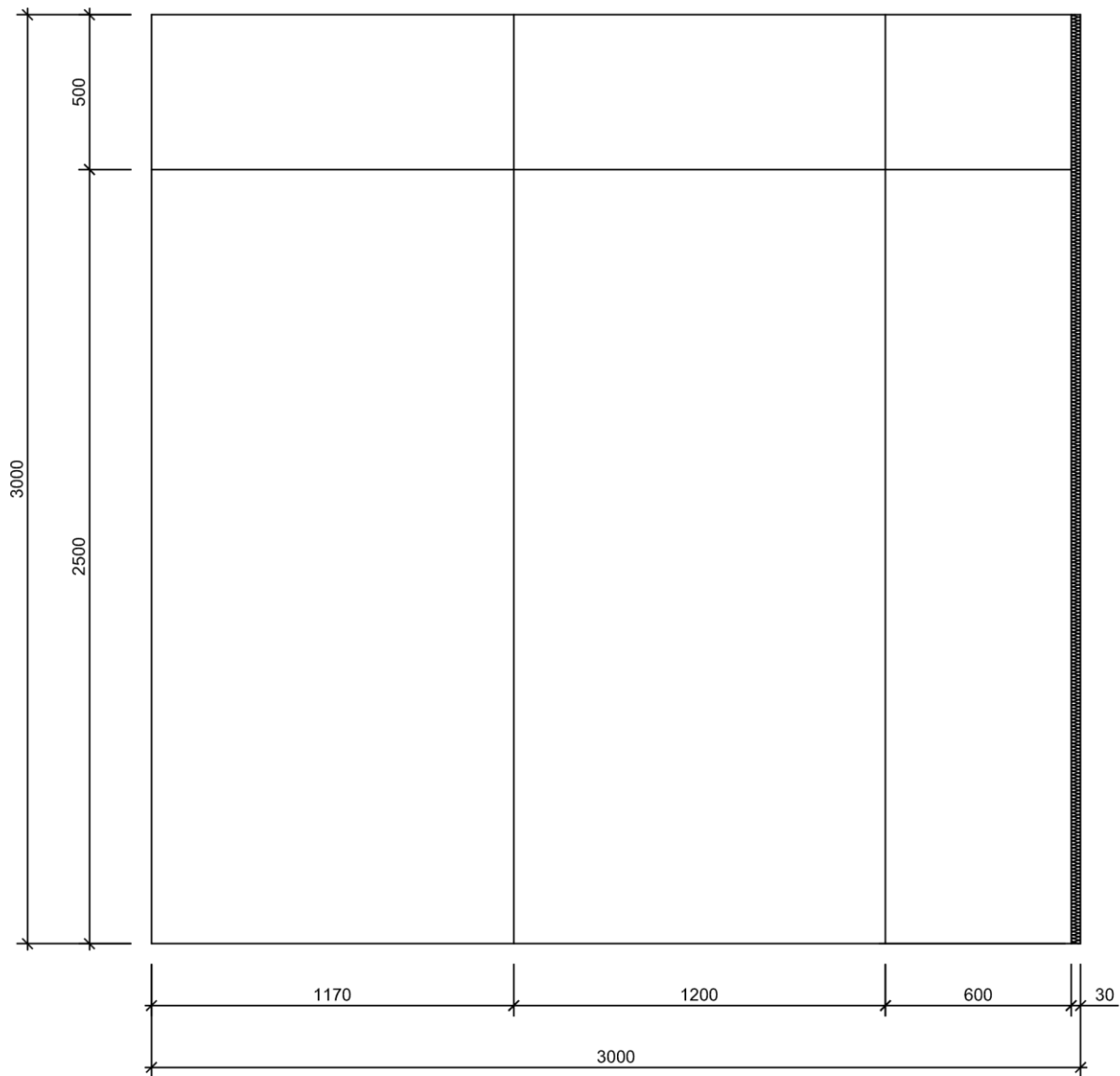


Fig. 4. Arrangement of the 1st layer (inner layer) of plasterboards from the exposed side.

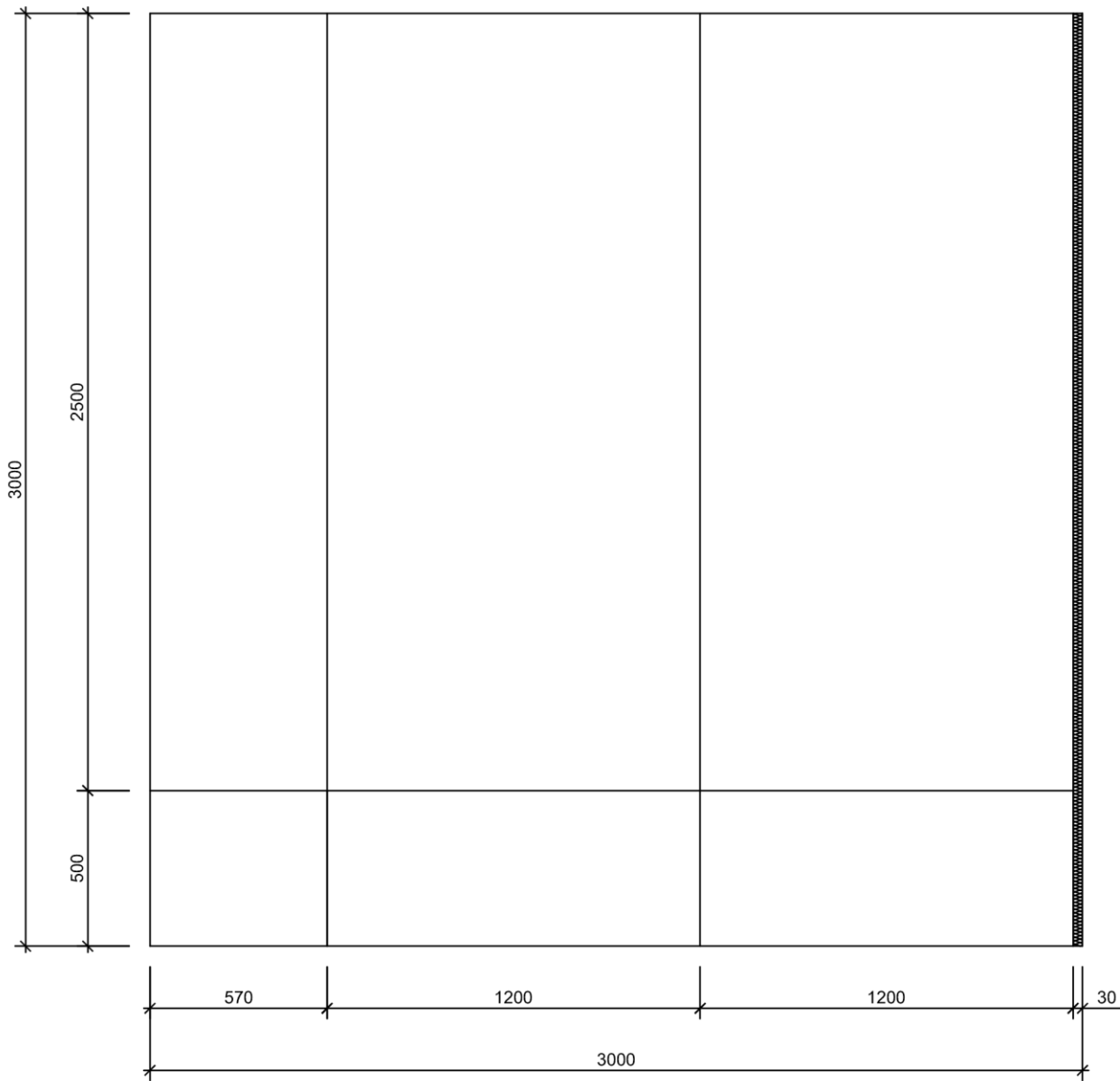
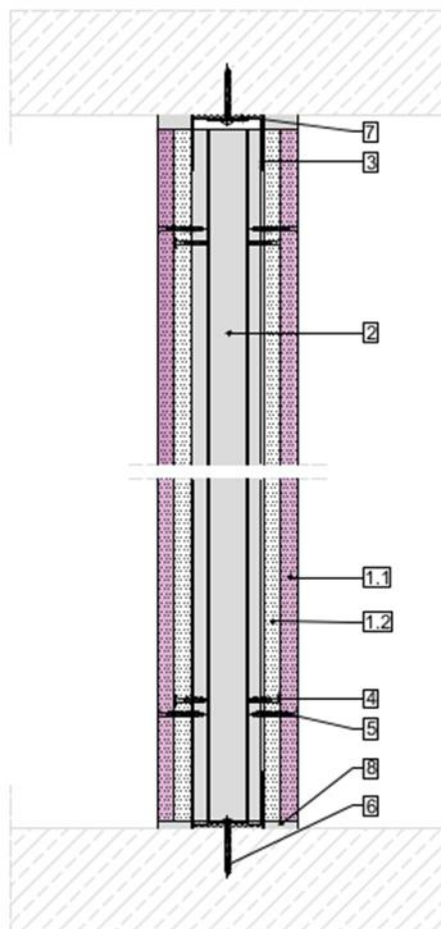
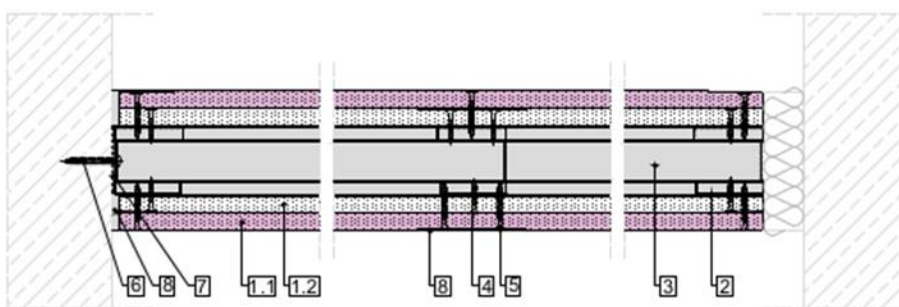


Fig. 5. Arrangement of the 2nd layer (outer layer) of plasterboards from the exposed side.



Vertical section

1. Lining
 - 1.1. type DF plasterboards Norgips GKF with thickness of 12,5 mm
 - 1.2. type A plasterboards Norgips GKB with thickness of 12,5 mm
2. Norgips Super System CW 50 steel profiles (steel thickness: 0,6 mm)
3. Norgips Super System UW 50 steel profiles (steel thickness: 0,6 mm),
4. Norgips WFM $\varnothing 3,5 \times 25$ mm at a pitch of 75 cm
5. Norgips WFM $\varnothing 3,5 \times 35$ mm at a pitch of 25 cm
6. Screw anchors at a pitch of 80cm
7. NORGIPS sealing tape, 50 mm wide
8. NORGIPS Start or NORGIPS Super Filler gypsum putty reinforced with reinforcing tape



Horizontal section

Fig. 6. Vertical and horizontal section of the wall.

3. Test reports/extended application reports and test results in support of the classification

3.1. Test reports/extended application reports

Name of laboratory	Name of sponsor	Report ref. no	Test standard and date/field of extended application standards and dates
<p>Łukasiewicz Research Network - Institute of Ceramics and Building Materials,</p> <p>Division of Glass and Building Materials in Cracow,</p> <p>Department of Glass Technology</p> <p>ul. Lipowa 3, 30-702 Cracow (Poland)</p>	<p>Norgips Sp. z o.o.</p> <p>ul. Raclawicka 93, 02-634 Warszawa</p>	<p>Test Report No. 009.BO.20.AK</p>	<p>PN-EN 1364-1:2015-08 Date of test: 13-10-2020 Issue date: 10-11-2020</p>
<p>Łukasiewicz Research Network - Institute of Ceramics and Building Materials,</p> <p>Division of Glass and Building Materials in Cracow,</p> <p>Department of Glass Technology</p> <p>ul. Lipowa 3, 30-702 Cracow (Poland)</p>	<p>Norgips Sp. z o.o.</p> <p>ul. Raclawicka 93, 02-634 Warszawa</p>	<p>Extended Application Report No. 002.BO.20.EA</p>	<p>PN-EN 15254-3:2019-12 “Extended application of results from fire resistance tests – Non-loadbearing walls – Part 3: Lightweight partitions”.</p> <p>Issue date: 13-11-2020</p>

3.2. Results

Test method, number and date	Parameter	Results	
PN-EN 1364-1:2015-08 Test Report No. 009.BO.20.AK Date of test: 13-10-2020	supporting construction	Test specimen was made in a steel test frame and was attached to a fixing structure made of 24 cm thick cellular concrete blocks with a density of 600 kg/m ³ on two edges, through Norgips Super System UW 50 steel profiles (horizontal edges), Norgips Super System CW 50 (edges vertical), and to the upper reinforced concrete beam with a width of 24 cm and a density of 2450 kg/m ³ using WTZ screws ø8x50 mm at a pitch of 80 cm. The free edge - the gap between the non-fastened edge of the wall and the vertical part of the fixing structure is filled with 30 mm Knauf HD 30 mm mineral wool boards, 30 mm thick.	
	test specimen	Non-loadbearing wall SD-2x12,5 GKB A + GKF DF/CW 50 W 50 Test specimen height: 3000 mm Test specimen width: 3000 mm with free edge	
	integrity	- cotton pad ignition - gap gauges - sustained flaming	No failure 116 minutes No failure 116 minutes No failure 116 minutes
	thermal insulation	- The average temperature increase above the initial average temperature by more than 140 K - The average temperature increase above the initial average temperature by more than 180 K	No failure 116 minutes 106 minutes
	deflection		deflection "100 mm" was reached after 80 minutes of test (107 mm) maximum deflection was 120 mm

4. Classification and field of application

4.1. Reference of classification

The classification has been carried out in accordance with Clause 7 of PN-EN 13501-2:2016-07.

4.2. Classification

The element non-loadbearing wall W118 with burglary protection RC3 is classified according to the example of the following combinations of performance parameters and classes as appropriate.

R	E	I	W		t	t	-		M	S	C	IncSlow	sn	ef	r	G	K
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Fire resistance classification:

EI 15 | EI 30 | EI 45 | EI 60

EI 90

4.3. Field of application

The classification is valid for the following end use applications in accordance with standard PN-EN 1364-1:2015-08 and PN-EN 15254-3:2019-12 "Extended application of results from fire resistance tests – Non-loadbearing walls – Part 3: Lightweight partitions".

The results of the fire test are directly applicable to similar constructions where one or more of the changes listed below are made and the construction continues to comply with the appropriate design code for its stiffness and stability.

Parameter	Permitted changes	Rule
Increase of wall height*	Maximum height of wall for partitions with fire resistance classification EI 15, EI 30: 12 m	EXAP § 6.4.1
<i>* the maximum extended height shall be lower than or equal to the maximum allowed height in ambient conditions declared by the manufacturer.</i>	Maximum height of wall for partitions with fire resistance classification EI 45, EI 60: 5 m (expansion allowances are increased pro rata) 6 m (expansion allowances are increased pro rata and increase the thickness of the lining at each side with a minimum of 50% by adding supplementary layer(s) of the tested boards or by increasing the thickness of the tested boards)	
	Maximum height of wall for partitions with fire resistance classification EI 90: No possibility of increasing wall height	
Wall width	Reducing and increasing the width of the wall without limitation.	EXAP § 6.4.2
Wall thickness	No possibility of reducing wall thickness. Increasing wall thickness without limitation.	PN-EN 1364-1
Exchange of linings	Exchange (replacement) is not allowed.	EXAP § 6.1.1
Plasterboards thickness	No possibility of reducing plasterboards thickness of less than 12,5 mm. Increasing plasterboards thickness without limitation.	PN-EN 1364-1
Plasterboards dimensions	A decrease of the dimensions of the tested boards is always permitted on the condition that the position of the joints of the boards located at the studs has not changed. An increase of the dimensions of the tested boards is permitted up to 25% in length (up to 3125 mm) and 5% in width (up to 1260 mm) on the condition that the position of the joints of the boards located at the studs has not changed.	EXAP § 6.1.3

Parameter	Permitted changes	Rule
Increase/decrease of the number of layers of boards	<p>An increase of the number of layers of tested boards is permitted on the condition that the length of the fixings are increased in function of the total thickness of the tested lining.</p> <p>An increase of the number of layers of the tested boards combining a decrease of the thickness of the individual tested boards is only permitted if all the following conditions are fulfilled:</p> <ul style="list-style-type: none"> - the density shall be at least the density of the tested board (minimum 568 kg/m³ for type A Norgips GKB plasterboards, minimum 808 kg/m³ for type DF Norgips GKF plasterboards); - the thickness of an individual board is decreased with a maximum of 25% (9,38 mm is the minimum thickness that can be used for type A Norgips GKB or type DF Norgips GKF plasterboards); - the total thickness of the lining is increased with a minimum of 10% (minimum total thickness of lining is 27,5 mm); - the length of the fixings is increased in function of the total thickness of the lining. <p>A decrease of the number of layers of the tested boards is not permitted.</p>	EXAP § 6.1.2
Change in board orientation	Lightweight partition is limited to the vertical boards orientation.	EXAP § 6.1.4
Change of position of layers of the boards	The position of the layers of boards cannot be changed.	EXAP § 6.1.5
Change in shape of the steel profiles	A change in shape of the steel profiles is not permitted.	EXAP § 6.2.2
Increase/decrease of the nominal thickness of the steel profiles	<p>The nominal thickness of steel profiles can be increased without limitations.</p> <p>A decrease is not permitted.</p>	EXAP §6.2.3
Increase/decrease of the nominal steel profiles depth (web)	<p>The nominal steel profile depth can be decreased within a 10% margin (minimum allowable depth is 45 mm) on the condition that the shape of the steel profile has not changed. The thickness of the insulation material may also be decreased pro rata.</p> <p>The nominal steel profile depth can be increased without limitations on the condition that the shape of the steel profile has not changed. The thickness of the insulation material may be increased pro rata but in any way the insulation material shall be supported as tested.</p>	EXAP §6.2.4
Increase/decrease of the nominal steel profiles width (flange)	<p>The nominal steel profile width onto which the lining is fixed can be increased without limitations on the condition that the shape of the steel profile has not changed.</p> <p>A decrease is not permitted.</p>	EXAP §6.2.5

Parameter	Permitted changes	Rule
Stud spacing	An increase in the stud spacing (i.e. centre distance between studs) is permitted up to 5% (permitted up to 630 mm) on the condition that the vertical joints of the boards are located at the studs. A decrease in the stud spacing is always permitted.	EXAP § 6.2.6
Removal of mineral wool	The removal of a mineral wool of a tested insulated lightweight partition is not permitted.	EXAP §6.3.3
Exchange of mineral wool	The exchange (replacement) of stone wool by glass wool is not permitted. The rules for density and thickness mentioned in the relevant clauses also apply on the stone wool.	EXAP §6.3.4
Increase/decrease of the tested density of the mineral wool	Any increase of the tested density of the tested mineral wool insulation is permitted. A decrease of the tested density of the tested mineral wool insulation is permitted within a 10% margin (minimum permitted density is 13,2 kg / m ³).	EXAP §6.3.5
Increase/decrease of the thickness of the mineral wool	An increase of the thickness of the tested mineral wool insulation is permitted. A decrease of the thickness of the tested mineral wool insulation is permitted within a 10% margin (minimum allowable wool thickness is 45 mm)	EXAP §6.3.6
Distance of fixing centres	Decrease in distance of fixing centres without limitation. No possibility of increasing distance of fixing centres.	PN-EN 1364-1
Number of horizontal joints	Any number of horizontal joints.	PN-EN 1364-1
Number of vertical joints	Any number of vertical joints.	PN-EN 1364-1

5. Limitations

This classification document does not represent type approval or certification of the product.

SIGNED

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APPROVED

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