



PRODUCTION OF DOORS AND COLD ROOMS AT THE TOP TECHNICAL LEVEL

**OPERATION  
& MAINTENANCE  
MANUAL**

**SINGLE- AND DOUBLE-LEAF  
HINGED COLD ROOM AND FREEZER DOORS**

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**1. TECHNICAL DESCRIPTION**

**1.1 ASSORTMENT OF THE PRODUCED DOORS**

In general hinged doors may be divided into cold room and freezer doors. Both categories may be made as single- or double-leaf ones, depending on the client’s needs they may be made with or without the threshold. The cold room doors are mostly ordered without the threshold, then the seal adheres to the existing substructure. In case of the freezer door without the threshold, the door is equipped with a threshold beam adapted to be covered with concrete in such way that after installation it constitutes one level with the floor surfacing. In case of the freezer door, the threshold is an indispensable part, due to placing a heating cable in it.

**1.2 CONSTRUCTION**

The door construction is very modern and durable. The door leaf and the door frame are made as a steel plate envelope filled by polyurethane. The door covering is made of acid resistant or galvanised steel plate, painted three times with RAL 9002/9010. Applying polyurethane foam results in very good thermal and acoustic insulation. Single-leaf doors up to 1200 mm wide are equipped with one central compression latch, while for wider doors a lock with two auxiliary latches as well as a special lever for opening it from inside (the lever must be mounted during installation) is applied. In each of those cases the doors may be opened from inside without a key. Depending on the width the doors are equipped with 2, 3 or 4 hinges supporting the door leaf when opening the door. Applying skew hinges prevents premature wear of the threshold seal. Freezer doors are equipped with a system to heat up the door frame and threshold, which prevents condensation of water vapour and seal freezing. It is obtained in the cold room doors by breaking the thermal bridge. Double-leaf freezer doors contain an additional heating system of the cover bar in the passive leaf as well as additional locking bolt in the active leaf (for H>2800) assuring precise contact between the seal and the doorframe.

### **1.3 INTENDED USE**

The cold room and freezer doors are intended to be used as internal doors for freeze rooms, cold rooms as well as utility rooms. In case of outdoor installation - the door should be provided with a roof.

## **2 CONDITIONS OF USE**

The freezer doors should be absolutely installed on the external wall of the freeze room.

Scope of temperatures:

Cold room doors - from 16° C to 0°

Freezer doors - from 0° C to - 25°

The door leaf is made of a steel plate which absorbs solar energy, thus it warms up when accumulating the heat. Therefore, the door should not be installed at the places exposed to direct sunshine, because it may cause temporary or permanent deformation of the leaf. At the places exposed to sunlight the door should be installed under a roof protecting it against direct influence of sunbeams.

## **3 INSTALLATION AND MAINTENANCE INSTRUCTION**

Correct installation is a necessary condition for subsequent correct work of the door, moreover it is crucial for meeting all the requirements related to thermal, acoustic insulation and tightness for atmospheric penetration. Therefore, when we do not have appropriate experience and professional knowledge, it is recommended to have the following work performed by a specialised installation team.

### **3.1 INSTALLATION RECOMMENDATIONS**

Dimensions of the installation holes are equal to the dimensions of the door in the door frame clearance. It means that the door with the size of S x H is installed for the opening clearance of S+10 x H+10. A possible correction of the dimensions may be necessary in case when the wall opening is finished with glazed tiles. Installation of the door should be started with inspection of the surfaces of the wall panels or wall depending on the structure it is to be installed to. Those surfaces must be even and clean. The opening for the door in the wall panel or masonry wall must be the same as in the door frame. In case of a wall panel the door opening should be finished with the flashings beforehand. After the inspection, the door should be put to opening and it should be precisely positioned in horizontal and vertical direction. Next, holes for the bolts should be drilled for the door installed to a wall panel or for rawplugs for the door installed to the wall. Installation of the door should be performed according to the drawings showing installation details. The door is matched with door frame and checked for tightness in the factory, therefore special care should be taken not to deform the door when screwing it to it. It will happen like that, when the wall panels or the wall are/is uneven. If the unevenness cannot be removed, then it is possible to put some shims under the door frame and fill in the resulting gaps with silicone. In special cases the pressure force of the seal may be adjusted by means of the compression latch or latches. The freezer doors are always provided with a threshold – adapted for covering with concrete or mounted to the floor panel. In the door frame and threshold of the freezer door there is a heating cable in a protective braid which is to be connected to the 230V supply, and the circuit is to be protected with a 3A fuse. The double-leaf freezer door is equipped with additional heating



system of the cover bar of the passive leaf, which should also be connected to the mains and protected with a 3A fuse.

**Note:**

**In case of installation of a freezer door to a wall panel, an approx. 5 mm wide strip of steel plate should be cut off around the opening, approx. 50 mm away from the edge at the door frame installation side. It is very important, because a failure to do this action will cause that the plate will get frosted later on.**

### **3.2 INSTALLATION INSTRUCTION FOR HINGED COLD ROOM DOOR AND FREEZER DOOR**

1. Unpack the door.
2. Familiarise yourself with the product description and check its conformity with the order and description (width, height, opening direction).
3. Check dimensions of the opening in the wall with the ones recommended by the producer. (see the drawing).
4. Clean and level edges as well as surfaces prepared opening.
5. Remove the door leaf from the door frame and remove the process beam (freezer door).
6. Position preliminarily the door frame in the selected place of the clearance prepared in the wall opening and immobilize it.
7. Correct imperfections of preliminary positioning the door frame in the opening and immobilize it by means of quick installation holders.
8. Mark off and make installation holes for pins (installation to a wall panel) or anchors (installation to a wall).
9. Put the flashings in case of installation to a wall panel.
10. Put the door frame in the selected place of the clearance prepared in the wall opening and immobilize it by means of quick installation holders.
11. Correct and possibly adjust vertical position of the door frame arm provided with hinges by means of a level.
12. Check closing and opening of the leaf in the door frame – depending on the situation make adjustments as appropriate.
13. Install finally the door frame arms.
14. Fill gaps between the door frame and the wall (the door frame and the wall panel) by means of silicone.
15. Plug the installation holes.
16. Remove the protective foil protecting the door leaf directly once it has been installed.
17. In case of the freezer door the door frame heating cable (double- leaf door - heating cable of the passive leaf) should be connected to 230V supply and the circuit should be protected with a 3A fuse. Perform a heating test.

#### **4 CONDITIONS OF USE**

When using the door it should not be opened using excessive force, it may turn out that the door is locked. In such case you should look for the key to open the door. The door is equipped with a safe lock which makes it possible to free the user who has been accidentally locked inside the facility, it should not be dismantled.

#### **5 CURRENT AND PERIODIC INSPECTIONS - MAINTENANCE.**

##### **5.1 INSPECTION AFTER COMMISSIONING**

After commissioning the facility the first inspection should be performed within the first week of working under nominal conditions. Improper installation or adjustment of the door leads to accelerated wear of the seals or even other, serious mechanical damages. If the installation was performed before pouring the floor surfacing, it is absolutely necessary to check if the door is correctly adjusted. If the floor surfacing level is too low or too high, if necessary, the following operations should be performed:

Adjustment on the hinges (when the hinges may be adjusted) - lower or lift the door leaf, so that the door is sealed at the floor in closed position;

Adjustment on the lock latch (or latches), so that the door is uniformly sealed all around its circumference when closed.

##### **5.2 CURRENT INSPECTION**

Control the door work condition on current basis, perform necessary adjustments. Do not cause defective work of the product.

##### **5.3 PERIODIC INSPECTION**

All moving parts of the lock and hinges should be lubricated at least twice a year. Seals should be treated with a seal care and maintenance agent at least twice a year. It is recommended to supplement losses of the painted or galvanised coat, resulting from a hit or a scratch, to protect the product against corrosion centres. It is recommended to treat the defects with anti-corrosion paints which are generally available in the market. Seals should be immediately replaced after observing any losses – it particularly refers to the freezer doors. Stainless doors should be repaired with resins containing glass fibre, or it is needed to make a cover plate for the damaged door leaf of the same material.

#### **6 GENERAL CONDITIONS OF TRANSPORTING AND STORING THE DOORS**

The doors should be transported and stored while keeping special care. The goods to be transported (stored) should be arranged vertically, individually, on special stands (the door with large overall sizes) or horizontally up to the maximum 8 layers separated from one another with thick polyurethane spacers. The goods should be positioned on the means of transport in such way so that the leaf planes are parallel to the longitudinal vehicle axis. The positioned goods should be fastened to the means of transport (e.g. with protective belts) in order to guarantee stability and protect them against movement and damage at the transportation time.

The storage places should be dry and airy, and should protect the goods against atmospheric precipitations. The loading spaces of the means of transport should be clean, and the wall and floor planes should be free of any protruding sharp parts which could damage the goods. Protective foil should be removed not later than within 1 month of the date of collection from the production plant. The product should be protected against direct exposure to sunlight due to a possible vulcanisation of the protective foil to the surfacing material.

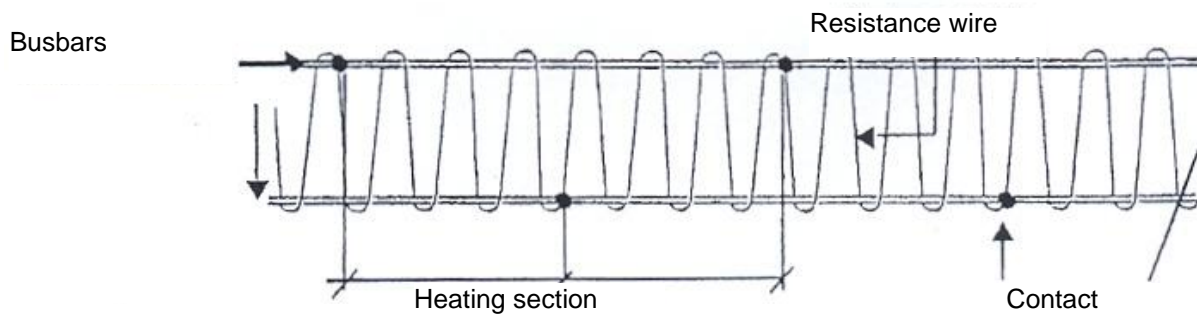
**NOTE: In case all the above recommendations are not followed the producer does not accept complaints.**

## 7 PREPARATION OF HEATING CABLE IN CASE OF REPLACEMENT

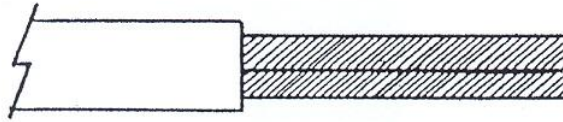
### Technical parameters

<b>Cable type</b>	<b>FTSO 40</b>
Output	40 W/m
Supply voltage	230 V
Conductor cross section	0.75 mm <sup>2</sup>
Insulation	Silicone
Heating element	Cu-Ni alloy
External insulation	Silicone
Cable size	5 mm x 7 mm
Working temperature	-70 °C to +200 °C
Distance between contact points	0.5 m

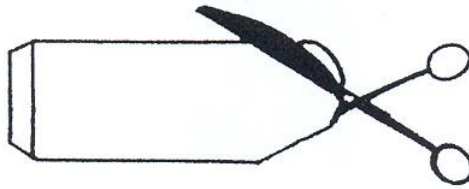
### Cable construction



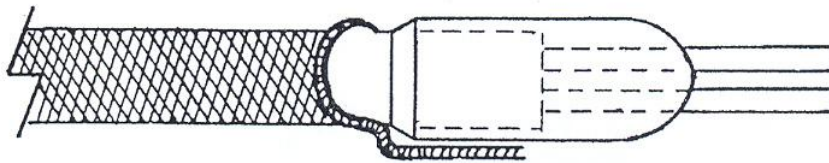
### Preparation of the cable from the power supply side



- cut the cable off before the nearest contact point;
- unbraid the shield over the length of 5 cm (for a shielded cable);
- remove 50 mm of the external insulation;
- unwind and remove the resistance wire;
- separate the two conductors.



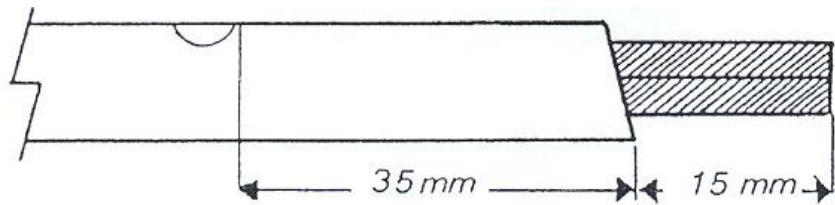
- cut the end cap according to the drawing



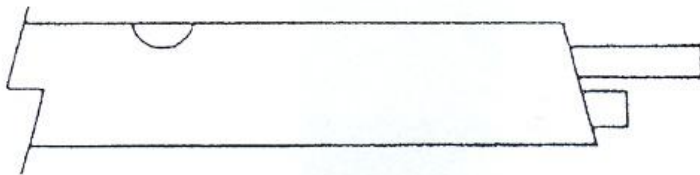
- fill the inside of the end cap with silicone glue, insert the conductors through the cut out openings and put them on the cable.

**The cable beginning prepared that way may be inserted through a FX/ST, FX/AT choke or inserted to a terminal box with power supply.**

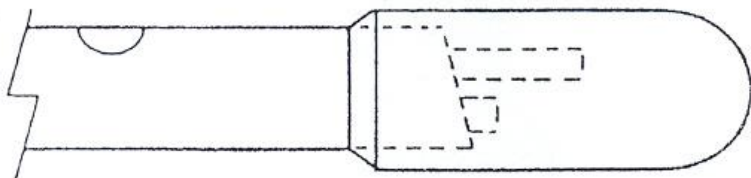
## Preparation of the cable end



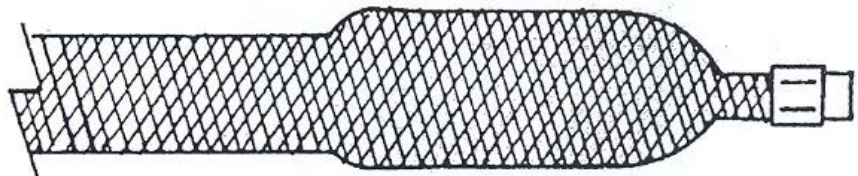
- find the contact point of the cable;
- cut the cable off 70 mm from that point;
- shorten additionally the cable by 20 mm (for a shielded cable);
- remove 15 mm of insulation;
- unwind and remove the resistance wire.
- 



- separate the two conductors;
- shorten one of the conductors by 5 mm



- fill the inside of the end cap with silicone glue, and put it on the cable.



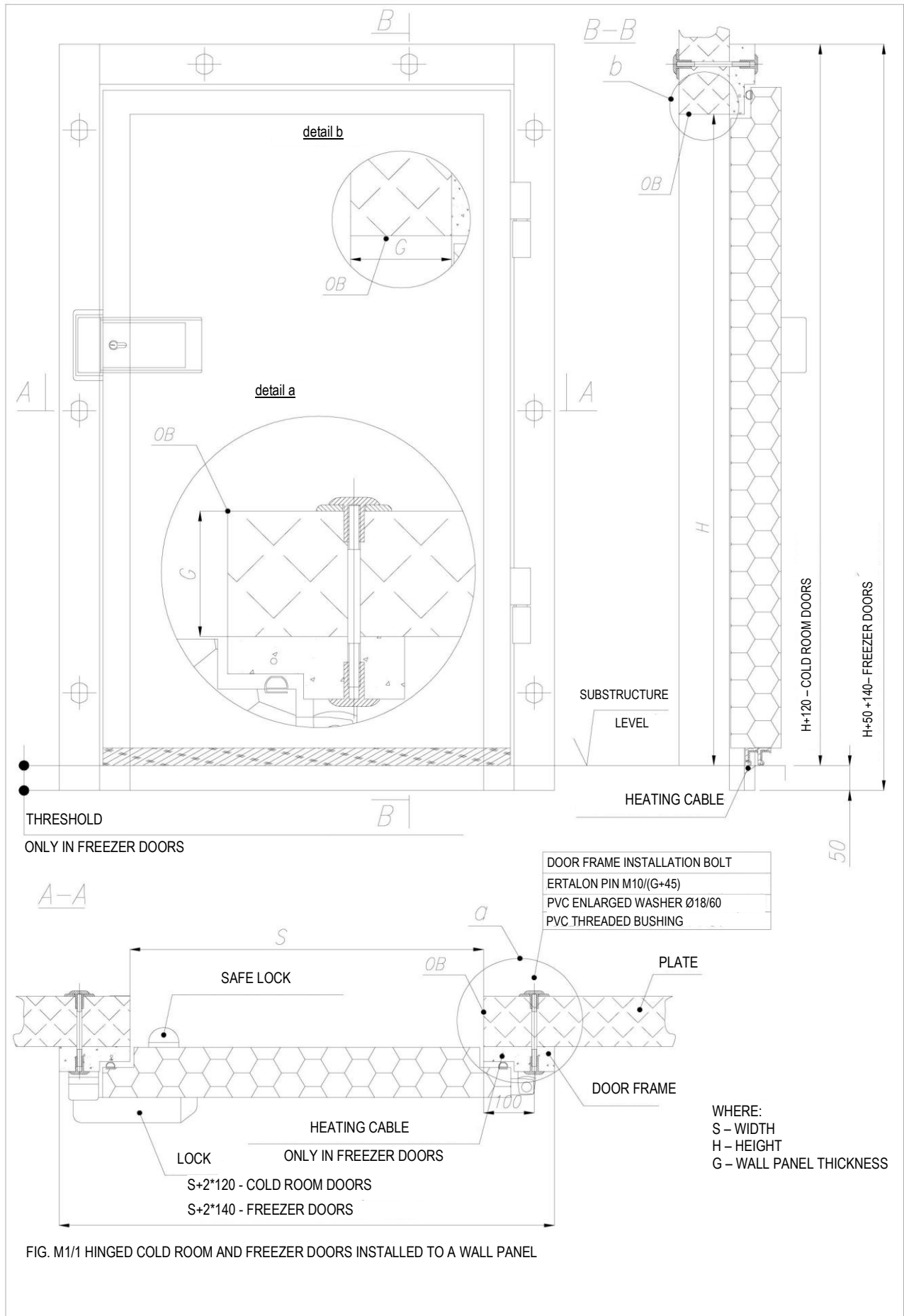
- slide the shield on the end prepared that way (for a shielded cable);
- braid the shield and tighten the sleeve.

### Note:

In case if the heating cable is heated without the room load, a power breaker, thermostat control system should be connected to the circuit. Otherwise, the heating cable may burn out.



8 DRAWINGS



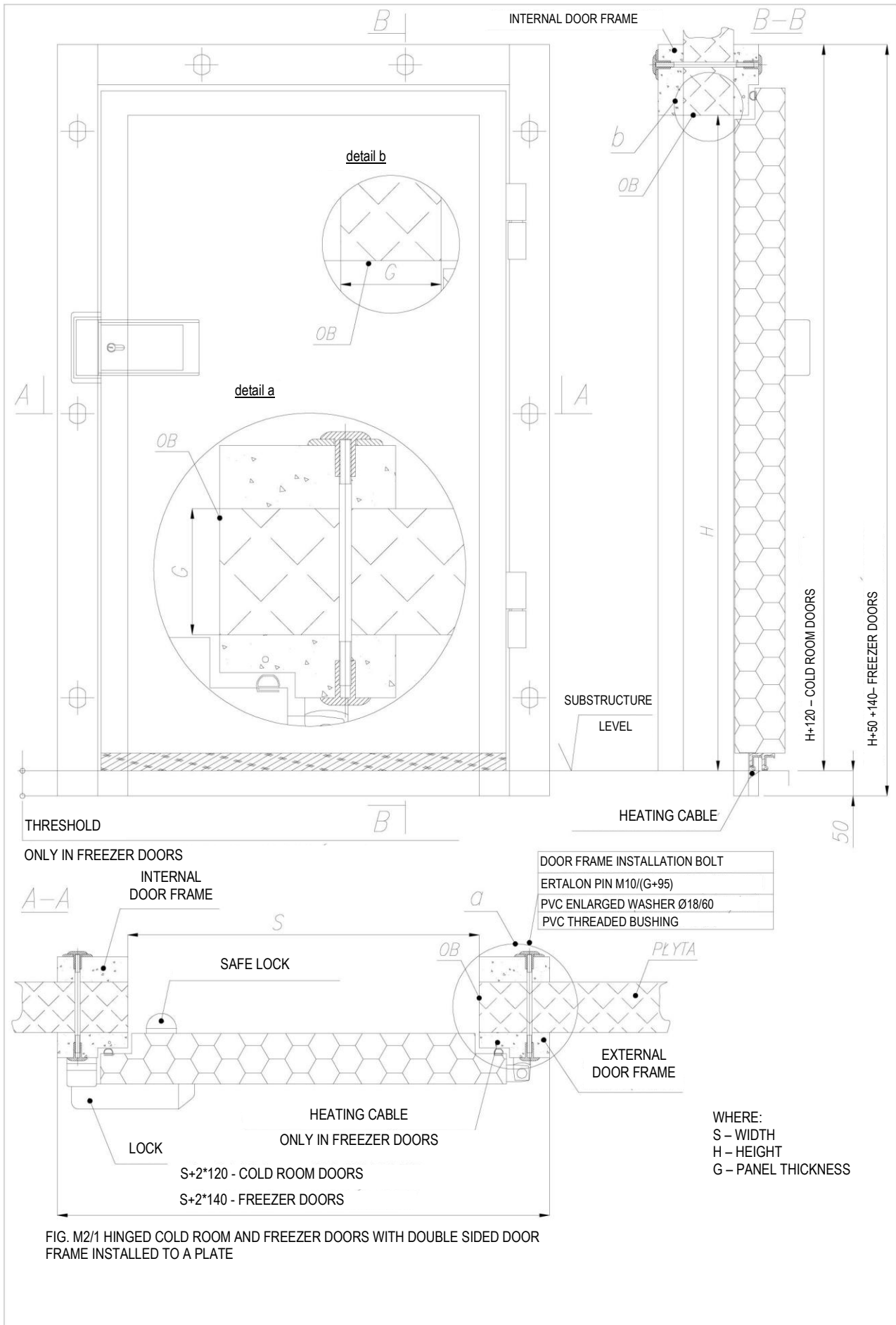


FIG. M2/1 HINGED COLD ROOM AND FREEZER DOORS WITH DOUBLE SIDED DOOR FRAME INSTALLED TO A PLATE

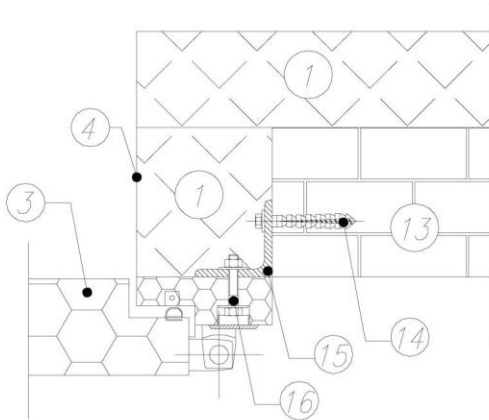


FIG. 1 INSTALLATION OF FREEZER DOORS TO AN INSULATED FACILITY

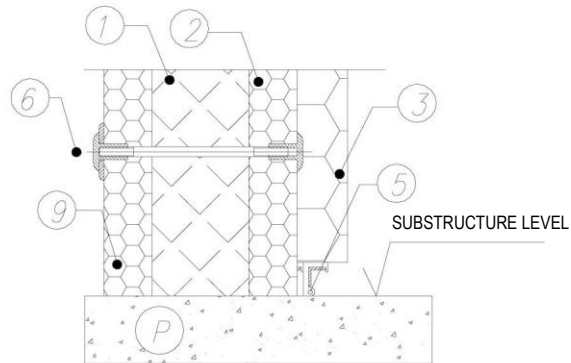


FIG. 2 INSTALLATION OF COLD ROOM DOORS WITHOUT A THRESHOLD TO CONCRETE FLOORING

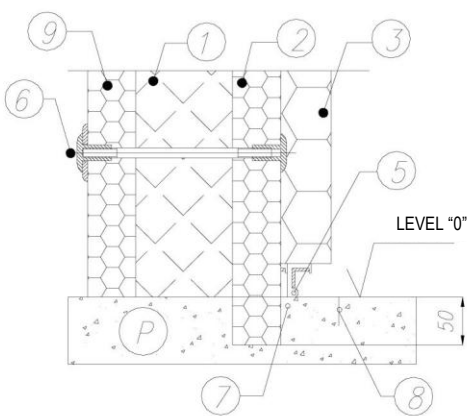


FIG. 3 INSTALLATION OF DOORS WITH A THRESHOLD TO CONCRETE FLOORING

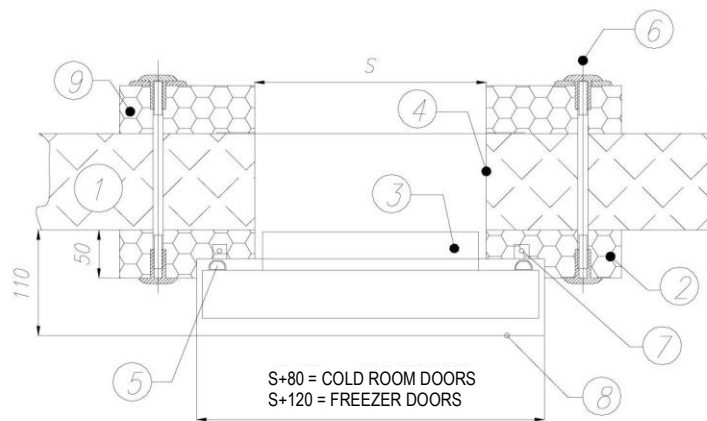


FIG. 4 THRESHOLD - TOP VIEW

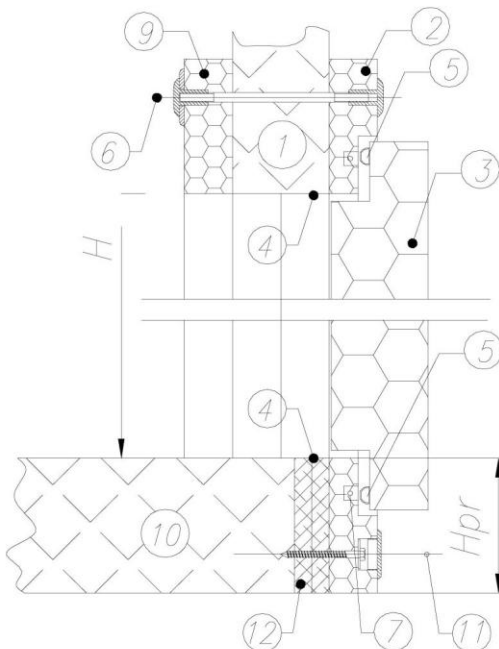


FIG. 5 INSTALLATION OF DOORS WITH A THRESHOLD TO WALL AND FLOOR PANEL (WITH OR WITHOUT DOUBLE SIDED DOOR FRAME)

- 1 - WALL PLATE
- 2 - DOOR FRAME
- 3 - PLANE
- 4 - SHEETING
- 5 - WASHERS
- 6- ERTALON PIN M10, PVC ENLARGED WASHER, PVC THREADED BUSHING
- 7- HEATING CABLE (ONLY FREEZER DOORS)
- 8- THRESHOLD (OPTION FOR COLD ROOM DOORS)
- 9- DOUBLE-SIDED DOOR FRAME (OPTION FOR COLD ROOM AND FREEZER DOORS)
- 10- FLOOR PANEL
- 11 - ENLARGED WASHER, WOOD SCREW M10, PVC PLUG
- 12- PLYWOOD INSERT
- 13- WALL
- 14- RAWPLUG
- 15- ANGLE SECTION 80X80X8
- 16- BOLT M10/50, ENLARGED WASHER, PVC PLUG
- Hpr - THRESHOLD HEIGHT  
(STANDARD: 120 mm FOR COLD ROOM DOORS; 140 mm FOR FREEZER DOORS)
- P - FLOORING

FIG. M5/1 VARIANTS OF INSTALLATION OF HINGED COLD ROOM AND FREEZER DOORS

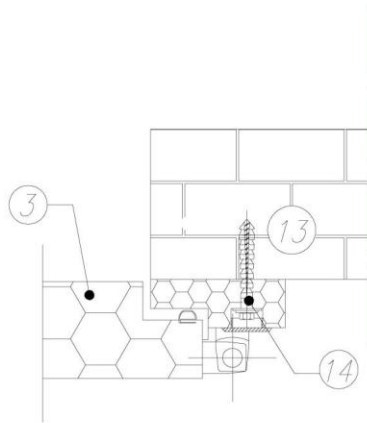


FIG.1/2 INSTALLATION OF FREEZER DOORS TO A WALL

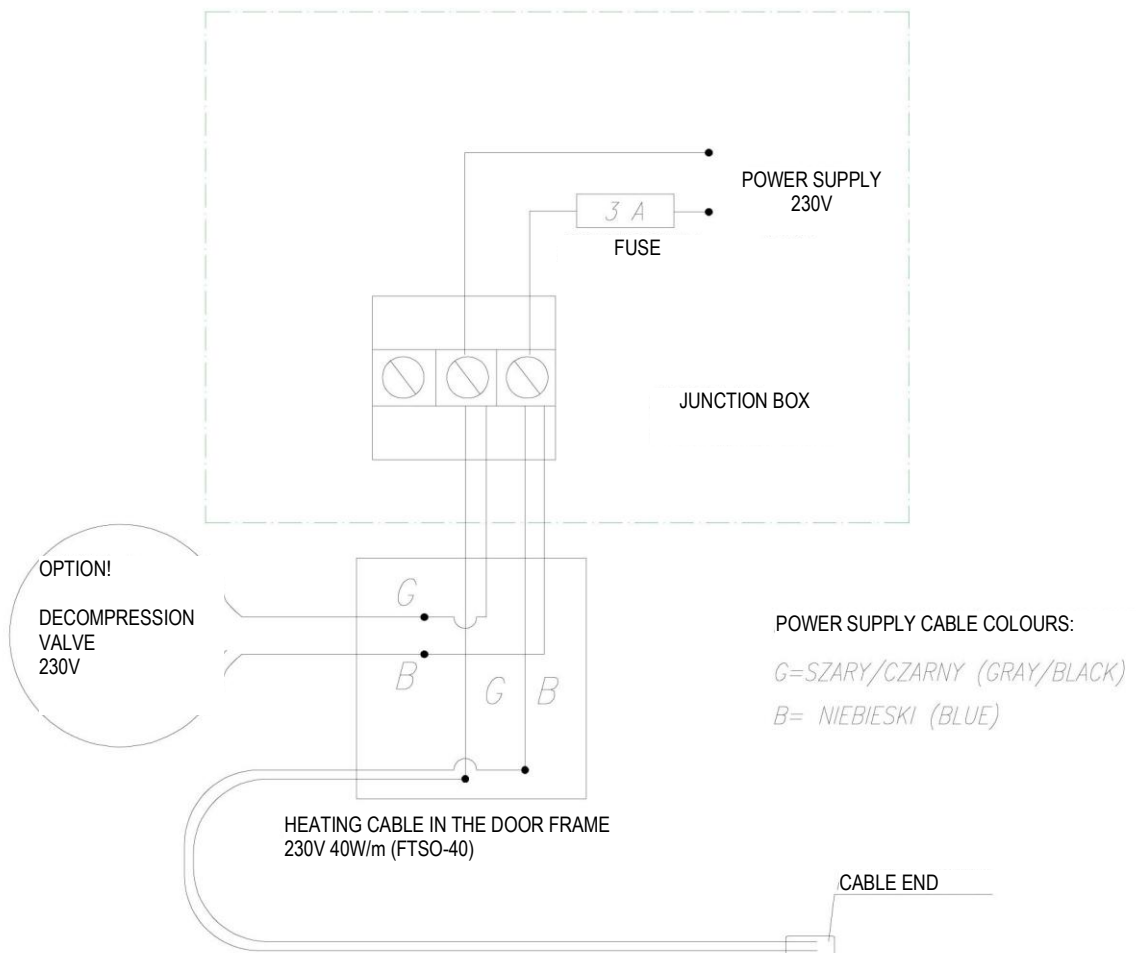
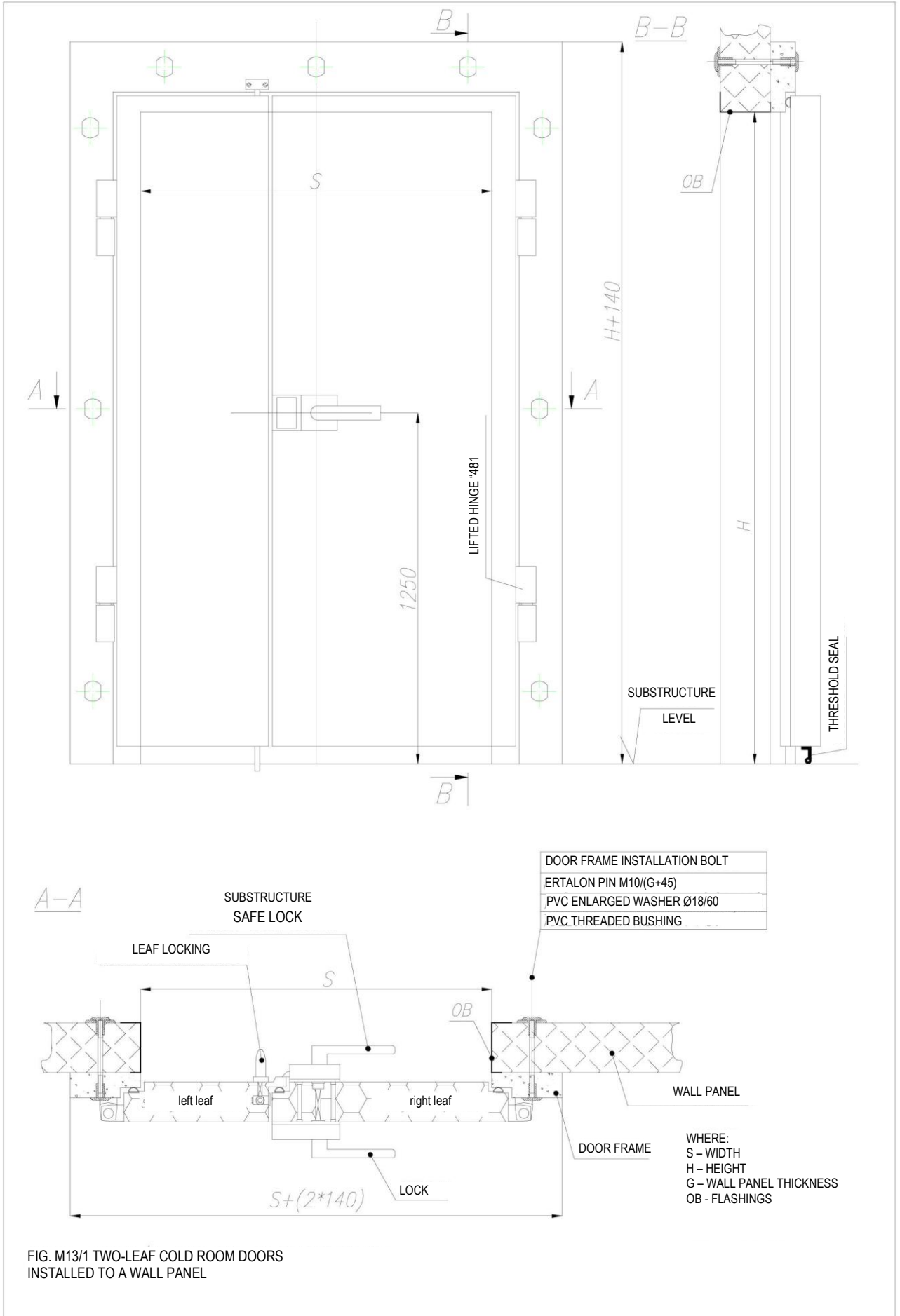
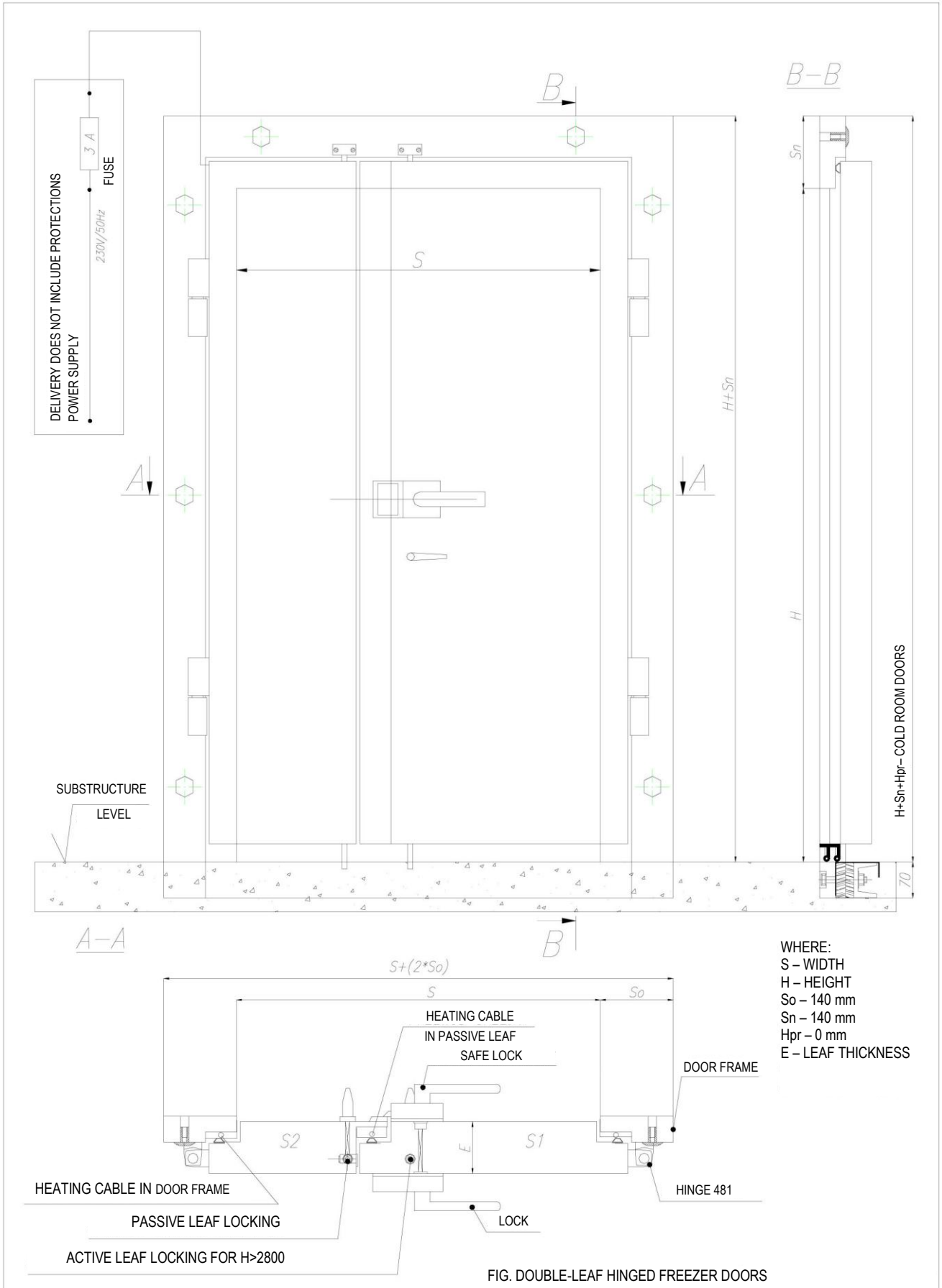
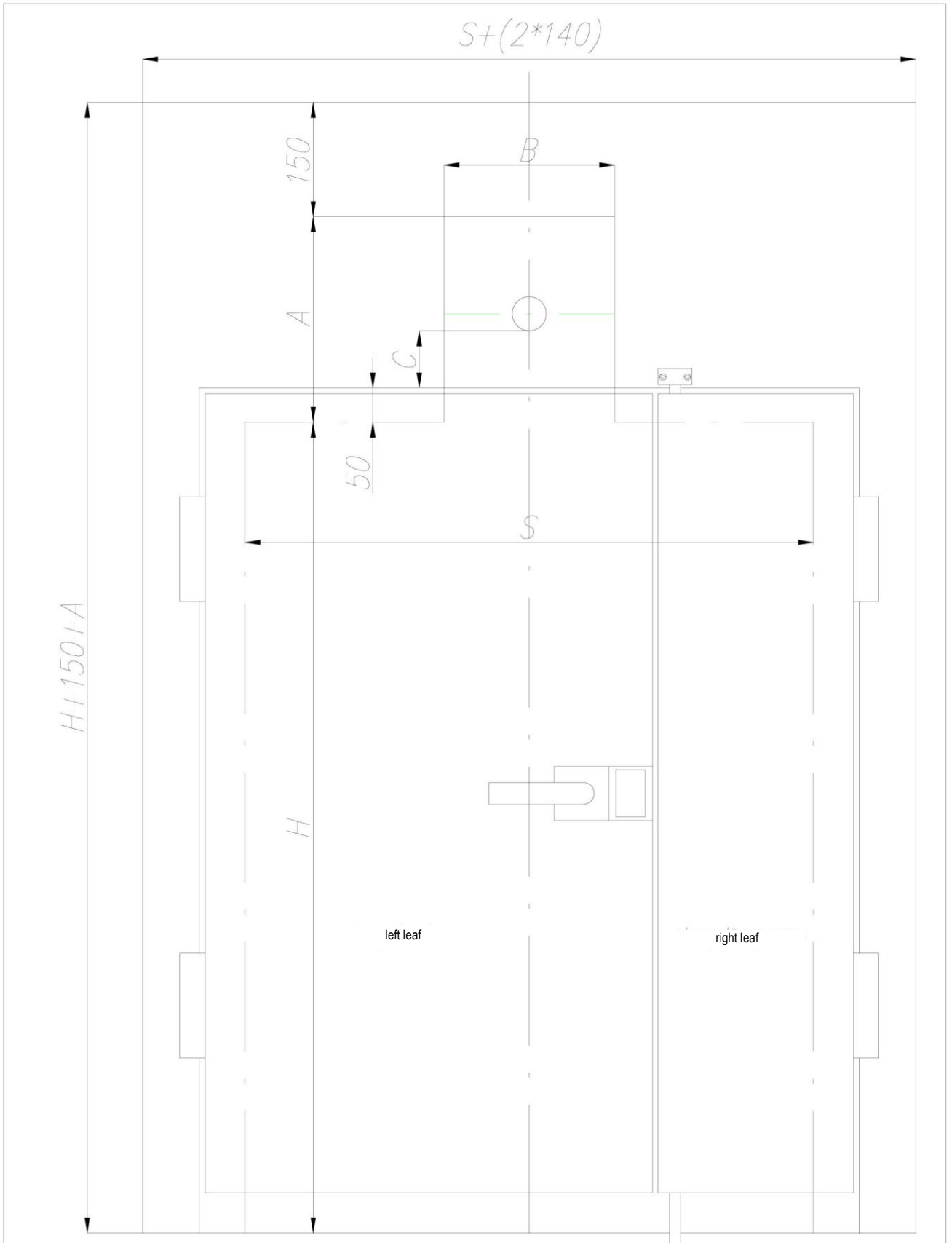


FIG. 1/3 DIAGRAM OF CONNECTING A HEATING CABLE TO PARALLEL VOLTAGE  
DISTANCE BETWEEN CONTACT POINTS – 0.5m

FIG.M5/2B VARIANTS OF INSTALLATION OF HINGED COLD ROOM AND FREEZER DOORS







Name, type, model 2-leaf cold room doors	Nominal size: SxH	Producer: COLDOR	Contractor:
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