

## Technical Data Sheet

33.06.262E – 07/06

### ® HAWOFERRAN R21

#### Repair system for BORNUMHARZ 6101

#### Description

HAWOFERRAN R21 is a two-component synthetic resin cement made of modified phenolic resin having a low contaminant content and a carbon-based filler.

#### Typical use

HAWOFERRAN R21 is recommended for minor repairs to the BORNUMHARZ 6101 phenolic resin lining.

#### Properties

HAWOFERRAN R21 displays an excellent adhesion to BORNUMHARZ 6101.

HAWOFERRAN R21 has the same degree of leakage resistance as BORNUMHARZ 6101, i.e.  $< 10^5 \Omega$ .

HAWOFERRAN R21 cannot be troweled directly onto steel. Corrosion may occur as the phenolic resin cement contains an acid catalyst. If the section to be repaired is ground down to the steel substrate, KERAPOX EP 210 must first be trowel-applied to the roughened steel surface.

Once the KERAPOX EP 210 has hardened and the surface is roughened by means of grinding, the section may then be repaired using HAWOFERRAN R21.

#### Chemical resistance

Information regarding the chemical resistance properties is available upon request.

#### Substrate

The substrate consists of BORNUMHARZ 6101 and KERAPOX EP 210.

#### Surface pretreatment

The surface must be free from impurities and parting compounds. Roughening of the substrate is recommended.

#### Application

HAWOFERRAN R21 is composed of the two-component cement compound, which is applied to the substrate and smoothed down.

Mixing ratios	Parts by weight (kg)	Parts by volume (l)
<u>HAWOFERRAN R21</u>		
HAWOFERRAN R21 Component A (resin solution)	100	2.00
HAWOFERRAN R21 Component B (Powder with hardening agent)	163	6.50

#### Pot life

The processing time for HAWOFERRAN R21 is dependent on the amount prepared and the ambient temperature.

Temperature	HAWOFERRAN R21
20 °C	45 minutes

The actual processing time will be longer at lower temperatures and shorter at higher temperatures. Once the pot life has been exceeded, the mixed HAWOFERRAN R21 cement compound can no longer be used.

At 23°C the repaired section will take 24 hours to harden. At temperatures below 10°C hardening will be significantly delayed. Processing should take place only if the components can be suitably warmed up.

#### Coverage

Approx. 1.45 kg/m<sup>2</sup> per mm thickness

#### Packing

The products are shipped in the following standard packing units:

HAWOFERRAN R21 Component A	0.380 kg
HAWOFERRAN R21 Component B	0.620 kg

#### Storage

The products must be stored in a cool and dry location. The minimum shelf life for each component at a storage temperature of 23°C is indicated below:

HAWOFERRAN R21 Comp. A	6 months
HAWOFERRAN R21 Comp. B	24 months

Higher temperatures will shorten the shelf life of these products. Keep packing units tightly sealed and reseal each time materials have been removed. All liquid products are to be stored in a frost-free environment.

### Safety

Adequate ventilation is to be provided while work is in progress.

Forced ventilation is compulsory for all work carried out in pits and enclosed areas. All vapors produced while work is in progress must be continuously suctioned off at floor or bottom level.

Only such amounts of material as required for the uninterrupted execution of the works are to be stored at the work place.

All regulations relative to fire and explosion protection shall be complied with as required.

Special care shall be taken to ensure that no amounts of the individual components and/or the mixed compounds are released into the drainage systems.

All regulations for the prevention of accidents stipulated by the employer's liability insurance association, the pertinent accident prevention regulations prescribed at the site of application and the TRGS 507 "Surface Treatment in Rooms and Tanks" as well as the safety precautions listed on the packages (label) pursuant to the provisions of the Hazardous Materials Ordinance shall be adhered to. The operating instructions as specified in § 14 GefStoffV (Hazardous Materials Ordinance) as well as the EC Safety Data Sheets are to be complied with.

Technical data	Test specification	Unit	Parameter
Density	DIN EN ISO 1183-1	g/cm <sup>3</sup>	1.45
Hardness	DIN 53505	Shore D	> 50
Compressive strength	DIN EN ISO 604	MPa	approx. 60
Adhesive strength	DIN EN 24624	MPa	≥ 2
Max. service temperature		°C	120

The technical data contained herein represents the current state of our product knowledge and is intended to furnish general information regarding our products and their application spectrum. In view of the diversity and multitude of application possibilities, this information should be regarded as a guideline only, which does not guarantee any specific properties and/or suitability of these products for each concrete case of application. Consequently, prior to placing an order for a product, we recommend that you provide us with the specific properties required for a particular application. Upon request, our technical service will immediately draw up a detailed property profile for that concrete application case.

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