

**Hard and Readily Available ...**

**KALPOXY**  
**Epoxy bonded Hard Compound**



KALPOXY is a highly wear resistant epoxy bonded hard compound that can be rapidly and effectively used for lining structural components and for repairs. Excellent wear properties are achieved after short curing time.

KALPOXY has been especially developed to solve numerous wear problems that occur in actual practice. Almost any surface and shape – even complex locations that are difficult to reach – can be reliably coated thanks to the very good handling properties and the high contact power.

Overhead installation of KALPOXY is feasible without any problem.

KALPOXY has excellently stood the test for many applications. Apart from standard lining of, e.g. pipe systems, vessels, chutes, cyclones, conveying systems, etc., especially prematurely worn surfaces of system components can be repaired rapidly, easily and within minimum downtimes.

# KALPOXY

## Epoxy bonded Hard Compound

### Epoxy Resin Matrix

The selective use of hard mineral materials (corundum) combined with the heavy duty epoxy resin matrix enable KALPOXY systems of varying layer thickness thereby ensuring an efficient and simple protection of locations that are subject to particular stress.

### Easy Working

The material can be worked at the site by the customer's staff with simple tools at low cost. After mixing, KALPOXY is applied at the desired thickness with the aid of a trowel and the surface smoothed, if required. It is not necessary to provide for reinforcing, e.g. in the form of a wire mesh.

### Short Curing Periods

KALPOXY hardens at room temperatures of 20 °C / 68 °F during approx. 24 hours. It can be used up to application temperatures of 80 °C / 176 °F.



### Typical Fields of Application

#### Applications

- bunkers
- channels
- chutes
- cyclones
- deflection hoods
- dust collecting channels
- gas cleaning systems
- hoppers
- hydraulic conveying systems
- loading stations
- pipe bends
- pipes
- pneumatic conveying systems
- separators
- silos
- tanks
- transport systems
- troughs

#### Industries

- aluminum smelters
- cement industry
- chemical industry
- coal mining
- coal fired power plants
- foundries
- glassworks
- handling systems
- mineral processing
- mineral wool production
- mining / mines
- non-ferrous metal recovery
- ore mines
- ore processing
- recycling facilities
- recycling facilities
- refuse incineration plants
- steel / iron

#### Top:

*The compound is made ready for use by intense mixing of the constituents, i.e. resin/hard material and hardener at the specific mixture ratio.*

#### Bottom:

*KALPOXY is simply applied at the desired layer thickness with a trowel and then smoothed, if required. Working overhead is possible without any difficulty as well. No reinforcing has to be fitted.*

## Product Properties

- two-component system
- high wear resistance
- jointless lining
- simple handling
- even suitable for complex geometries
- can be worked horizontally, vertically and overhead

## Technical Specification

- hard material particle size 1 ... 3 mm
- density 2.2 g/cm<sup>3</sup>
- ultimate compressive strength 80 Mpa
- ultimate bending tensile strength 25 Mpa
- hard material portion 73 %
- working time after mixing 30 minutes (at 20 °C / 68 °F)
- application thickness 5 ... 40 mm
- application temperature 80 °C / 176 °F
- mechanically loadable after 24 h (at 20 °C / 68 °F)

## Abrasion Resistance

KALPOXY has displayed excellent abrasion resistance in actual practice. The material hardness corresponds to grade 8 in the Mohs hardness scale. During direct wear tests based on ASTM C704 it turned out that the abrasion resistance is even slightly above that of ABRESIST fused cast basalt and of KALCRET cement bonded hard compound.

## General Working Instructions

### Preparing the Subsurface

The subsurface must be clean, free of dust and dry. Roughening (sandblasting, brushing) the contact surface will enhance the adhesive strength.

### Preparation

- ambient temperature during mixing and preparation: 10 – 30 °C / 50 – 86 °F
- temperature of product and structural component: 10 – 30 °C / 50 – 86 °F
- mixture ratio (resin/hard material : hardener): 9.75 : 1
- mixing period minutes: 4 to 6
- working period: 30 minutes

The KALPOXY two-component system is offered at pre-dosed packages to ensure easy handling. The compound is prepared for working by intense mixing of the constituents made up of resin/hard material and hardener at the specified mixing ratio. Optimal results will be obtained provided resin/hard material and hardener are mixed separately first in order to eliminate segregation, if any.

## Delivery and Storage

- package sizes:
  - 8.6 kg KALPOXY hard material and hardener
  - 4.3 kg KALPOXY hard material and hardener
- storage:
  - 12 months (dry at 15 °C / 59 °F)

Safety data sheets available on request or with every first supply

**Wear Protection that can be Trowelled, Cast and Sprayed-on:**

# **Cement bonded KALCRET Hard Compound**



***KALCRET trowelled compound***



***KALCRET cast compound***



***KALCRET sprayed-on compound***

KALCRET hard compound is the general term for cement bonded wear protection materials.

The mixture includes defined additives and is made up of:

- hard aggregate materials
- cement binder
- micro and nano silica

KALCRET hard compound achieves excellent abrasion resistance.

### **KALCRET Trowelled Compound**

This compound allows universal protection of vertical, inclined and curved surfaces. Even safe overhead working is feasible.

### **KALCRET Cast Compound**

Ideally suited for flat surfaces and in case formwork can be used.

### **KALCRET Sprayed-on Compound**

Easy lining of large surfaces by spraying horizontally, vertically and overhead.

### **Technical Advice**

Numerous varying factors determine which Kalenborn material will be best for solving a particular wear problem.

After having reviewed the conditions of the particular application, our engineers will give you comprehensive advice and submit proposals tailored to the particular requirements.

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