



PANADUR

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Technical Data Sheet
PANADUR 2K Primer-SG

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PANADUR 2K Primer-SG

PANADUR 2K Primer-SG is a two-component reactive primer with an epoxy resin base.

Product Benefits

- Rapid reaction
- Easy to process
- No fillers
- Capillary active
- Durable protection for reinforced concrete substrates against carbonation

Range of Applications

PANADUR 2K Primer-SG is used as a rapidly reacting reactive primer for coating of cementitious substrates with solvent-free PANADUR Polyurea Products and for concrete surfaces with specific substrate properties.

Technical Data

Raw material base	2 component epoxy resin, VOC-free
Density PANADUR 2K Primer-SG component A (DIN EN ISO 1183-3 at 23 °C)	Approx. 1.15 g/cm ³
Density PANADUR 2K Primer-SG component B (DIN EN ISO 1183-3 at 23 °C)	Approx. 1.08 g/cm ³
Density component mixture (DIN EN ISO 1183-3, at 23 °C)	Ca. 1.1 g/cm ³
Dyn. viscosity PANADUR 2K Primer-SG component A (DIN 53019, measuring system 13, at 20 °C)	Approx. 1700 - 2200 mPa·s
Dyn. viscosity PANADUR 2K Primer-SG component B (DIN 53019, measuring system 13, at 20 °C)	Approx. 60 - 120 mPa·s
Mixing ratio	See label on container
Permissible ambient temperature during processing	5 to 30 °C (non-condensing, at least 3 °C above dew point, note the dew point chart)
Permissible surface temperature during processing	5 to 30 °C (to avoid condensation, keep as close to ambient temperature as possible; at least 3 °C above dew point)
Permissible material temperature during processing	5 to 30 °C
Permissible relative humidity	Max. 75 %
Consumption component mixture per layer	250 to 350 g/m ² on smooth substrates 400 to 500 g/m ² on rough substrates
Consumption quartz sand (0.3 – 0.8 mm, oven dried)	~ 1.5 – 3 kg/m ²
Shelf life	At least 6 months (applies to unopened original containers stored at 20 °C; protect from direct sunlight, lower temperatures and humidity; store containers upright and tightly closed)



Curing Times

Time frame for processing	At 10 °C: 35 – 45 min At 20 °C: 20 – 25 min At 30 °C: 10 – 15 min
Time frame for recoating (primer must be dust dry)	At 10 °C: min. 4 – 6, max. 48 h At 20 °C: min. 2 – 4, max. 24 h At 30 °C: min. 1 – 1.5, max. 16 h
Completely cured after approx.:	At 10 °C: min. 10 d At 20 °C: min. 7 d At 30 °C: min. 3 d

Note: These data are applicable at the given temperatures and 65 % relative humidity; times may vary at different conditions.

Physico-Chemical Properties

Color	Yellowish, transparent
Adhesive tensile strength	≥ 1.5 N/mm ²
VOC content (cat. II Aj Lb, limit since 2010: 500 g/l) acc. to 2004/42/EG	< 500 g/l ready to use

Processing Guidelines

General information:

Before processing starts, all provided documents must be entirely read and understood.

Preliminary tests with original materials under comparable conditions are required to ensure material compatibility and adhesion.

It is strongly recommended to keep detailed process records for every process step and the entire duration of the construction site.

It is not allowed to dilute the material with any type of additives, e.g. solvents, diluents or plasticizers.

The application is to be performed by a specialized company. If the scope is a remediation project, the application must be supervised by a qualified expert.

Uses which have not been specifically mentioned in this technical data sheet may only be performed after consultation and written confirmation by PANADUR GmbH.

Surface preparation:

A careful preparation of the surface is absolutely essential for a durable coating.

Cement-bound substrates must be stable, dry¹, finely textured, pressure resistant and exhibit sufficient tensile strength. Furthermore, it has to be free of cement paste film, loose or brittle areas and of separating substances such as oil, grease, rubber marks, paint residue or the like. Usually methods such as grit-blasting, shot-blasting, high-pressure water washing, milling or sanding is necessary. Cement slurry must be carefully removed from the surface. After substrate preparation, the substrate must have a universal tear resistance of at least 1.5 N/mm². Verify the adhesion to and compatibility with old coatings (test areas). The measured and

¹ Residual moisture of cementitious substrates: dry or wet (according to the German directive RiLi SIB).



documented concrete moisture of the surface must not exceed $< 4 \% \text{ CM}^2$. The temperature of the substrate must be at least $3 \text{ }^\circ\text{C}$ higher than the current dew point temperature.

The prepared surfaces must be primed in order to obtain a filled and non-porous surface. A scratch coat may be necessary to ensure that the primed surface is non-porous. Defects / holes should be repaired before processing using a filling compound, which has been recommended by PANADUR.

The following minimum requirements must be fulfilled depending on the substrate as well:

- Concrete quality: at least C 20/25
- Screed quality: at least EN 13813 CT-C25-F4
- Cure time: at least 28 days

Be sure to protect concrete substrates against rear moisture penetration.

Processing:

PANADUR 2K Primer-SG is delivered in two separate containers as component A (resin) and component B (hardener).

Open the containers only right before the application. Mix PANADUR 2K Primer-SG component A thoroughly with appropriate technical equipment and fill the desired amount into another suitable and clean container. Immediately close the containers and use promptly. Then add PANADUR 2K Primer-SG component B in the exact mixing ratio (see label on container) and homogenize carefully. Do not scratch the material from the container walls.

In order to create a non-porous film start to evenly apply PANADUR 2K Primer-SG to the prepared, clean and dry substrate using a rubber squeegee. Then roll over the surface with a napped roller and use either a primer brush or a soft, wide brush to thoroughly work the product into the surface. It is strongly recommended to apply the primer twice to ensure that all of the pores are completely sealed.

Broadcasting with quartz sand is not necessary within the time periods mentioned above.

If the recoating times are intentionally exceeded, it is necessary to broadcast oven dried quartz sand ($0.3 - 0.8 \text{ mm}$, consumption: $1.5 - 3 \text{ kg/m}^2$) after the first primer coat has been applied. Before applying a finishing coat, remove loose material by vacuum cleaning and prime again as specified above within the specified recoating times.

After the specified waiting times, it can be proceeded with the application of PANADUR polyurea systems.

When used as an exterior coating, care must be taken to protect the material from moisture for a sufficient period of time after application. If moisture penetration occurs too soon, the material may turn white or become tacky and significantly impair the adhesion to the following coating, which in turn may require removal of the coating by sand-blasting. The material below this coat is able to cure fully.

Note: The color of the product might be influenced by UV radiation due to its epoxy base. This does not affect the technical properties.

Tool cleaning:

The used tools / machinery must be thoroughly cleaned immediately after use, and, if necessary, also occasionally, depending on the system type. A proper cleaning agent must be chosen and tested according to the used system. Please follow the instructions of the equipment manufacturer as well.

Note: If the curing process has already started, it is no longer possible to clean any used tools.

Storage

Protect material from temperatures $> 30 \text{ }^\circ\text{C}$, frost ($T < 5 \text{ }^\circ\text{C}$) and humidity. Do not expose uncured components to direct sunlight. Store and transport containers upright and tightly closed.

Further information may be found in the corresponding safety data sheets.

² "Protection and Repair of Concrete Building Materials", Part 2, Section 1.2.5 "Concrete Moisture".

Protective Measures

The relevant protective measures are to be observed during processing and application. These are to be determined by risk assessment. Suitable protective clothing including respiratory must be worn during processing.

The instructions and safety advice on the containers should be followed during application. Further details may be found in our corresponding safety data sheets for each component.

Skin contact must be avoided, otherwise it may cause allergies.

GISCODE: RE 1

Please also observe the information provided by BG Bau (in German only) on how to handle epoxy resins (<http://www.bgbau.de/gisbau/fachthemen/epoxi>).

Further information may be found in the corresponding safety data sheets.

Environmental Information

Uncured components are harmful to aquatic organisms and may cause longer-term adverse effects in water.

Do not allow individual components and uncured material mixtures to enter water, sewers or groundwater.

Further details may be found in our corresponding safety data sheets for each component.

Important:

When handling our products, the essential physical, safety-related, toxicological and ecological data are to be taken from the appropriate material safety data sheets. Relevant provisions, such as the ordinance of hazardous substances, are to be observed.

Disclaimer:

The information above, in particular the suggestions for processing and use of our products, is based on our knowledge and experience under normal circumstances, provided that the products have been properly stored and used. Due to differences in materials and surfaces as well as diverging operating conditions, it is not possible to guarantee a particular result or to be held liable, regardless of the legal relationship, based on these references or on a verbal consultation unless we are found guilty of intention or gross negligence. In such a case, the user must prove that he/she transmitted all information in writing in a timely and accurate manner to PANADUR GmbH which was necessary for PANADUR GmbH to make an appropriate and promising assessment. The user must evaluate the suitability of a product for its intended purpose. Product specifications are subject to change. Proprietary rights of third parties must be observed. Furthermore, our respective current terms and conditions of sale and delivery apply. Only the latest version of each technical data sheet and the corresponding safety data sheets apply which are to be requested from us.