



**GROUP OF TESTING LABORATORIES  
GRYFITLAB**

ul. Prosta 2, Łozienica, 72-100 Goleniów  
tel. (091) 431 82 29, fax (091) 418 97 57, mobile:+48 607-900-480  
[www.gryfitlab.com](http://www.gryfitlab.com), e-mail: [contact@gryfitlab.com](mailto:contact@gryfitlab.com)

**Fire resistance classification No. LBO – 057 – KZ/25E**

Classified product:

**Non-loadbearing walls – casings of risers and lift shafts  
Norgips, one-sided cladded  
with gypsum plasterboards  
Norgips GKF type DF or Norgips GKFI type DFH2**

**Sponsor:**

Norgips Sp. z o.o.  
ul. Krakowiaków 50  
02-255 Warszawa

**Prepared by:**

Group of Testing Laboratories Gryfitlab  
ul. Prosta 2, Łozienica  
72-100 Goleniów

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GRYFITLAB Sp. z o.o. - ul. Prosta 2, Łozienica - 72-100 Goleniów - Polska - tel.: (48) 91 431 82 45 - fax.: (48) 91 431 82 46

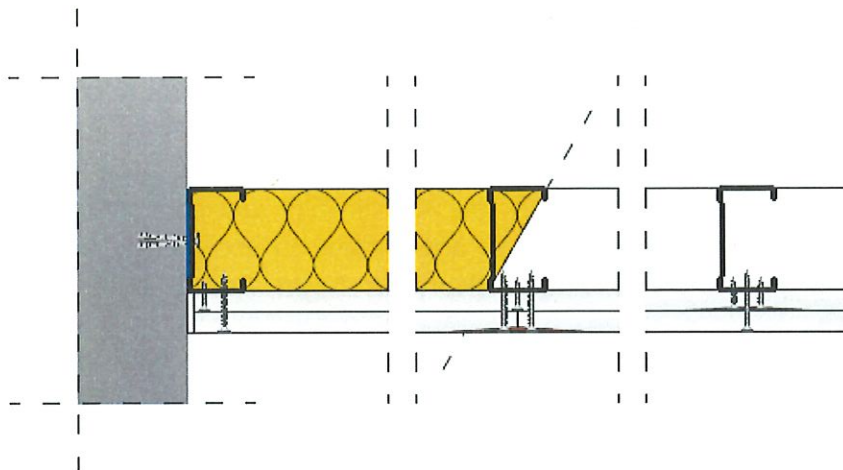
NIP 955-21-28-725, KRS:0000236527, Sąd Rejonowy w Szczecinie, XVII Wydział Gospodarczy KRS, Kapitał zakładowy 1 200 000 PLN

**1. This classification has been prepared based on the following documents:**

- 1.1. Standard PN-EN 1364-1:2015-08 Fire resistance tests for non-loadbearing elements – Part 1: Walls.
- 1.2. Standard PN-EN 1363-1:2020-07 Fire resistance tests – Part 1: General requirements.
- 1.3. Standard PN-EN 13501-2: 2023-09 Fire classification of construction products and building elements – Part 2: Classification using data from fire resistance tests, excluding ventilation services.
- 1.4. Standard PN-EN 13279-1:2009 Gypsum binders and gypsum plasters – Part 1: Definitions and requirements.
- 1.5. Standard PN-EN 13963:2014-10 Jointing materials for gypsum boards – Definitions, requirements and test methods.
- 1.6. Standard PN-EN 14566+A1:2012. Mechanical fasteners for gypsum plasterboard systems – Definitions, requirements and test methods.
- 1.7. Standard PN-EN 14195:2015-02 Metal framing components for gypsum board systems – Definitions, requirements and test methods.
- 1.8. Report LPP01-6041/13/R09 Casing of risers SO-2x15 GKF DF/CW 50, non-loadbearing partition wall one-sided cladded with 2 x 15 mm thick gypsum plasterboards Norgips S GKF type DF with the framework made of system steel profiles CW 50 and UW 50. Fire Tests Laboratory of the Building Research Institute (Instytut Techniki Budowlanej), Warsaw 2013.
- 1.9. Report LPP02-6041/13/R09 Casing of risers SO-2x15 GKF DF/CW 50, non-loadbearing partition wall one-sided cladded with 2 x 15 mm thick gypsum plasterboards Norgips S GKF type DF with the framework made of system steel profiles CW 50 and UW 50. Fire Tests Laboratory of the Building Research Institute (Instytut Techniki Budowlanej), Warsaw 2013.
- 1.10. Standard PN-EN 520+A1:2012 Gypsum plasterboards – Definitions, requirements and test methods.
- 1.11. Standard PN-EN 10143:2006 Continuously hot-dip coated steel sheet and strip – Tolerances on dimensions and shape.
- 1.12. Technical documentation provided by Norgips Sp. z o.o.

**2. Technical description of the casing of risers and lift shafts**

- 2.1 **Casings of risers and lift shafts (curtain walls) SO-2x15 GKF DF/CW 50, SO-2x15 GKF DF/CW 75, SO-2x15 GKF DF/CW 100, SO - 2x15 GKF DF/VP 66, SO - 2x15 GKF DF/VP 70, SO - 2x15 GKF DF/VP 95, SO - 2x15 GKF DF/VP 120 cladded with 2 x 15 mm thick gypsum plasterboards Norgips GKF type DF and SO-2x15 GKFI DFH2/CW 50, SO-2x15 GKFI DFH2/CW 75, SO-2x15 GKFI DFH2/CW 100, SO - 2x15 GKFI DFH2/VP 66, SO - 2x15 GKFI DFH2/VP 70, SO - 2x15 GKFI DFH2/VP 95, SO - 2x15 GKFI DFH2/VP 120 cladded with 2 x 15 mm thick gypsum plasterboards Norgips GKFI type DFH2, with the framework made of profiles CW or VP and UW or HP.**



The construction of the curtain walls is made of e.g. Norgips profiles **CW 50 and UW 50, CW 75, UW 75, CW 100 and UW 100, VP 66 and HP 66, VP 70 and HP 70, VP 95 and HP 95, VP 120 and HP 120**. The profiles are made of cold bent galvanized steel; the nominal thickness of the steel used is 0.55 mm (tolerance: +/- 0.07 mm) or 0.6 mm (tolerance: +/- 0.07 mm).

Along the perimeter of the curtain wall (on the vertical and horizontal connections with the construction of the building) profiles **UW 50, UW 75, UW 100, HP 66, HP 70, HP 95, HP 120** are fixed to the ceiling and floor, while profiles **CW 50, CW 75, CW 100, VP 66, VP 70, VP 95, VP 120** are fixed to the side walls. 3 mm thick e.g. Norgips polyethylene system sealing tape is placed between the perimeter profiles and the ceiling, floor and side walls. The profiles are fixed to the ceiling, floor and side walls by means of mechanical connectors made of steel and placed maximally every 80 cm. The type, diameter and length of the connectors depend on the material the profiles are fixed into. If the profiles are fixed into concrete, aerated concrete, ceramic or silicates then relevant wall plugs, at least  $\text{Ø}6 \times 40$  mm, are used. If the profiles are fixed into wood then relevant screws for wood, at least  $\text{Ø}4 \times 40$  mm, are used. If the profiles are fixed into steel then self-drilling screws for steel are used. Profiles **CW 50, CW 75, CW 100, VP 66, VP 70, VP 95, VP 120** (hereafter referred to as posts) are positioned vertically and slid between the top and bottom shelves of, respectively, profiles **UW 50, UW 75, UW 100, HP 66, HP 70, HP 95, HP 120**.

The posts made of the CW profiles are placed maximally every 60 cm (or every 62.5 cm in case of 125 cm wide boards).

The cladding of this curtain wall is made of 2 x 15 mm thick gypsum plasterboards Norgips GKF type DF or Norgips GKFI type DFH2. The gypsum plasterboards are screwed to CW or VP profiles and bottom UW or HP profiles. The first layer of the boards is fixed by means of system screws e.g. Norgips  $\text{Ø}3.5 \times 25$  mm placed maximally every 75 cm, the second layer of the boards is fixed by means of system screws e.g. Norgips  $\text{Ø}3.5 \times 45$  mm placed maximally every 25 cm.

If there are horizontal joints on the surface of the curtain wall, between the adjacent boards of the first layer, they have to be shifted in relation to one another by at least 40 cm. The horizontal joints in the second layer of the boards have to be shifted in relation to the horizontal joints between the adjacent boards of the same layer by at least 40 cm, and they have to be shifted in relation to the horizontal joints in the first layer of the boards by at least 40 cm. The vertical joints between the boards in the second layer of the boards have to be shifted in relation to the vertical joints between the boards in the first layer of the boards by at least 30 cm; usually they are shifted by 60 cm (or

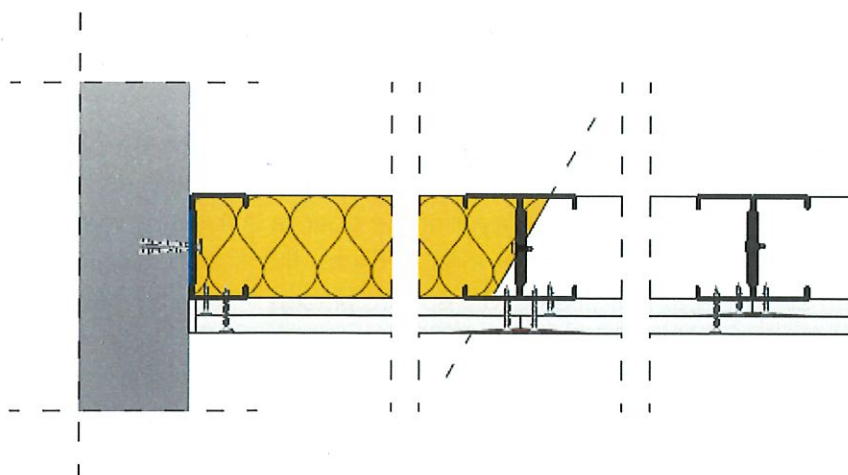
62.5 cm in case of 125 cm wide boards). Screw heads, the vertical and horizontal joints between both the layers of the gypsum plasterboards are covered with gypsum plaster jointing compound e.g. **Norgips Start, Norgips Super Filler** or **Norgips Start & Finish (Norgips Light Ready Mix)**. The joints between the gypsum plasterboards in the external layer should be strengthened with reinforcing tapes made of glass fibre (self-adhesive net or interfacing). For final covering of the joints between the gypsum plasterboards (Q2) and for thin film covering of the entire surfaces of the boards (Q3 and Q4) it is recommended to apply ready to use jointing compounds e.g. **Norgips Extra Finish, Norgips Start & Finish (Norgips Light Ready Mix), Norgips Easy Finish** or **Norgips Finish**.

To improve the acoustic insulation of the curtain wall, one can fill it with mineral rock or glass wool of the A1 class of reaction to fire.

Details of the construction of these curtain walls are presented in Figures 1 and 2.

In places where there is the constructional dilatation of the building and when the length of a straight (without dilatation) section of the curtain wall is more than 15 m one should apply dilatation (see Figures 4 and 5).

**2.2 Casings of risers and lift shafts (curtain walls) SO-2x15 GKF DF/CW 50 + CW 50, SO-2x15 GKF DF/CW 75 + CW 75, SO-2x15 GKF DF/CW 100 + CW 100, SO - 2x15 GKF DF/VP 66 + VP 66, SO - 2x15 GKF DF/VP 70 + VP 70, SO - 2x15 GKF DF/VP 95 + VP 95, SO - 2x15 GKF DF/VP 120 + VP 120 clad with 2 x 15 mm thick gypsum plasterboards Norgips GKF type DF and SO-2x15 GKFI DFH2/CW 50 + CW 50, SO-2x15 GKFI DFH2/CW 75 + CW 75, SO-2x15 GKFI DFH2/CW 100 + CW 100, SO - 2x15 GKFI DFH2/VP 66 + VP 66, SO - 2x15 GKFI DFH2/VP 70 + VP 70, SO - 2x15 GKFI DFH2/VP 95 + VP 95, SO - 2x15 GKFI DFH2/VP 120 + VP 120 clad with 2 x 15 mm thick gypsum plasterboards Norgips GKFI type DFH2, with the framework made of profiles CW or VP and UW or HP.**



The construction of the curtain walls is made of e.g. Norgips profiles **CW 50 and UW 50, CW 75, UW 75, CW 100 and UW 100, VP 66 and HP 66, VP 70 and HP 70, VP 95 and HP 95, VP 120 and HP 120**. The profiles are made of cold bent galvanized steel; the nominal thickness of the steel used is 0.55 mm (tolerance: +/- 0.07 mm) or 0.6 mm (tolerance: +/- 0.07 mm).

Along the perimeter of the curtain wall (on the vertical and horizontal connections with the construction of the building) profiles **UW 50, UW 75, UW 100, HP 66, HP 70, HP 95, HP 120** are fixed to the ceiling and floor, while profiles **CW 50, CW 75, CW 100, VP 66, VP 70, VP 95, VP 120** are fixed to the side walls. 3 mm thick e.g. Norgips polyethylene system sealing tape is placed between the perimeter profiles and the ceiling, floor and side walls. The profiles are fixed to the ceiling, floor and side walls by means of mechanical connectors made of steel and placed maximally every 80 cm. The type, diameter and length of the connectors depend on the material the profiles are fixed into. If the profiles are fixed into concrete, aerated concrete, ceramic or silicates then relevant wall plugs, at least  $\text{Ø}6 \times 40$  mm, are used. If the profiles are fixed into wood then relevant screws for wood, at least  $\text{Ø}4 \times 40$  mm, are used. If the profiles are fixed into steel then self-drilling screws for steel are used. Double profiles **CW 50, CW 75, CW 100, VP 66, VP 70, VP 95, VP 120** (hereafter referred to as posts) are positioned vertically and slid between the top and bottom shelves of, respectively, profiles **UW 50, UW 75, UW 100, HP 66, HP 70, HP 95, HP 120**.

The double CW or VP profiles are made from single profiles which were connected with one another at their webs by being screwed using system screws e.g. Norgips  $\text{Ø}3.5 \times 9.5$  mm or  $\text{Ø}3.9 \times 11$  mm with self-drilling endings placed at most every 40 cm. The posts made of the double CW or VP profiles are placed maximally every 60 cm (or every 62.5 cm in case of 125 cm wide boards).

The cladding of this curtain wall is made of 2 x 15 mm thick gypsum plasterboards Norgips GKF type DF or Norgips GKFI type DFH2. The gypsum plasterboards are screwed to CW or VP profiles and bottom UW or HP profiles. The first layer of the boards is fixed by means of system screws e.g. Norgips  $\text{Ø}3.5 \times 25$  mm placed maximally every 75 cm, the second layer of the boards is fixed by means of system screws e.g. Norgips  $\text{Ø}3.5 \times 45$  mm placed maximally every 25 cm.

If there are horizontal joints on the surface of the curtain wall, between the adjacent boards of the first layer, they have to be shifted in relation to one another by at least 40 cm. The horizontal joints in the second layer of the boards have to be shifted in relation to the horizontal joints between the adjacent boards of the same layer by at least 40 cm, and they have to be shifted in relation to the horizontal joints in the first layer of the boards by at least 40 cm. The vertical joints between the boards in the second layer of the boards have to be shifted in relation to the vertical joints between the boards in the first layer of the boards by at least 30 cm; usually they are shifted by 60 cm (or 62.5 cm in case of 125 cm wide boards). Screw heads, the vertical and horizontal joints between both the layers of the gypsum plasterboards are covered with gypsum plaster jointing compound e.g. **Norgips Start, Norgips Super Filler** or **Norgips Start & Finish (Norgips Light Ready Mix)**. The joints between the gypsum plasterboards in the external layer should be strengthened with reinforcing tapes made of glass fibre (self-adhesive net or interfacing). For final covering of the joints between the gypsum plasterboards (Q2) and for thin film covering of the entire surfaces of the boards (Q3 and Q4) it is recommended to apply ready to use jointing compounds e.g. **Norgips Extra Finish, Norgips Start & Finish (Norgips Light Ready Mix), Norgips Easy Finish** or **Norgips Finish**.

To improve the acoustic insulation of the curtain wall, one can fill it with mineral rock or glass wool of the A1 class of reaction to fire.

Details of the construction of these curtain walls are presented in Figure 3.

In places where there is the constructional dilatation of the building and when the length of a straight (without dilatation) section of the curtain wall is more than 15 m one should apply dilatation (see Figures 4 and 5).

### **3. Fire resistance test of the non-loadbearing partition wall with the cladding made of gypsum plasterboards manufactured by Norgips Sp. z o.o.**

Fire resistance tests of the casing of risers marked as SO-2x15 GKF DF/CW 50 which is a non-loadbearing partition wall one-sided cladded with 2 x 15 mm thick gypsum plasterboards Norgips S

GKF type DF with the framework made of system steel profiles CW 50 and UW 50, were carried out by the Fire Tests Laboratory of the Building Research Institute (Instytut Techniki Budowlanej).

Test reports: LPP01-6041/13/R09 [1.8], LPP02-6041/13/R09 [1.9].

### **4. Fire resistance classification of non-loadbearing partition walls**

Based on the analysis of the fire resistance test results indicated in item 3, the following products:

non-loadbearing walls - enclosures of installation and elevator shafts, with fire exposure from the shaft side (profiles) and with fire exposure from the room side (boards), with plasterboard facings from Norgips Sp. z o. o., prepared in accordance with the technical description presented in item 2, are classified:

- in accordance with standard PN-EN 13501-2:2023-09 [1.3] as belonging to the fire resistance classes indicated in Tables 1 ÷ 2, column 8, by the maximum heights specified in Tables 1 ÷ 2, column 9.
- in accordance with the criteria presented in standard PN-EN 13501-2:2023-09 [1.3] as belonging to the fire resistance classes indicated in Tables 1 ÷ 2, column 10, by the maximum heights specified in Tables 1 ÷ 2, column 11.

### **5. Non-loadbearing walls – casings of risers and lift shafts with the cladding made of gypsum plasterboards manufactured by Norgips Sp. z o.o., used as fire separation**

Non-loadbearing walls – casings of risers and lift shafts – prepared in accordance with the technical description presented in item 2 can be used as separation from fire meeting the **REI** fire resistance criteria if the following conditions are met:

- the walls are fixed to or placed on the construction meeting the criteria for a fire resistance class equal to or higher than the fire resistance class (EI) of the wall,
- the walls are not subjected to the mechanical load generated by the construction of the building,
- the walls are fixed to the elements of the building in accordance with the building project.

## 6. Validity

The classification presented in item 4 is valid until 24.09.2030 on the condition that there are no changes in the construction or materials of the classified products.

- Annex 1 – Drawings presenting the casings of risers and lift shafts – non-loadbearing partition walls Norgips with the cladding made of 2 x 15 mm thick gypsum plasterboards Norgips GKF type DF or Norgips GKFI type DFH2
- Annex 2 – Tables 1 - 2 presenting the technical data of the Norgips non-loadbearing partition walls, with the cladding made of gypsum plasterboards Norgips GKF type DF or Norgips GKFI type DFH2

Prezes Zarządu  
  
Andrzej Szarycki

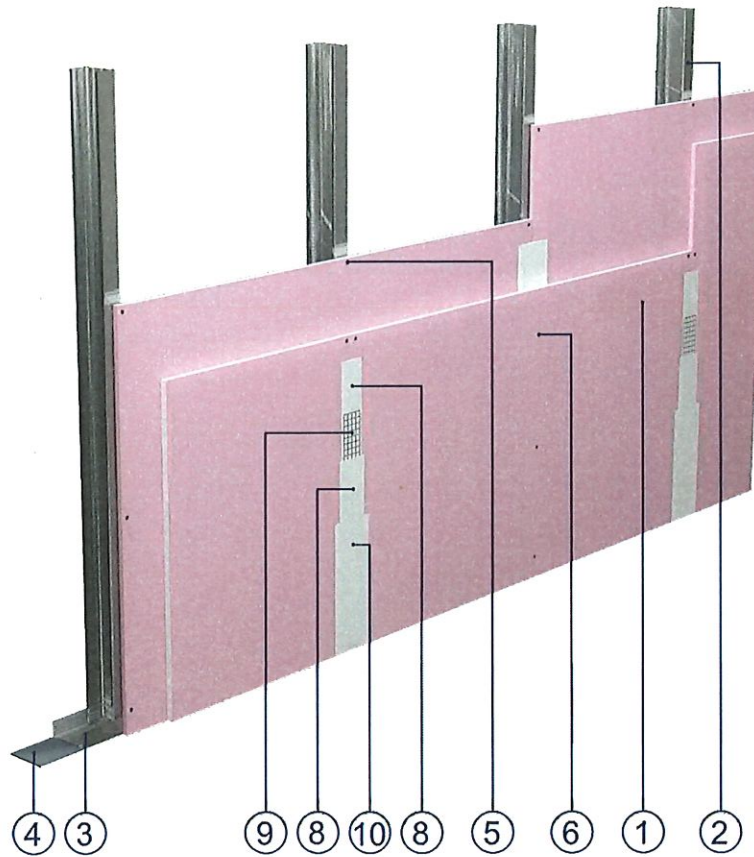
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72-100 GOLENIÓW

## **Classification No. LBO – 057 – KZ/25E**

### **Annex 1**

Drawings presenting the casings of risers and lift shafts –  
non-loadbearing partition walls Norgips with the cladding made of 2 x 15 mm  
thick gypsum plasterboards Norgips GKF type DF or Norgips GKFI type DFH2

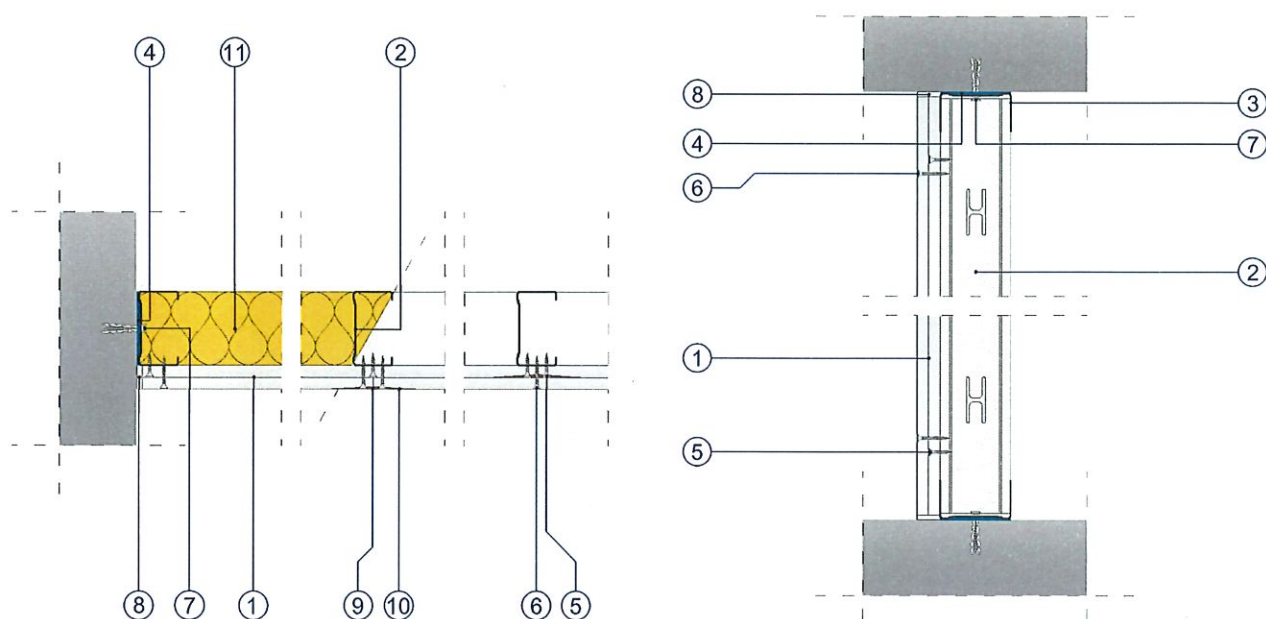
### Casings of risers and lift shafts (curtain walls)



#### Elements of the casing of risers and lift shafts

1. 2 x 15 mm thick gypsum plasterboards Norgips S GKF type DF or GKF1 type DFH2
2. Profiles e.g. Norgips CW or VP made of at least 0.55 mm thick steel sheet, placed maximally every 60 cm or 62.5 cm
3. Profiles e.g. Norgips UW or HP fixed to the horizontal loadbearing elements
4. Sealing tape e.g. Norgips
5. Screws e.g. Norgips 3.5 x 25 mm placed maximally every 75 cm
6. Screws e.g. Norgips 3.5 x 45 mm placed maximally every 25 cm
8. Gypsum plaster jointing compound e.g. Norgips Start, Norgips Super Filler or Norgips Start & Finish (Norgips Light Ready Mix)
9. Reinforcing tape e.g. Norgips
10. Ready to use filling mass e.g. Norgips Extra Finish, Norgips Start & Finish (Norgips Light Ready Mix), Norgips Easy Finish or Norgips Finish

Figure 1



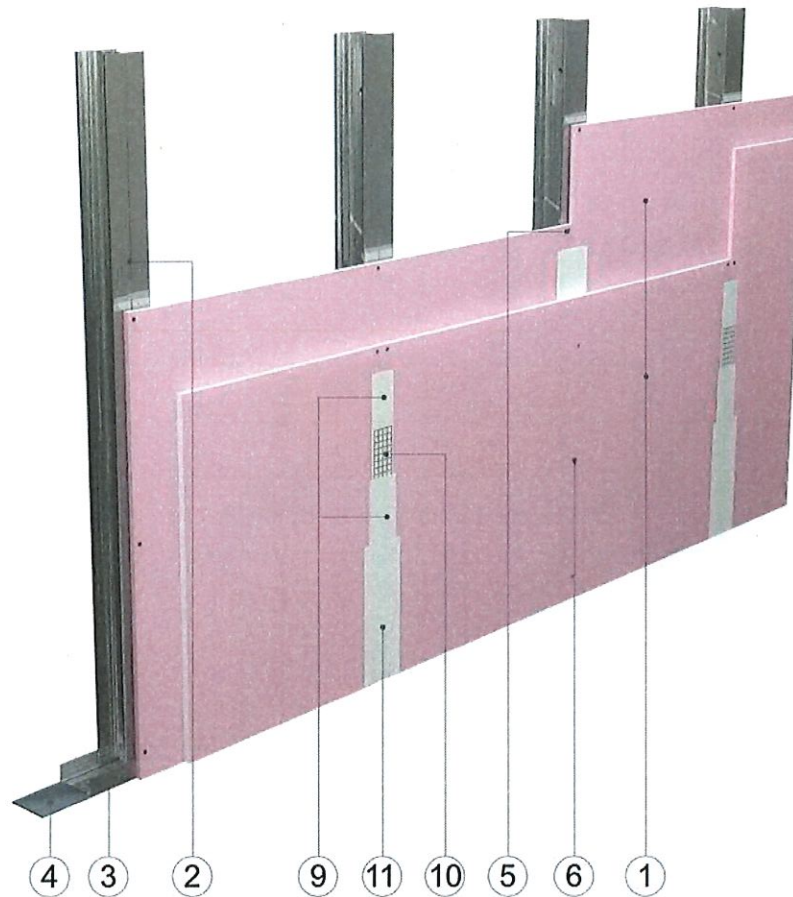
#### Elements of the casing of risers and lift shafts

1. 2 x 15 mm thick gypsum plasterboards Norgips S GKF type DF or GKFI type DFH2
2. Profiles e.g. Norgips CW or VP made of at least 0.55 mm thick steel sheet, placed maximally every 60 cm or 62.5 cm
3. Profiles e.g. Norgips UW or HP fixed to the horizontal loadbearing elements
4. Sealing tape e.g. Norgips
5. Screws e.g. Norgips 3.5 x 25 mm placed maximally every 75 cm
6. Screws e.g. Norgips 3.5 x 45 mm placed maximally every 25 cm
7. Wall plugs at least  $\varnothing 6 \times 40$  mm placed maximally every 80 cm
8. Gypsum plaster jointing compound e.g. Norgips Start, Norgips Super Filler or Norgips Start & Finish (Norgips Light Ready Mix)
9. Gypsum plaster jointing compound e.g. Norgips Start, Norgips Super Filler or Norgips Start & Finish (Norgips Light Ready Mix) + reinforcing tape Norgips
10. Ready to use filling mass e.g. Norgips Extra Finish, Norgips Start & Finish Norgips Light Ready Mix), Norgips Easy Finish or Norgips Finish
11. Mineral wool – optionally

Figure 2

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### Casings of risers and lift shafts (curtain walls)

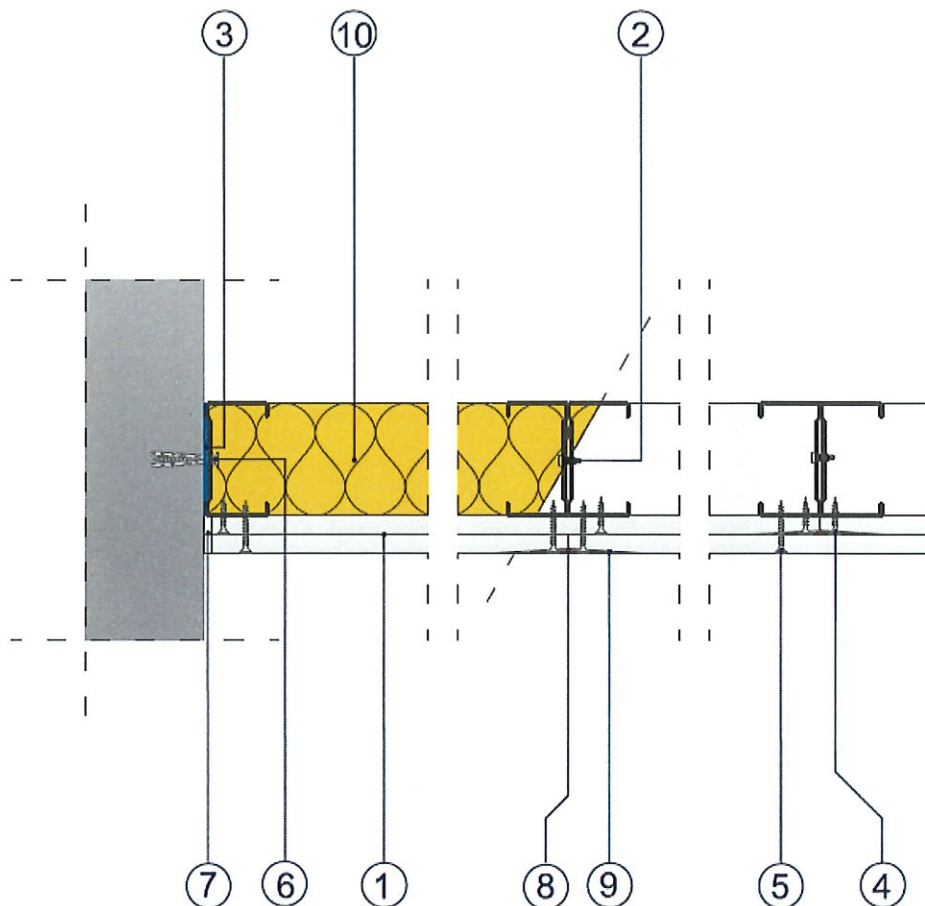


#### Elements of the casing of risers and lift shafts

1. 2 x 15 mm thick gypsum plasterboards Norgips S GKF type DF or GKFI type DFH2
2. Double profiles e.g. Norgips CW or VP made of at least 0.55 mm thick steel sheet connected at their webs and screwed by means of system screws e.g. Norgips with self-drilling endings Ø3.5 x 9.5 mm or Ø3.9 x 11 mm placed maximally every 40 cm, with the axes of the adjacent double profiles placed maximally every 60 cm or 62.5 cm
3. Profiles e.g. Norgips UW or HP fixed to the horizontal loadbearing elements
4. Sealing tape e.g. Norgips
5. Screws e.g. Norgips 3.5 x 25 mm placed maximally every 75 cm
6. Screws e.g. Norgips 3.5 x 45 mm placed maximally every 25 cm
9. Gypsum plaster jointing compound e.g. Norgips Start, Norgips Super Filler or Norgips Start & Finish (Norgips Light Ready Mix)
10. Reinforcing tape e.g. Norgips
11. Ready to use filling mass e.g. Norgips Extra Finish, Norgips Start & Finish (Norgips Light Ready Mix), Norgips Easy Finish or Norgips Finish

Figure 3

### Casings of risers and lift shafts (curtain walls)

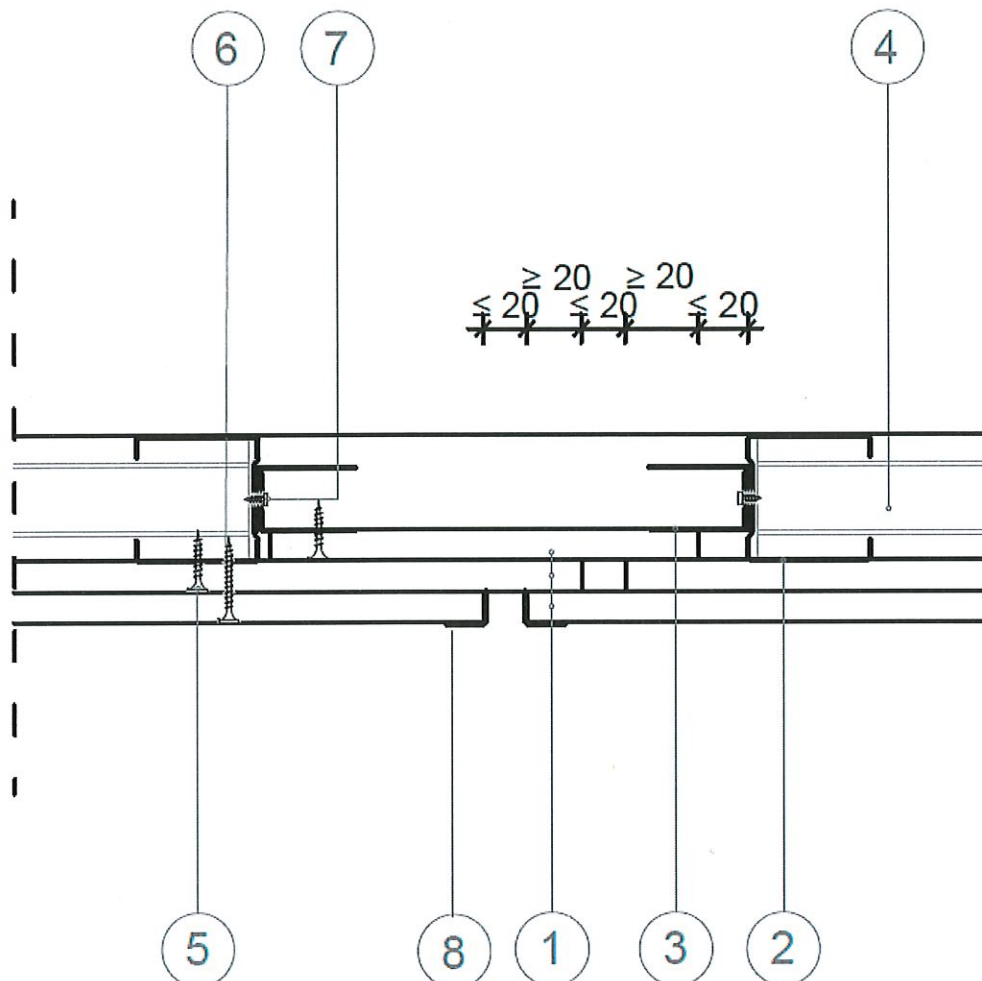


#### Elements of the casing of risers and lift shafts

1. 2 x 15 mm thick gypsum plasterboards Norgips S GKF type DF or GKFI type DFH2
2. Double profiles e.g. Norgips CW or VP made of at least 0.55 mm thick steel sheet connected at their webs and screwed by means of system screws e.g. Norgips with self-drilling endings  $\text{Ø}3.5 \times 9.5$  mm or  $\text{Ø}3.9 \times 11$  mm placed maximally every 40 cm, with the axes of the adjacent double profiles placed maximally every 60 cm or 62.5 cm
3. Sealing tape e.g. Norgips
4. Screws e.g. Norgips 3.5 x 25 mm placed maximally every 75 cm
5. Screws e.g. Norgips 3.5 x 45 mm placed maximally every 25 cm
6. Wall plugs at least  $\text{Ø} 6 \times 40$  mm placed maximally every 80 cm
7. Gypsum plaster jointing compound e.g. Norgips Start, Norgips Super Filler or Norgips Start & Finish (Norgips Light Ready Mix)
8. Gypsum plaster jointing compound e.g. Norgips Start, Norgips Super Filler or Norgips Start & Finish (Norgips Light Ready Mix) + reinforcing tape Norgips
9. Ready to use filling mass e.g. Norgips Extra Finish, Norgips Start & Finish (Norgips Light Ready Mix), Norgips Easy Finish or Norgips Finish
10. Mineral wool – optionally

Figure 4

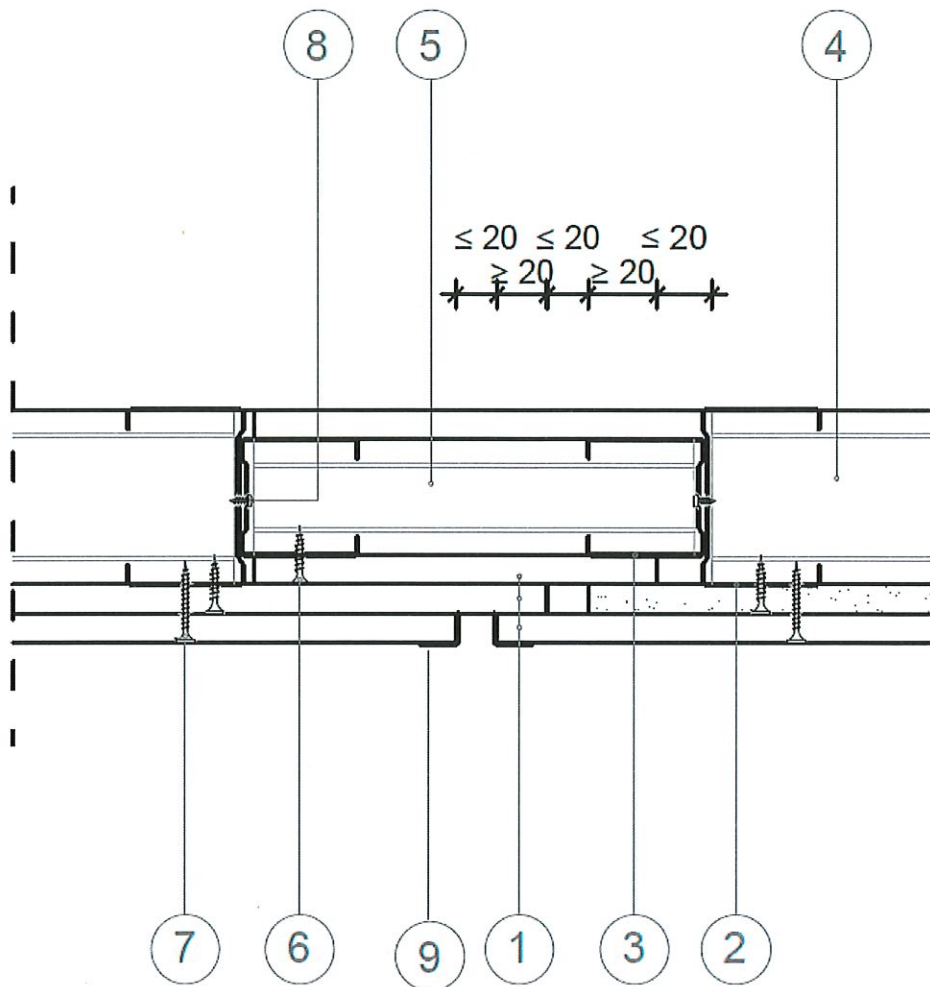
### Casings of risers and lift shafts (curtain walls) – expansion joints



#### Elements of the casing of risers and lift shafts

1. 15 mm thick gypsum plasterboards Norgips S GKF type DF or GKFI type DFH2
2. Profiles e.g. Norgips CW 50 or VP 66, VP 70
3. Profiles e.g. Norgips UD 30 or two angle elements L at least 20 mm x 50 mm made of 0.55 mm thick sheet
4. Profiles e.g. Norgips UW 50 or HP 66, HP 70
5. Screws e.g. Norgips 3.5 x 25 mm placed maximally every 75 cm
6. Screws e.g. Norgips 3.5 x 45 mm placed maximally every 25 cm
7. Screws with self-drilling endings e.g. Norgips Ø3.5 x 9.5 mm or Ø3.9 x 11 mm placed maximally every 40 cm
8. Aluminium semi-corner (recommended)

Figure 4



#### Elements of the casing of risers and lift shafts

1. 15 mm thick gypsum plasterboards Norgips S GKF type DF or GKFI type DFH2
2. Profiles e.g. Norgips CW 75, CW 100 or VP 95, VP 120
3. Profiles e.g. Norgips CW 50, CW 75 or VP 66, VP 70
4. Profiles e.g. Norgips UW 75, UW 100 or HP 95, HP 120
5. Profiles e.g. Norgips UW 50, UW 75 or HP 66, HP 70
6. Screws e.g. Norgips 3.5 x 25 mm placed maximally every 75 cm
7. Screws e.g. Norgips 3.5 x 45 mm placed maximally every 25 cm
8. Screws with self-drilling endings e.g. Norgips  $\varnothing 3.5 \times 9.5$  mm or  $\varnothing 3.9 \times 11$  mm placed maximally every 40 cm
9. Aluminium semi-corner (recommended)

Figure 5

## **Classification No. LBO – 057 – KZ/25E**

### **Annex 2**

Tables 1 - 2

Table 1

Technical details for the following types of the Norgrips casings of risers and lift shafts (curtain walls):

**SO-2x15 GK F DF/CW 50, SO-2x15 GK F DF/VP 66, SO-2x15 GK F DF/VP 70, SO-2x15 GK F DF/CW 50+CW 50, SO-2x15 GK F DF/VP 66+VP 66, SO-2x15 GK F DF/VP 70+VP 70, SO-2x15 GKFI DFH2/CW 50, SO-2x15 GKFI DFH2/VP 66, SO-2x15 GKFI DFH2/VP 70, SO-2x15 GKFI DFH2/CW 50+CW 50, SO-2x15 GKFI DFH2/VP 66+VP 66, SO-2x15 GKFI DFH2/VP 70+VP 70, SO-2x15 GKFI DFH2/VP 95, SO-2x15 GKFI DFH2/VP 95, SO-2x15 GKFI DFH2/VP 95+VP 95, SO-2x15 GKFI DFH2/VP 95+VP 95.**

Symbol of the Norgrips shafts (curtain walls)	Type of profiles	Maximum distance between the CW profiles [cm]	Type of the cladding made of gypsum plasterboards		Minimum thickness of the cladding [mm]	Filling with mineral wool	Fire resistance classification of the wall			
			Type/thickness [mm]	Minimum weight of the board [kg/m <sup>2</sup> ]			According to standard PN-EN 13501-2:2023-09		According to the criteria of standard PN-EN 13501-2:2023-09	
							Fire resistance class	Maximum height [cm]	Fire resistance class	Maximum height [cm]
1	2	3	4	5	6	7	8	9	10	11
SO-2x15 GK F DF/CW 50 SO-2x15 GK F DF/VP 66 SO-2x15 GK F DF/VP 70	CW 50 VP 66 VP 70	60/62.5 40/41.7 30/31.3	DF 2x15	12.0	80 96 100		EI 60	300 340 380	EI 60	300 340 380
SO-2x15 GK F DF/CW 50+CW 50 SO-2x15 GK F DF/VP 66+VP 66 SO-2x15 GK F DF/VP 70+VP 70	2 x CW 50 2 x VP 66 2 x VP 70	60/62.5 40/41.7 30/31.3	DF 2x15	12.0	80 96 100		EI 60	340 390 400	EI 60	340 390 410
SO-2x15 GKFI DFH2/CW 50 SO-2x15 GKFI DFH2/VP 66 SO-2x15 GKFI DFH2/VP 70	CW 50 VP 66 VP 70	60/62.5 40/41.7 30/31.3	DFH2 2x15	12.0	80 96 100	No filling or any mineral wool of the	EI 60	300 340 380	EI 60	300 340 380
SO-2x15 GKFI DFH2/CW 50+CW 50 SO-2x15 GKFI DFH2/VP 66+VP 66 SO-2x15 GKFI DFH2/VP 70+VP 70	2 x CW 50 2 x VP 66 2 x VP 70	60/62.5 40/41.7 30/31.3	DFH2 2x15	12.0	80 96 100	A1 class of reaction to fire	EI 60	340 390 400	EI 60	340 390 410
SO-2x15 GK F DF/CW 75 SO-2x15 GK F DF/VP 95	CW 75 VP 95	60/62.5 40/41.7 30/31.3	DF 2x15	12.0	105 125		EI 60	400 400 400	EI 60	410 490 570
SO-2x15 GK F DF/CW 75+CW 75 SO-2x15 GK F DF/VP 95+VP 95	2 x CW 75 2 x VP 95	60/62.5 40/41.7 30/31.3	DF 2x15	12.0	105 125		EI 60	400 400 400	EI 60	430 480 560

Note: For acoustic reasons, it is possible to use boards made of mineral wool of the A1 class of reaction to fire and gypsum plasterboards of greater thickness and additional layers of boards.

Table 2

Technical details for the following types of the Norgips casings of risers and lift shafts (curtain walls):

**SO-2x15 GKFI DFH2/CW 75, SO-2x15 GKFI DFH2/VP 95, SO-2x15 GKFI DFH2/CW 75+CW 75, SO-2x15 GKFI DFH2/CW 75+VP 95, SO-2x15 GKFI DFH2/VP 95+VP 95, SO-2x15 GKFI DFH2/CW 100, SO-2x15 GKFI DFH2/VP 120, SO-2x15 GKFI DFH2/CW 100+CW 100, SO-2x15 GKFI DFH2/VP 120+VP 120, SO-2x15 GKFI DFH2/CW 100+VP 120, SO-2x15 GKFI DFH2/VP 120+VP 120.**

Symbol of the Norgips shafts (curtain walls)	Type of profiles	Maximum distance between the CW profiles [cm]	Type of the cladding made of gypsum plasterboards		Minimum thickness of the cladding [mm]	Filling with mineral wool	Fire resistance classification of the wall			
			Type/thickness [mm]	Minimum weight of the board [kg/m <sup>2</sup> ]			According to standard EN 13501-2:2023-09	According to standard PN-EN 13501-2:2023-09	According to the criteria of standard PN-EN 13501-2:2023-09	
1	2	3	4	5	6	7	8	9	10	11
SO-2x15 GKFI DFH2/CW 75 SO-2x15 GKFI DFH2/VP 95	CW 75 VP 95	60/62.5 40/41.7 30/31.3	DFH2 2x15	12.0	105 125		EI 60	400 400 400	EI 60	410 490 570
SO-2x15 GKFI DFH2/CW 75+CW 75 SO-2x15 GKFI DFH2/VP 95+VP 95	2 x CW 75 2 x VP 95	60/62.5 40/41.7 30/31.3	DFH2 2x15	12.0	105 125		EI 60	400 400 400	EI 60	430 480 560
SO-2x15 GKFI DF/CW 100 SO-2x15 GKFI DF/VP 120	CW 100 VP 120	60/62.5 40/41.7 30/31.3	DF 2x15	12.0	130 150	No filling or any mineral wool of the A1 class of reaction to fire	EI 60	400 400 400	EI 60	450 540 630
SO-2x15 GKFI DF/CW 100+CW 100 SO-2x15 GKFI DF/VP 120+VP 120	2 x CW 100 2 x VP 120	60/62.5 40/41.7 30/31.3	DF 2x15	12.0	130 150		EI 60	400 400 400	EI 60	510 590 650
SO-2x15 GKFI DFH2/CW 100 SO-2x15 GKFI DFH2/VP 120	CW 100 VP 120	60/62.5 40/41.7 30/31.3	DFH2 2x15	12.0	130 150		EI 60	400 400 400	EI 60	450 540 630
SO-2x15 GKFI DFH2/CW 100+CW 100 SO-2x15 GKFI DFH2/VP 120+VP 120	2 x CW 100 2 x VP 120	60/62.5 40/41.7 30/31.3	DFH2 2x15	12.0	130 150		EI 60	400 400 400	EI 60	510 590 650

Note: For acoustic reasons, it is possible to use boards made of mineral wool of the A1 class of reaction to fire and gypsum plasterboards of greater thickness and additional layers of boards.

GRYFITLAB Sp. z o.o.  
 Zespół Laboratoriów  
 Badawczych Gryfitlab  
 ul. Prosta 2, Łozienica  
 72-100 GOLENIÓW

