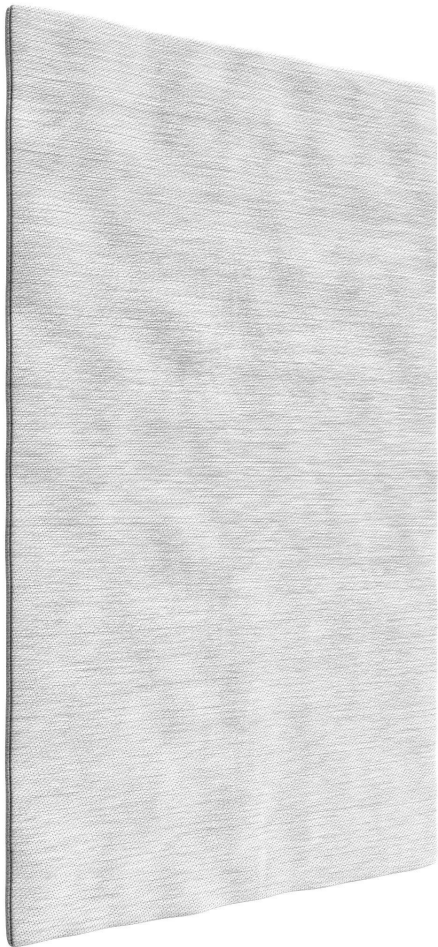


ISOLCORE[®]

The world's thinnest and best performing insulation

CZ Installation manual - Roofs



Description

ISOLCORE is the Italian brand that invented the best insulation products in the world. Vacuum panels usually consist of a pressed mineral component which is vacuum-packed by a special casing. The CZ panel is composed of a core mainly made of glass fiber and a special casing made of glass fiber fabric and aluminum, which makes it much more resistant to cut and erosion, compared to all other vacuum panels currently on the market. This special cover makes the panel impermeable to gas and steam and 3 times longer over time than a traditional insulation panel. Panels are deprived of the air inside them to obtain very low pressures: this process greatly reduces the mobility of the few air molecules remaining. In this way, the thermal conductivity decreases, reaching values even lower than 0.002 W/mK. Reducing the air inside the panels, the result is a reduction in energy transmission by thermal conduction, radiation and convection, which is due to the high insulation standard of the product. This process removes the air's thermal conductivity and the warm transfer, obtaining a highly insulating product.

Main applications

Cz panel is highly recommended in the construction field to insulate:

- Exterior walls (behind a false wall - total figure of thickness 3-3.5 cm)
- Interior walls (behind a false wall - total figure of thickness 2.5 cm)
- Terraces floors
- Pedestrian rooves
- Ceiling/garage

Besides, CZ panels can be used in many different sectors as the refrigeration ones.

Advantages

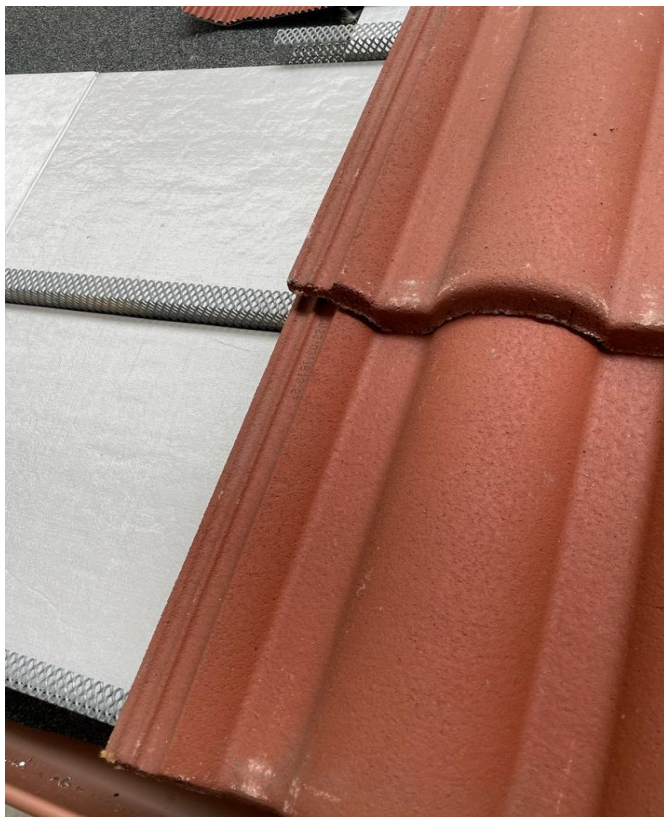
The main advantages are the following:

- its high insulating performances (20 times higher than those of traditional insulation products) - its low energy costs
- its low depth
- its thermal performance are 3 times longer over the time than traditional insulation products
- it can be placed also on those buildings that must follow some restrictions related to the landscape they are located in, their history or to the environment laws of their Country

INSTALLATION INSTRUCTIONS

CASE A) : UNDERTILE INSULATION ON PITCHED ROOF

Method n.1 - WITHOUT BOARD- ON TILE STOP PROFILES



If necessary, waterproof the roof using adhesive slated sheathing or liquid sheathing or flamed sheathing. This can be realized by means of special micro-perforated metal “U” or “Z” profiles to stop roof tiles, usually laid at an inter-axis distance of 50/60 cm. Then place the panels with non-expanding polyurethane foam between the metal profiles, taping the gaps/joints between each then use the aluminum tape or with the polyurethane foam . Now it is possible to lay the tiles on the top of the structure.

During the installation stage, be careful not to step on the panels or there is the risk of damage. For this reason, we recommend leaving a path free of panels to walk safely from one side of the roof to the other. In the final stage put the panels on these empty paths .



Depending on the type of roofing, consider placing a vapour barrier sheet. Then fix wooden supports with a minimum height of 15 mm. Glue CZ panels with non-expanding adhesive polyurethane foam between each batten and cover with OSB board or special fibre cement sheet (e.g. Rooftop).



On top of the boarding, slated adhesive sealant sheathing (or other types, provided they are suitable) may be laid. Finally, lay the tiles.



Note: if a ventilation grid is used parallel to the eaves line, and straddling the pitch, a **micro-ventilated roof** can also be realised.

Note: placing our Nanofelt (aerogel felt) under the wooden beam to insulate the thermal

CASE B) : INSULATION OF FLAT ROOFS.

Method n.1 -UNDER-BOARD INSULATION

Depending on the type of roofing, consider placing a vapour barrier sheet. Then fix wooden supports with a minimum height of 15 mm. Lay CZ panels between each batten and cover with OSB board or special fibre cement sheet (e.g. Rooftop).

Note: *in this case it is not necessary glue the CZ with non-expanding adhesive polyurethane foam.*

On top of the boarding, slated adhesive sealant sheathing (or other types, provided they are suitable) may be laid.

If you wish, you can now glue the floor tiles or pass a floating floor or leave the waterproofed board exposed.

Method n.2 - UNDER THE FLOOR SCREED

Laying horizontally on floors, terraces, floors must take place on flat surfaces free of impurities and placed it on top of a layer of non-woven fabric. Particular attention has to be given to the joining among each panel, performing a light lateral pressure to eliminate gaps or joints. Tape the joints of the panels and the perimeter of the pavement using an aluminum adhesive tape or polyurethane foam. Cover the

panel with an additional layer of non-woven fabric (200/300 g geotextile) and proceed placing a suitable screed of 5.5/ 6 cm. A bitumen sheath can be placed over the existing floor before gluing the panel CZ, or

on top of the lightened screed. Thanks to its special cover which keeps the inner envelope vacuum-sealed and vapor-tight, it also acts as a barrier to the steam.

Restrictions/conditions.

The vacuum panel must be treated with particular care and delicacy. Indeed, it is highly recommended to check the integrity of the Panel before installing it. Damages are recognisable in this respect by noticing the imperfect adhesion of the external cover to the inner core.

For the installation of CZ - ISOLCORE vacuum panels, it is essential to pay attention to the following points:

- 1) Once the vacuum panels are delivered, they shall be visually checked according to the above criteria to verify their integrity;
- 2) The panels cannot be cut or bent: usually panels are rectangular or square shaped but we can customize them in different shapes and/or sizes to suit specific applications.
- 3) It is not recommended to drill the panels
- 4) The surface on which the vacuum panels are to be placed must be smooth, flat and must not display sharp edges or other protuberances.

Our panels also have small dimensions to cover even those areas that are difficult to insulate and where larger formats cannot reach.

We recommend that you provide us with the right number of panels for each format choosing among the standard ones (see data sheet).

Note: if small parts remain uncovered they can be insulated with NANOFELT nanotechnological felt which is 1 cm thick. In this way it is possible to insulate 100% of any thermal bridges. Furthermore, this felt can be easily shaped and cut with a simple cutter.

LEGAL NOTES

The advice on how to use our products corresponds to the current state of our knowledge and does not entail the assumption of any guarantee and/or liability for the end result of the work. It is the responsibility of the user to verify the suitability of the product for his specific use, assuming all responsibility inherent in and deriving from the use of the product itself. Our technicians are at your disposal for information, clarifications and questions on the use and processing of our products. Updated information sheets are available on the website www.isolcore.com or can be requested from our offices.

EDITION

Release: 28/10/2019

Revision: 14/04/2023