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Fire resistance classification No. LBO – 046 – KZ/25E

Classified product:

**Floors with dry screed floor layers made of floor gypsum plasterboards
Norgips type DFIR when exposed to fire from above the floor**

Sponsor:

Norgips Sp. z o.o.
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Prepared by:

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Copy No. 1

This classification and its Annex 1 consist of 8 pages.

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

- 1.1. Standard PN-EN 1365-2:2002 Fire resistance tests for loadbearing elements – Part 2: Floors and roofs.
- 1.2. Standard PN-EN 1365-2:2014-12 Fire resistance tests for loadbearing elements – Part 2: Floors and roofs.
- 1.3. Standard PN-EN 1363-1:2012 Fire resistance tests – Part 1: General requirements.
- 1.4. 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.
- 1.5. Standard PN-EN 520+A1:2012 Gypsum plasterboards – Definitions, requirements and test methods.
- 1.6. Report No. LPP01-6041/13/R10NP Floor made of trapezoidal sheet Pruszyński T 55P and 2 x 12.5 mm thick floor gypsum plasterboards Norgips type DFIR. Fire resistance test. Exposition to fire from above. Building Research Institute (Instytut Techniki Budowlanej), Pionki 2014.
- 1.7. Technical documentation provided by Norgips Sp. z o.o.

2. Floors with dry screed floor layers made of floor gypsum plasterboards Norgips type DFIR

Dry screed **SJ – 2x12.5 DFIR** is made of two layers of **2 x 12.5 mm thick** floor boards **Norgips type DFIR** which are glued with one another by means of gypsum filler e.g. **Norgips Start** or **Norgips Super Filler** and are additionally connected using steel staples type C 4/23 mm or screws for gypsum plasterboards **Ø 3.5 x 25 mm**.

The first layer of the floor boards is placed (dryly, without any glue etc.) on the base in such a way that the shorter edges of the adjacent layers of the boards are shifted in relation to one another by at least 40 mm. The second layer of the boards is glued to the first layer using gypsum filler e.g. **Norgips Start** or **Norgips Super Filler** which is put by means of a notched trowel. The second layer of the boards is placed in such a way that the shorter edges of the boards of this layer are shifted in relation to the shorter edges of the boards of the first layer by at least 40 cm while the longer edges of the boards of the second layer have to be shifted in relation to the longer edges of the boards of the first layer by at least 20 cm (usually, they are shifted by 30 cm). At the same time, the shorter edges of the adjacent boards in the second layer have to be shifted in relation to one another by at least 40 cm. The boards of the second layer are fixed to the boards of the first layer by means of staples type C 4/23 mm or screws for gypsum plasterboards **Ø 3.5 x 25 mm** placed maximally every 30 cm.

The minimum surface density of the 12.5 mm thick **Norgips type DFIR** floor gypsum plasterboards is 12 kg/m².

Dry screed **SJ – 2x12.5 DFIR** can be used (placed) on the following base layers:

- dry ballast of the A1 class of reaction to fire, made of e.g. 40 -100 mm thick perlite or expanded clay aggregate,
- 20 mm thick foamed polystyrene of the E class of reaction to fire,
- 20 -100 mm thick mineral wool of the A1 class of reaction to fire,
- wooden planks or wood based boards.

Dry screed **SJ – 2 x 12.5 DFIR** can be used on monolithic floors, floors supported by steel beams, floors supported by wooden beams, floors made of trapezoidal sheet and other floors designed according to the valid Polish Standards and/or Eurocodes.

Details of the construction of the dry screed described above are presented in Figures 1 – 4.

3. Fire resistance test of floors with dry screed floor layers

The fire resistance test of a floor with dry screed floor layers made of floor gypsum plasterboards Norgips type DFIR when exposed to fire from above the floor was carried out in the Fire Tests Laboratory of the Building Research Institute (Instytut Techniki Budowlanej) in Pionki.

Test report No. LPP01-6041/13/R10NP [1.6].

4. Fire resistance classification of floors with dry screed floor layers

Based on the analysis of fire resistance test results indicated in item 3, floors with dry screed floor layers made of floor gypsum plasterboards Norgips type DFIR, manufactured and installed in accordance with the technical description presented in item 2, when exposed to fire from above, are classified according to the criteria of standard PN-EN 13501-2:2023-09 [1.4] as belonging to the following fire resistance class:

REI 60

5. Validity

The classification presented in item 4 is valid until 29.05.2030 on the condition that there are no changes in the construction or materials of the classified products.

Annex 1 – Drawings presenting floors with dry screed floor layers made of floor gypsum plasterboards Norgips type DFIR

Prezes Zarządu

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Annex 1

Drawings presenting floors with dry screed floor layers
made of floor gypsum plasterboards Norgips type DFIR

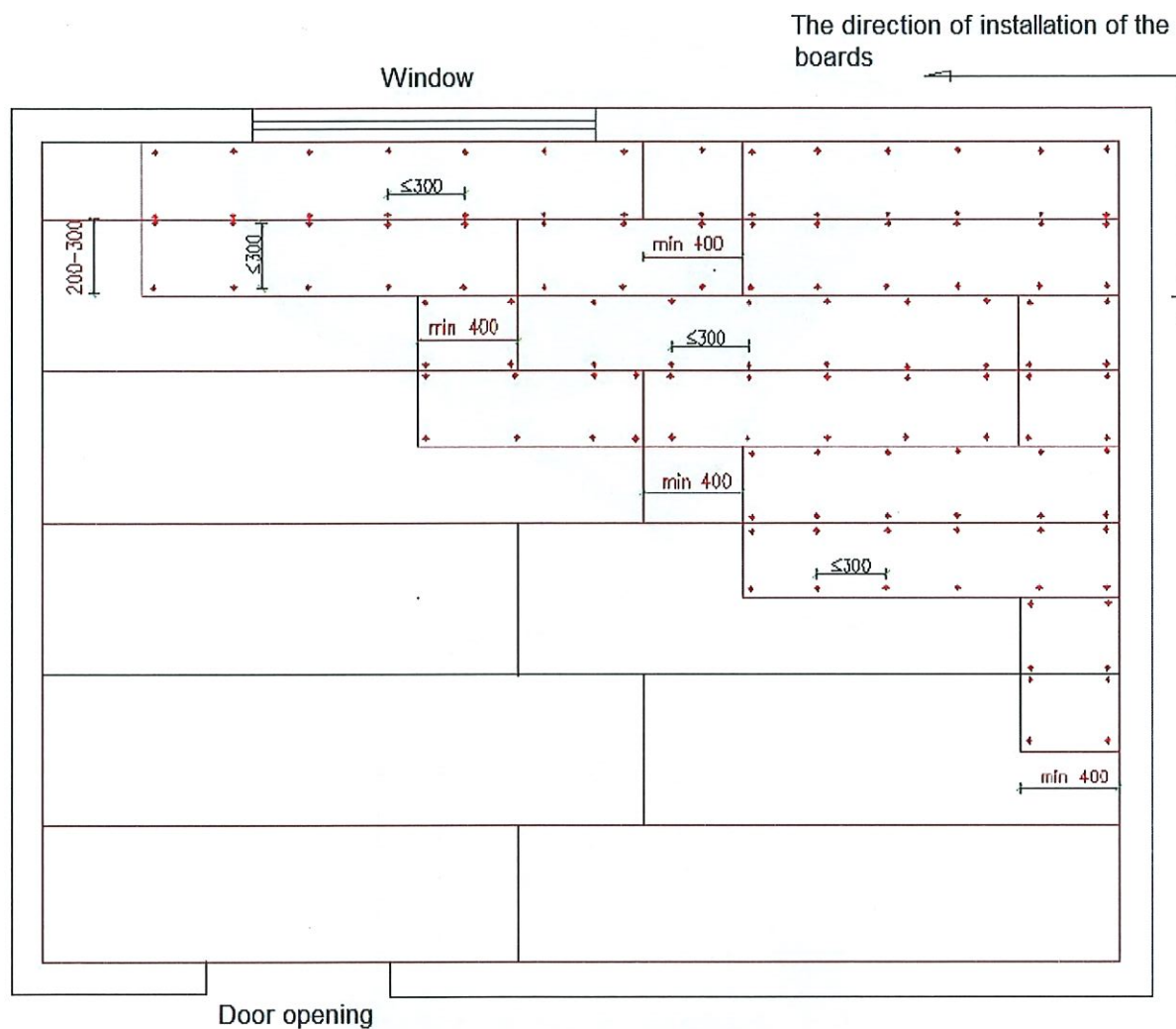
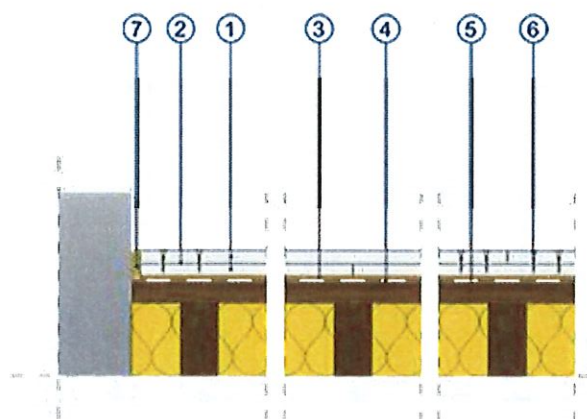
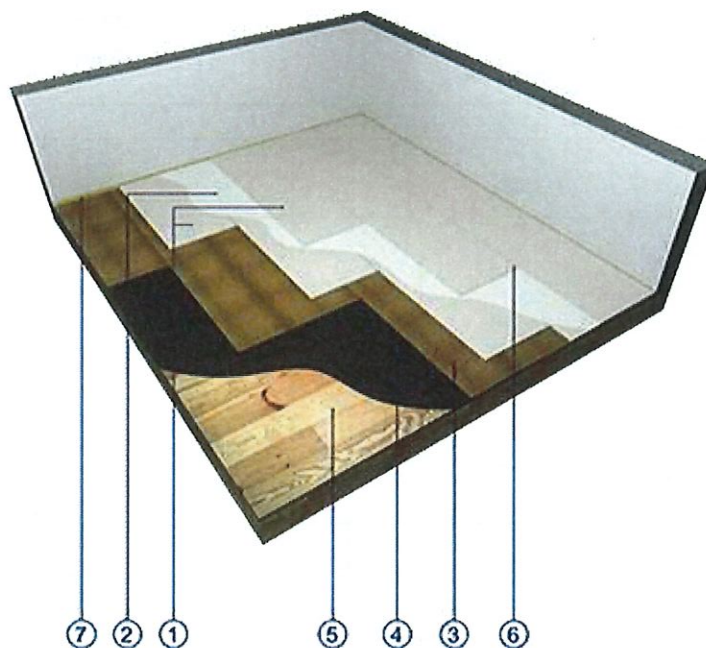


Figure 1 Installation of boards in the Norgips dry screed system (SJ – 2x12.5 DFIR)

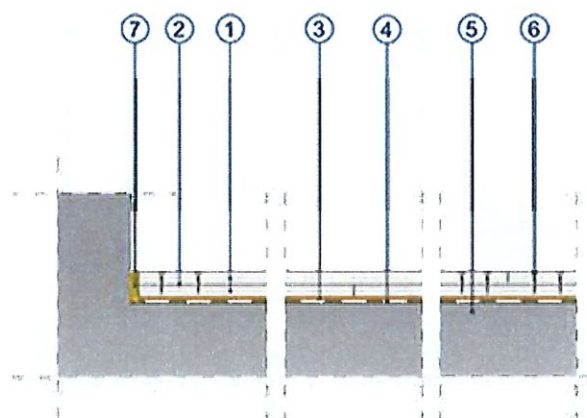
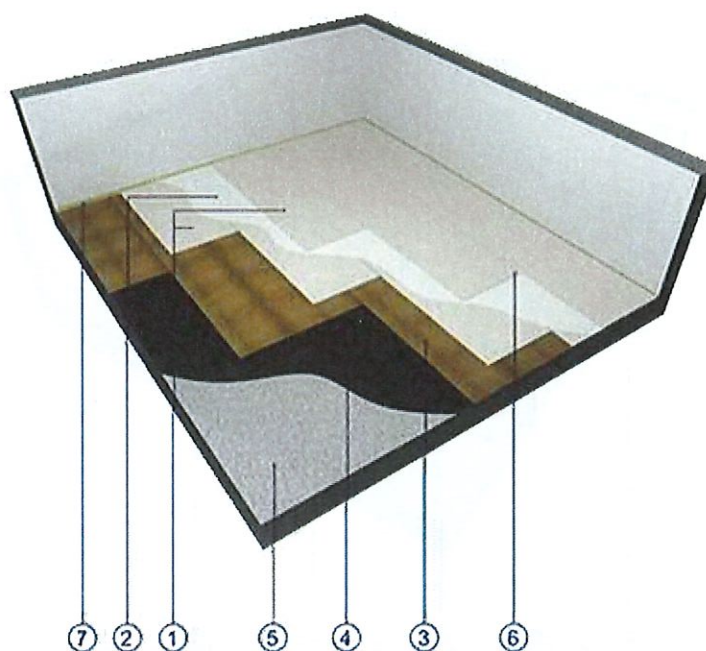
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Elements of dry screed placed on a wooden base

1. Floor gypsum plasterboards Norgips type DFIR, thickness: 2 x 12.5 mm
2. Gypsum filler e.g. Norgips Start or Norgips Super Filler
3. Levelling layer, e.g. corrugated cardboard (optionally)
4. Damp-proof insulation, e.g. PE foil (optionally)
5. Wooden base
6. Staples type C 4/23 mm or screws for gypsum plasterboards $\varnothing$ 3.5 x 25 mm
7. Dilatation made of 10 mm mineral wool

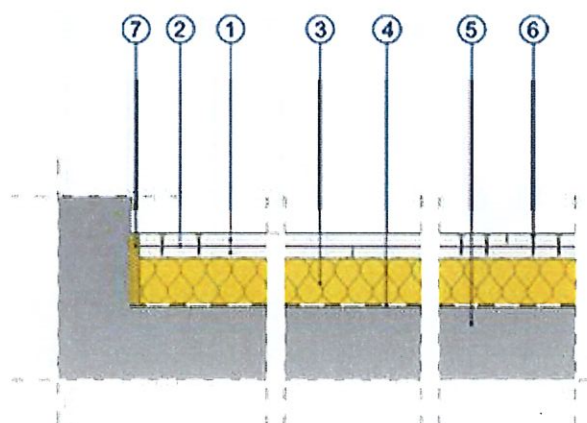
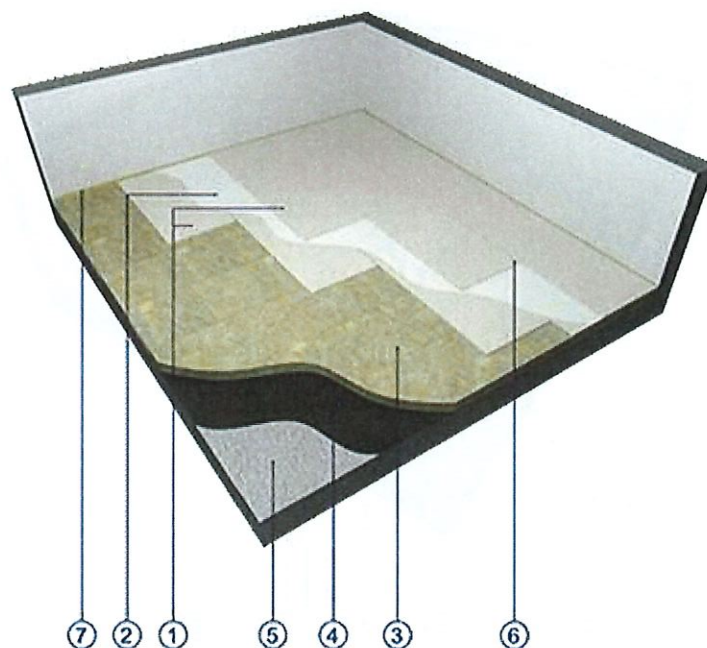
Figure 2 Layout of layers in the Norgips dry screed system (SJ – 2x12.5 DFIR/PD-F) applied on a wooden base



Elements of dry screed placed on a solid base

1. Floor gypsum plasterboards Norgips type DFIR, thickness: 2 x 12.5 mm
2. Gypsum filler e.g. Norgips Start or Norgips Super Filler
3. Levelling layer, e.g. corrugated cardboard (optionally)
4. Damp-proof insulation, e.g. PE foil (optionally)
5. Solid base
6. Staples type C 4/23 mm or screws for gypsum plasterboards $\varnothing 3.5 \times 25$ mm
7. Dilatation made of 10 mm mineral wool

Figure 3 Layout of layers in the Norgips dry screed system (SJ – 2x12.5 DFIR/PS-F) applied on a solid base



Elements of dry screed placed on a base made of insulation boards or dry ballast

1. Floor gypsum plasterboards Norgips type DFIR, thickness: 2 x 12.5 mm
2. Gypsum filler e.g. Norgips Start or Norgips Super Filler
3. Base made of insulation boards or dry ballast
4. Damp-proof insulation, e.g. PE foil (optionally)
5. Solid base
6. Staples type C 4/23 mm or screws for gypsum plasterboards $\varnothing 3.5 \times 25$ mm
7. Dilatation made of 10 mm mineral wool

Figure 4 Layout of layers in the Norgips dry screed system applied on a base made of insulation boards (system SJ – 2x12.5 DFIR/PI-F) or dry ballast (system SJ – 2x12.5 DFIR/SP-F)