



PANADUR

coating your ideas



Technical Data Sheet
PANADUR 2K Primer-AL

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PANADUR 2K Primer-AL

PANADUR 2K Primer-AL is a solvent based two-component primer. It is distinguished by its excellent filling capability, corrosion protection and is also easy to sand.

Range of Applications

The zinc phosphate based primer PANADUR 2K Primer-AL is to be used on particle blasted aluminium surfaces (AlMg₃), which are to be coated with a PANADUR coating.

Technical Data

Raw material base	Hydroxy-functionalised polyacrylate, cross-linked with polyisocyanate
Density PANADUR 2K Primer-AL (DIN EN ISO 1183-3 bei 23 °C)	Approx. 1.39 g/cm ³
Density PANADUR Hardener NDN 50 (DIN EN ISO 1183-3 bei 23 °C)	Approx. 0.97 g/cm ³
Dynamic viscosity PANADUR 2K Primer-AL (DIN EN ISO 1183-3 bei 23 °C)	Approx. 650 mPa·s
Dynamic viscosity PANADUR Hardener NDN 50 (DIN EN ISO 1183-3 bei 23 °C)	Approx. 20 mPa·s
Volume solids (ready to use)	At least 65 %
Mixing ratio	See label on container
Permissible ambient temperature during processing	10 to 35 °C (non-condensing, at least 3 °C above dew point, note the dew point chart)
Permissible surface temperature during processing	10 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	15 to 25 °C
Consumption of component mixture	120 – 250 g/m ² , (at film thickness of 60 µm, depends on substrate)
Recommended film thickness	60 – 130 µm
Shelf life	Stable for 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:	Approx. 3 h
Time frame for re-coating (after application, solvent must evaporate completely):	At least 2 h – max. 16 h
Dust dry after approx.:	30 min
Abradable after approx.:	6 h
Completely cured after approx.:	36 h (curing at elevated temperatures, max. 60 °C possible)

Note: These data are applicable at 23 °C / 50 % relative humidity; times may vary at different conditions.

Physico-Chemical Properties

Color	Yellow green
Gloss 60° (DIN EN ISO 2813)	Matt

Processing Guidelines

General information:

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

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

The application instructions given herein only apply to AlMg₃ alloys, different aluminum alloys on request. Preliminary tests on the specific aluminium quality must be performed using original material under the appropriate conditions in order to guarantee material compatibility and adhesion. Adhesion may be tested after four weeks at the earliest to attain precise data on ultimate adhesion.

It is absolutely necessary to keep detailed process records for every process step and its ambient conditions for the entire duration of the construction site, especially equipment maintenance logs (material temperatures and pressures, mass output during processing and measuring equipment tracing) and listed data for processing conditions (temperature deviations and air moisture). In addition the correct operation of the 2K system measuring devices must be checked regularly and documented in a verifiable manner.

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.

The following applies in general: See German VOB, Part C, DIN 18363, section 3.

The substrate to be coated must be properly and professionally prepared. After preparation, the surface must be sound, clean and dry. It must be free of rolling skin, rust, oil, grease, scale, oxidation products as well as substances that prevent adhesion (e.g. silicones, release agents). Before coating, prepare the substrate using a suitable method, such as sanding, blasting or Blastrac shot blasting to a standard grade of cleanliness of Sa 2 ½ (in accordance with DIN EN ISO 8501-1).

Afterwards use PANADUR Silicone remover in order to clean the dry metal surface and to remove dust and oily impurities. The dry surface must be protected from moisture (rain, condensing humidity, ...), otherwise the treatment with PANADUR Silicone remover has to be repeated.



Processing:

PANADUR 2K Primer-AL is applied with a gravity spray gun or suction spray gun using airless or airmix equipment. When using airless or airmix equipment, observe the instructions for use from the system manufacturer.

PANADUR 2K Primer-AL can also be applied with a brush or roller.

Open the containers only right before the application. Homogenize PANADUR 2K Primer-AL directly before use with appropriate technical equipment and fill the desired amount into another suitable and clean container. Immediately close the containers after opening and use promptly. Then add PANADUR Hardener NDN 65 in the exact mixing ratio (see label on container). Homogenize carefully and do not scrape rests from container.

To obtain the necessary viscosity for spraying, add PANADUR Thinner BX 55.

It may be necessary to remix right before use.

Spray completely the surface with 1 to 2 crosscoats as needed to build up to the desired film thickness.

Recommended parameters for a cup gun (for 60 – 130 µm film thickness) are listed below:

Spray pressure	2.5 – 3.5 bar
Nozzle diameter	1.4 mm
Addition of PANADUR Thinner BX 55)	5 – max. 20 %wt.

Protect the primer layer from direct contact with water (e.g. dew, rain...) until it is recoated.

Recoating:

At an ambient temperature of 23 °C with 50 % relative humidity, it is possible to recoat without sanding for up to 16 hours after applying the last layer. The last layer has to be completely dry before recoating.

Note: A wet-in-wet application is not possible with PANADUR Polyurea products.

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 based and tested according to the used system. Please also observe the instructions of the equipment manufacturer.

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

Supplemental Products

- PANADUR Silicone remover
- PANADUR Thinner BX 55

Storage

Protect from heat ($T > 30\text{ °C}$), frost ($T < 5\text{ °C}$) and humidity. Already opened containers must be protected against surrounding moisture (nitrogen or argon fumigation). After fumigation, immediately close tightly and use the material promptly. 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.

Protective Measures

Both components are flammable.

The relevant protective measures must be observed during processing and application. These have 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.

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.