TECHNICAL DATA SHEET

NIVELOR CS-20

Cement-sulfate self-leveling floor screed

In accordance with
EN 13813:2003 - **class C20F6B1,5**

Self-leveling floor for manual and machine application, in thicknesses from 20 to 100 mm

PURPOSE

NIVELOR CS-20 is a dry mix based on a cement-sulfate binder, enriched with selected mineral fillers and polymer additives. It is used for leveling floors made of various construction substrates such as cement, concrete, cement-sand screeds, and others, in indoor applications. The screed's high thermal conductivity and flexural strength make it particularly suitable for creating smooth and durable surfaces over water-based underfloor heating systems.

NIVELOR CS-20 is characterized by excellent flowability, good elasticity, and high resistance to wear and compressive loads, as well as suitability for application over large surface areas. The screed is appropriate for use in both residential buildings and public facilities such as schools, offices, hospitals, and other indoor spaces. It allows the subsequent installation of various floor coverings—including ceramic and stone tiles, PVC, parquet, and more—after strict verification of the residual moisture content in accordance with applicable standards.

NIVELOR CS-20 can be applied in rooms with a medium moisture load, as well as in bathrooms and other high-moisture environments, provided that the substrate is pre-treated with appropriate waterproofing materials (such as **TERAZID GT-11** or **HIDROZID**).

PROPERTIES

- Excellent flowability
- High wear resistance
- Suitable for water-based underfloor heating
- Applicable over large surface areas
- Suitable for areas with medium to high moisture exposure

PREPARATION OF THE BASE

The substrate must be dry, solid, and free of grease stains, dust, and other construction debris. Concrete slabs must have reached their full strength (over 28 days old).

When applying the product in rooms located in close proximity to the ground—such as basements, cellars, garages, and similar spaces—it is necessary to insulate the working area with a vapor-permeable membrane that blocks moisture but allows vapor diffusion. It is recommended to install sealing tape in the corners, and to apply a skirting of sound-insulating tape along all surrounding walls in the working zone to prevent potential sound bridges.

Before starting work, all windows in the room must be closed in order to prevent uneven drying of the screed caused by air drafts.

To prevent the screed from cracking due to temperature or other expansions, a protective strip made of EPS or another suitable material, with a minimum height of 20 cm and a thickness of 1 cm, must be installed along the entire contact length between the walls and the floor.

A protective strip must also be installed at door openings to form an expansion joint and to prevent the flow and passage of material between adjacent rooms during application.

When installing over underfloor water heating systems, the pipes must be securely fixed and filled with pressurized water in order to avoid displacement and the formation of air pockets.

APPLICATION AND PROCESSING

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NIVELOR CS-20 is applied mechanically using special mixing pumps, and determining the correct consistency of the prepared mixture is of utmost importance. To avoid excessive dilution of the screed, it is recommended to start with a thicker mixture and, if necessary, add more water during the application process. For normal machine operation, a supply of clean water with a minimum flow rate of 3000 L/hour and at least 4 bar pressure is required.

The pouring of **NIVELOR CS-20** starts from the farthest corner of the room, gradually moving towards the door. The dry material is poured directly into the machine, ensuring a continuous supply of the mixture and uninterrupted work during pouring.

For additional homogenization and leveling, the freshly applied screed should be worked with a pipe screed or T-shaped straightedge, covering the entire area twice in perpendicular directions. Any foam and air bubbles that appear on the surface should be collected and removed. The open working time — including pouring, distributing, and leveling with the straightedge — is approximately 30–40 minutes.

The total thickness of the screed depends on its application and the structure on which it is applied. It must comply with regulatory requirements and the specific project specifications. The minimum thickness is: 20 mm for bonded screeds, 35 mm for floating screeds, and for underfloor heating systems, at least 25 mm above the level of the pipes.

Thanks to the properties of **NIVELOR CS-20**, the surface can be walked on 24 hours after application (at 30 mm layer thickness). Subsequent construction work can be carried out after a minimum of 5 days, depending on the moisture content and the type of floor coverings to be installed.

CONSUMPTION

- 18 - 20 kg/m² at a layer thickness of 1 cm

FORM OF DELIVERY

Dry mix in 25 kg paper bags.

WORKING TOOLS

- application machine
- mixing pump
- pipe screed or T-shaped straight edge

WEATHER CONDITIONS FOR APPLICATION

The minimum ambient and substrate temperature must not be lower than +5˚C, and the maximum should not exceed +25˚C.Lower temperatures extend the working time, while higher temperatures shorten it. After application of the self-leveling screed, a temperature between +5˚C and +25˚C must be maintained. Protect the surface from premature and uneven drying. Avoid application under direct sunlight and exposure to drafts.

NOTES

The characteristics and technical data of the product specified in this technical datasheet are determined under standard conditions: a temperature of 20°C and relative air humidity of 50%. Under different climatic conditions, the working time for some of the processes mentioned above may be shortened or extended.

The product information is based on the manufacturer's practical experience and on technical tests conducted in specialized laboratories.

Do not mix with other construction materials or with previously opened or outdated batches.

All safety warnings and recommendations related to **NIVELOR CS-20** can be found in the product's Safety Data Sheet (SDS).

STORAGE

112 months in original sealed packaging in a dry and ventilated place. Storage on pallets is recommended.

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CHARACTERISTICS AND TECHNICAL DATA	
Color	Grey
Form (physical state)	Dry mix (fine powder)
Base	Cement-sulfate
Bulk density	1.5 kg/L
Open working time	40 minutes
Minimum application thickness	20 mm
Maximum application thickness	100 mm
Walkability	After 24 hours (at 30 mm layer thickness)
Final setting / readiness for further works	5 days
Compressive strength	23.9 N/mm²
Flexural strength	6.1 N/mm²
Adhesion strength	1.81 N/mm²
Water impermeability coefficient	0.23 kg/m²·d
Water vapor permeability	195 g/m²·d
Thermal conductivity coefficient – λ10,DRY	1.18 W/m·K
Residual moisture after 24 hours	3.5% (at 5 mm thickness)

The manufacturer is responsible for the product quality, but not for the manner and the conditions of its usage. The information into the present Technical Data Sheet is reliable, but only if the product is used under the stated specified conditions. The responsibility of any other usage of the product, including its usage in a combination with any other product or process, is borne by the user.