



Product Technical Data Sheet

Cellar 200x350

Natural Fridge®



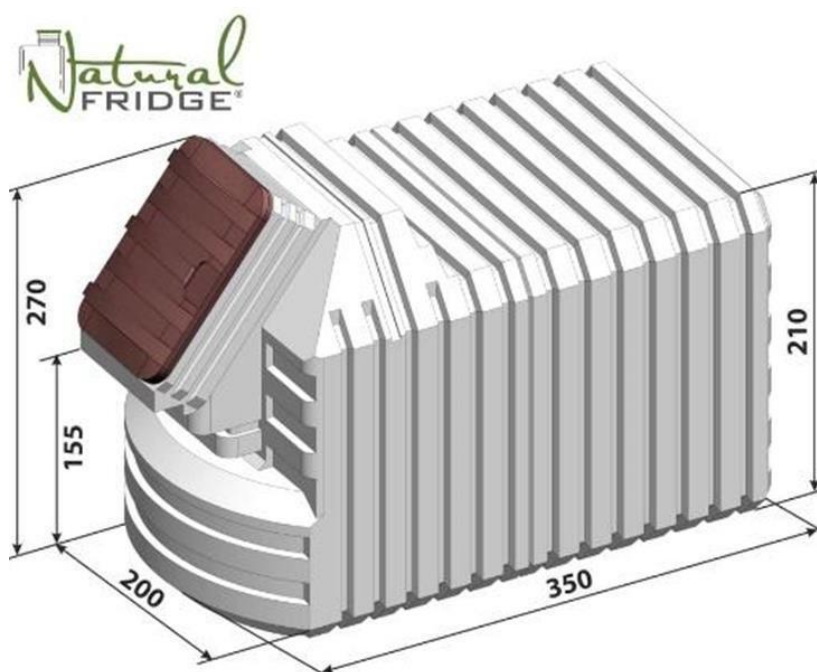
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This technical data sheet describes the basic technical characteristics of the Natural Fridge 200x350 cellar, made of plastic, with a side entrance, as well as its assembly and use.

Plastic cellars are designed for storing packaged vegetables, fruits, liquids, beverages, and various food types. The Cellar is delivered ready for ground installation. The Cellar is constructed from food-grade polyethylene as a monolithic structure using rotomolding technology. Does not require additional sealing.



Dimensions: 200x350 cm,
Height: 270 cm
Volume: 12.9 m³
Weight: 1300 kg
Entrance dimensions: 90 x 130
cm, Shelf width: 30-35 cm,
Shelf area: 9.8 m²

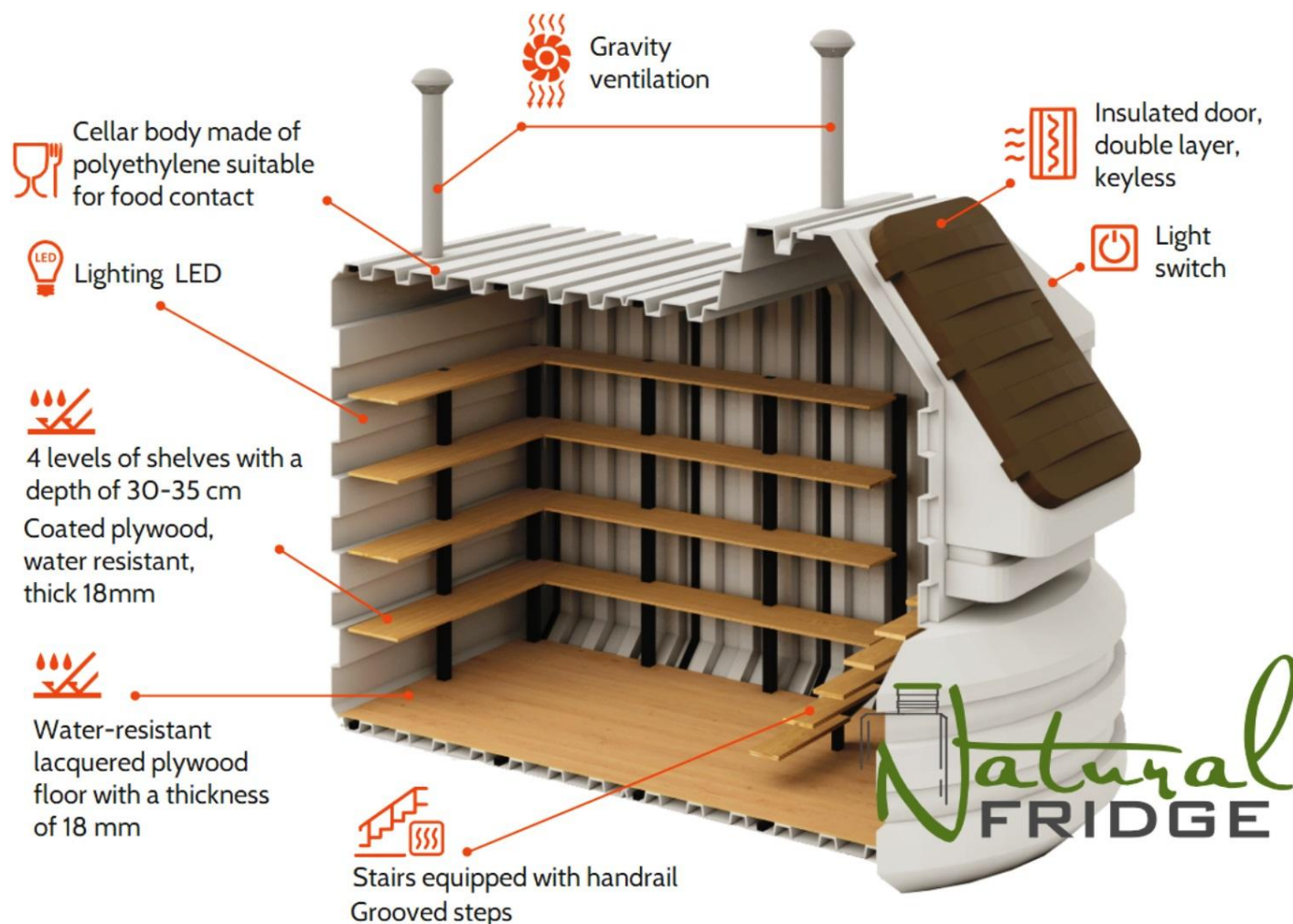
Dimensions may vary by $\pm 3\%$ due to polyethylene shrinkage variations.

Equipment

Interior equipment:

1. Shelves made of waterproof plywood - 4 rows.
2. Floor made of waterproof plywood.
3. Stairs - 1 pc.
4. Supply ventilation - 1 pc.
5. Exhaust ventilation - 1 pc.

6. Double cover (hatch) - 1 pc.
7. LED lighting - 1 pc.
8. Weather station - 1 pc.



Assembly and operating instructions

The cellar body is constructed from food-grade polyethylene reinforced with ribbing. A robust steel frame is installed inside the cellar, which also functions as reinforcing ribs for the body. The unit does not require additional sealing or corrosion protection.

The lower section of the cellar should be buried to a depth of approximately 155 cm below ground level. At this depth, the cellar structure is subjected to significant soil pressure. These forces can be even greater with high groundwater levels or in the presence of clay soils, which may shift during freezing. Therefore, the assembly of the cellar must be performed in accordance with these instructions. This will ensure the aesthetic and practical cellar provides many years of service.



Prior to commencing cellar assembly, the groundwater level and soil type at the site must be determined.

Required Materials

Materials needed for the installation/assembly of the underground cellar:

- Ready-mixed semi-dry (dry) concrete B15-B25, 6 m³.
- Reinforcing bars 10-12 mm, 70 linear meters.
- Expanded polystyrene (Styrodur) insulation boards, 5 cm thick – 30 pieces.
- Underground cable 2x6mm² or 2x4mm² - from the cellar to the power connection point (220V).
- Synthetic straps with an allowable load of 4-5 tons and a length of 7 m - 2 pieces, or steel ropes with a polymer coating with a minimum diameter of 12 mm and a minimum length of 7 m - 2 pieces.

Excavation Dimensions

The excavation dimensions for cellar assembly should be 20 cm larger than its width and length around the entire perimeter—at least 240 x 290 cm at the bottom. The excavation depth should be 165-170 cm, ensuring that after placing the cellar on a concrete slab or a dry concrete base, the lower edge of the manhole cover is positioned 5-10 cm above ground level. This prevents rainwater or meltwater from entering the cellar. The excavation walls should be vertical. This will significantly facilitate casing the cellar walls with dry concrete.

Installation

In sandy soils and with a low groundwater level (at least 1.5 m below the surface), the cellar may be installed on a 10-15 cm thick layer of reinforced dry concrete. Then, backfill it on each side with dry concrete.

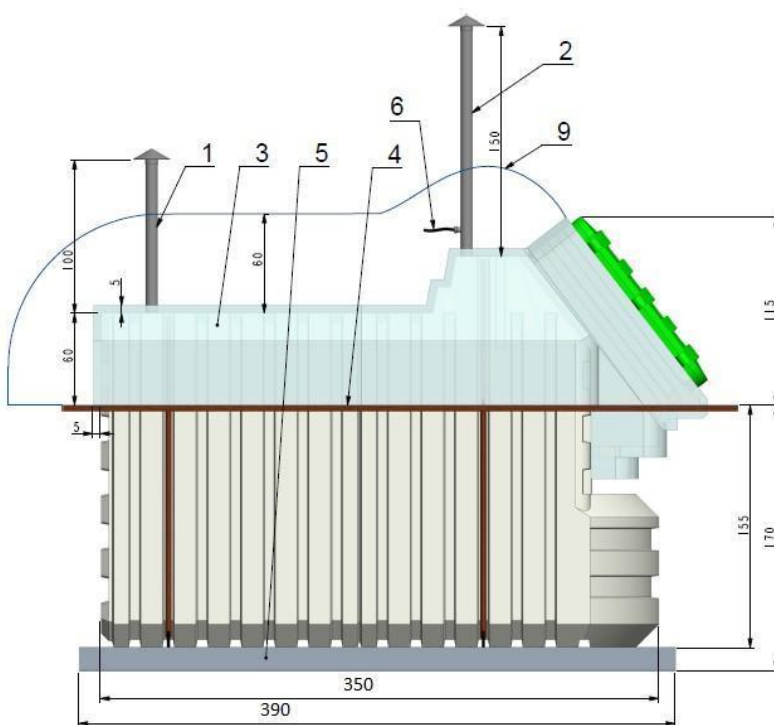
In clayey soils or with a high groundwater level, a reinforced concrete slab, at least 240 x 290 cm in size and 15 cm thick, must be laid at the bottom of the excavation, including handles for straps.

Place the cellar on the concrete slab previously poured at the bottom of the excavation and secure it with straps (not included). The cellar should be centered on the concrete slab. Then, secure it to the slab with straps or rope and backfill each side with dry concrete.

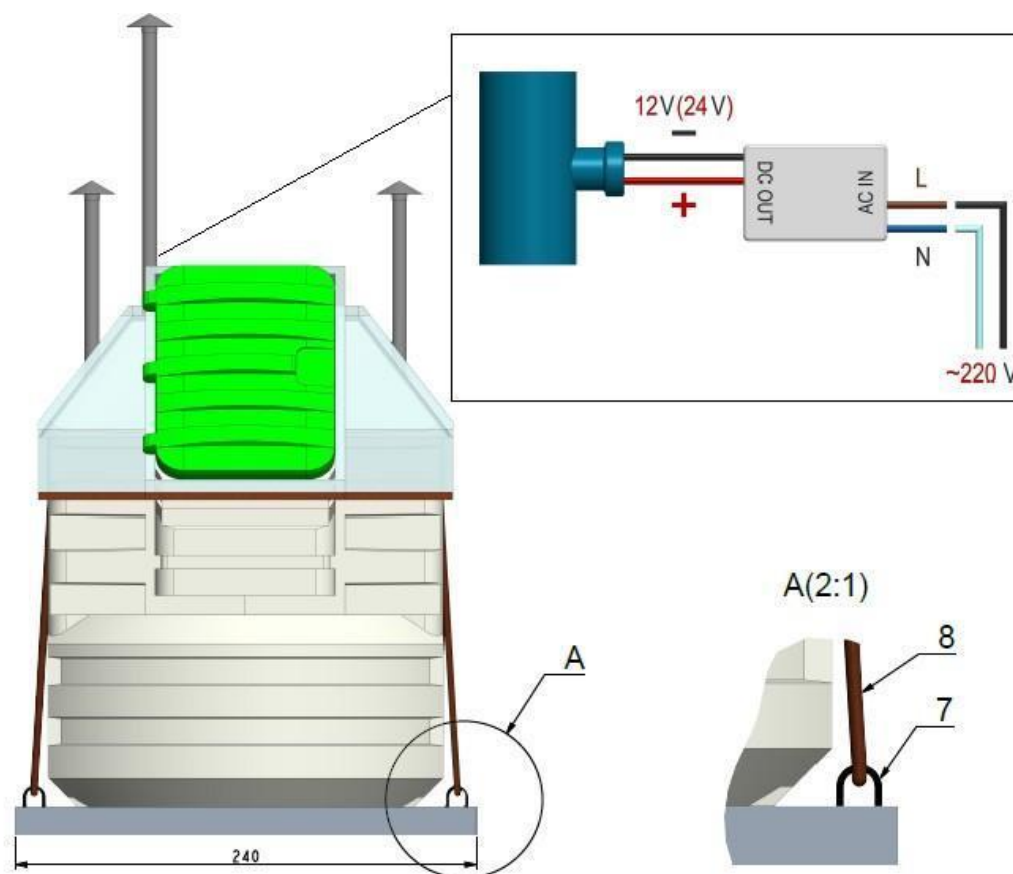
Each layer, 30-40 cm high, should be moistened with water to accelerate the curing of the dry concrete. The body of the cellar should be surrounded with dry concrete up to a height of 0.6-1 m from the bottom. Subsequently, the cellar is backfilled with sand.

The thickness of the dry concrete surrounding each wall of the cellar should be at least 20 cm.

Diagram



1. Ventilation inlet pipe
2. Ventilation exhaust pipe
3. Styrofoam insulation
4. Ground level
5. Concrete slab
6. LED power cable
1. Strap handles
7. Straps
8. Earth mound



Top section assembly

To minimize temperature fluctuations inside the cellar and distribute the ground load on the cellar body, **it is necessary to utilize insulating styrofoam** for foundations (extruded polystyrene - foam board) with a thickness of 5-10 cm (Styrodur or similar) on the upper part of the cellar (comprising the side surfaces of the entrance and the upper surface of the cellar body), as well as around the chimney and along the side surfaces of the cellar body to a depth of 60 cm from its upper plane. Thermal insulation should be covered with geotextile or thick foil.

After insulation, the exterior of the cellar body must be backfilled with sand or light soil. Do not use stones or clay for backfilling the cellar.

The ground level above the cellar must not exceed 50 cm above the thermal insulation at any point over the cellar body. Furthermore, large stones must not be placed over the cellar body. When installing paving stones over the cellar, a vibratory compactor for dry concrete must not be used.

Ventilation pipes must extend 50 cm above ground level for the inlet pipe (which supplies air to the lower part of the cellar) and 100-150 cm for the exhaust pipe (which removes air from the upper part of the cellar); they must also be equipped with ventilation caps (these are included in the cellar kit).



In winter, at very low temperatures (below -20°C), and in summer during heatwaves (above $+30^{\circ}\text{C}$), it is necessary to limit the flow of cold and warm air (close the air supply). It is also recommended to insulate the exhaust pipe to prevent condensation within it.

Attention

When backfilling the cellar body with earth, construction machinery must not be used within 1 m of the body. Vehicle movement within 1 m of the entire perimeter of the cellar is prohibited.

Within a few weeks after assembly, the polyethylene walls of the cellar will be pressed against the cellar's frame and shelves by the pressure of the earth; over larger distances between frame elements, the walls may slightly bow inwards. In cases of significant temperature differences, some condensation may appear on the entrance door or walls. Condensation naturally evaporates after some time and does not require special removal. At very low temperatures, frost may appear on the inner side of the entrance flap. If this phenomenon occurs frequently, it is recommended to insulate the door from the inside with insulating foam.

It is recommended to take photographs during the assembly process and retain them for the duration of the warranty period.

Warranty Conditions

During the warranty period, the buyer is entitled to free repair of the product if defects result from manufacturing errors.

The warranty covers the functionality of the fittings, the quality of food-safe material, the floor and shelves, as well as mechanical and welded connections.

The manufacturer's warranty does not cover the following cases:

- Normal wear and tear of parts and components, natural aging, and damage to paint and surfaces caused by normal use and environmental influences, including aggressive substances such as chemical atmospheres, industrial pollution, plant saps, stones, salt, etc.;
- Minor geometric deviations that do not affect the quality of the plastic cellar or its components (e.g., slight deviations from structural dimensions caused by the characteristics of the rotomolding process);



- Damage caused by natural disasters, fire, household accidents, and other force majeure events;
- Damage caused by third parties, including damage during product delivery or assembly performed in violation of the plastic cellar's assembly instructions;
- Damage and deformation of products caused by changes in geometric dimensions occurring after installation work completion and resulting from product design modifications;
- Corrosion caused by scratches and chips on the painted frame and on various parts and connections.

The warranty is voided if the product is repaired or attempted to be repaired by unauthorized persons or companies without prior consultation with the manufacturer.

Warranty period: 24 months.

The warranty for certain components (weather station, LED lighting) is 1 year.

Estimated lifespan: at least 50 years.

Product Manufacturer

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