



Technical Data Sheet

INDUBOND-VK4031

Art.-No. 2 03502

Two-component epoxy resin-based, thixotropic, multipurpose adhesive

Description:

INDUBOND-VK4031 is a two-component, solvent-free, 100% solids, high-modulus, non-sag, multipurpose bonding agent for horizontal, vertical and overhead applications. When mixed INDUBOND-VK4031 will give a smooth, paste-like consistency used for structural and waterproof bonding of a wide range of construction substrates.

Primary Uses:

INDUBOND-VK4031 is a multipurpose, structural adhesive typically used for:

- Structural bonding of pre-cast elements such as segmental bridge units, crash barriers, parapets, curbs etc.
- Fixing dowels and starter bars
- Blow hole filling
- Levelling undulated surfaces
- Filling and sealing of static cracks
- Fixing surface injection packers
- Bonding carbon fibre wrap to concrete surfaces
- Adhesive for INDUBOND-Tape-3000

Advantages:

INDUBOND-VK4031 is characterised by:

- easy to mix, apply & clean
- high early & final compressive, flexural, bond & tensile strengths
- resistant to many dilute acids, alkalis and solutions aggressive to concrete
- bonds to both dry & damp substrates
- bonds to many substrates such as mortar, steel, aluminium & glass
- two-colour coded components indicate mixing homogeneity once achieved
- for horizontal, vertical and overhead application
- hardens without shrinkage
- excellent abrasion resistance
- innocuous once cured

Standards:

INDUBOND-VK4031 complies with all the requirements of ASTM C-881; „Epoxy Resin-Base Bonding Systems for Concrete“ Types I & IV, Grade 3, Class B and C.

Typical Properties:

Basis:	2-components epoxy-resin
Colour:	Component A: off white Component B: transparent Mixed product: light grey
Viscosity:	trowellable consistency
Density:	approx. 1.80 g/cm ³ at 23° C
Mixing Ratio:	2:1 parts by weight
Pot life:	60 mins at 23° C
Adhesive open time:	90 mins at 23° C
Minimum cure temp.	5° C
Overcoat after:	16 hrs at 23° C
Full cure:	7 days
Light traffic/full load after:	48 hrs/7 days at 23° C
Tensile adhesion strength:	approx. 2,5 N/mm ² concrete failure
Flexural strength:	30 N/mm ²
Compressive strength:	60 N/mm ²

Application procedures:

Tools:

For surface preparation:

As appropriate to substrate condition & size of repair area involved use chisel, grinder (such as HighGrinder 125.4RO* or similar) sandblasting, water-blasting or grit-blasting equipment.

For mixing:

Use a spiral mixing paddle (such as MG140*) attached to a variable slow speed mixer (such as HighMix EHR23*).

For application:

Use a straight or notched steel trowel for surface applications & for filling of anchor grout holes use a barrel type sealant gun (available from SCHOMBURG) attached with a flexible hose.

* denotes equipment supplied by HTG HIGH TECH Germany GmbH

Surface Preparation:

The area to be treated must be sound and free from adhesion inhibiting substances such as dust, laitance, grease, rust, etc.

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Dependent on the type and condition of the substrate use suitable means of preparation such as scabbling, grit-blasting, water-blasting or shot-blasting.

The following criteria must also be respected, dependent on the substrate type:

Cement-based:

Concrete quality: min. C20/25

Age of substrate: min. 14 days

Tensile adhesion strength: > 1.5 N/mm

Iron and steel:

Surfaces are to be abraded to a bright white metal finish in accordance with Swedish Standard SA 2 ½.

Priming:

INDUBOND-VK4031 does not require a primer.

Mixing:

Both components, A (resin) and B (hardener), are delivered in a predetermined mixing ratio. Empty all the contents of component B into the component A container. Mechanically stir both components using appropriate mixing paddle attached to a slow speed mixing drill (300 to 400 RPM) until a homogeneous and well dispersed mixture is obtained. Ensure that no unmixed material is left on the sides and bottom of the container. Decant the material into a clean container and thoroughly mix once again for 3 minutes. The material temperature during mixing should always be 25° C or lower.

Method of Application:

Evenly spread INDUBOND-VK4031 onto the well prepared substrate as an adhesive using a trowel, steel float or notched trowel and ensure a minimum adhesive bed thickness of 2.0 mm. When using as an anchoring grout, apply INDUBOND-VK4031 into the prepared opening ensuring continuation and compaction of the product to prevent air entrapment. Push – whilst gently twisting in one direction – the reinforcement bar until fully embedded.

Curing:

Protect uncured product from rain & moving water. Once hardened no curing procedures are required.

Estimating & Supply:

Packaging:

INDUBOND-VK4031 is supplied in a 1 kg or 6 kg kit consisting of 2 components. Both components are delivered at a predetermined mixing ratio.

Consumption:

INDUBOND-VK4031: approx. 1.80 kg/m² per mm thickness. Higher consumption is expected on rough surfaces. Always allow for wastage when calculating quantities to order.

Cleaning & Equipment Maintenance:

During continued application, all tools must be regularly & thoroughly cleaned with water and/or solvent every 25 to 40 minutes (dependant on temperature) to prevent the product from setting on tool surfaces. Thorough cleaning must also be carried out immediately at the end of works or whenever work is suspended. Cured material can only be removed mechanically.

Storage & shelf life:

Both components (A and B) have a shelf life of 24 month when original, unopened containers are stored in a dry environment above +10° C. In case INDUBOND-VK4031 is exposed to temperatures below +10° C, Component A of INDUBOND-VK4031 may stiffen. This is reversible by storing the product for 72 hours at a temperature of +25 to max. +30° C prior to use.

Health and safety:

Once completely cured, INDUBOND-VK4031 is harmless. The hardener (component B) is corrosive. Therefore implicitly ensure that the hardener does not come into contact with skin. Always wear protective gloves and adequate eye protection when working with this product. Clean up contamination with plenty of water and soap, preferably with the addition of 10% household vinegar. Should splashes get into the

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eyes, rinse immediately with plenty of water and seek immediate medical help with reference to the current valid Material Safety Data Sheet. Adhere to the general government health and safety protective directive.

Important advice:

- Always mix a full pack. Do not mix part packs.
- Do not expose applied material before initial cure to moving water.
- Protect from rain before initial cure to prevent surface deformations.
- Lower site temperatures may reduce workability whilst reaction times (pot life & full cure) are extended. Higher temperatures shorten the pot life.
- Applications that are not clearly explained in this technical data sheet may only be carried out after consultation with and written conformation from the Technical Services Department of SCHOMBURG.
- INDUBOND-VK4031 is classified as non hazardous in accordance with the Ordinance on Hazardous Substances GefStoffV.

Please observe a current EU health and safety data sheet.

GISCODE: RE 1