Technological, pourable structural mortar with high chemical resistance (Class AARS), suitable for reinforcement, patching and section increasing of load-bearing structures in concrete, reinforced concrete and masonry. For application in caissons. Fluid with compensated shrinkage. Superior resistance to carbonation and attack of nitrates, sulphates and chlorides.

KERABUILD® COLABILE

HIGH MECHANICAL RESISTANCE – The KERABUILD® COLABILE technology develops a high degree of resistance to adhesion, shear and compression which ensures correct bonding of patched areas with existing structures. Adhesion-promoting polymers with rigid, chemical reticulation and a mix of high-performance binders provide KERABUILD® COLABILE with the superior degree of resistance of a monolithic, structural concrete.

GUARANTEED LONG LIFE – The durability of structural reinforcements obtained with KERABUILD® COLABILE is guaranteed by the product's high levels of resistance to carbonation, chemical attack (Class AARS) and frost-thaw cycles and by its proven dimensional stability. The use of silicate micro-particles with pozzolanic action, fluidifying agents for the reduction of the water/cement ratio and interstitial crystallisation agents with expansive effect completes the mix design of KERABUILD® COLABILE, ensuring superior compactness and monolithic quality of restoration work.

PROLONGED RHEOPLASTIC ACTION – The hyperfluid, rheoplastic behaviour of KERABUILD® COLABILE is guaranteed by the use of fluidifying agents with a progressive effect which allow for manual or mechanized, continuous pouring in caissons with ideal compacting under vibration-free conditions.

Developed by the Research and Development Division and guaranteed by the Training Center.
Compliant with the CARE Project for the Protection of Health and the Environment: Building Division (Method M1 – Action E507).

KERAKOLL
SUPERIOR BUILDING TECHNOLOGY

KERABUILD® COLABILE

AREAS OF USE

Reinforced, structural patching or reinforcement with caissoning of:

- beams and pillars in reinforced concrete, load-bearing masonry with sandwich system
- slabs and vaults with insulation casting
- tanks or basements with positive or negative hydrostatic pressure
- irrigation channels
- load-bearing walls
- tunnels, viaducts and bridges

Creation of:

- underpinning, filling of holes and cavities, prefabricated elements

Use

For indoor and outdoor use on concrete, reinforced concrete and masonry.

Do not use

On substrates which are dirty, flaky or with deposits of parting compound, old paint or finishing coatings, for high-thickness patching without composite-action reinforcement.

PREPARATION OF SUBSTRATES

When creating composite-action patching, besides insertion of the required reinforcement materials the substrate must be perfectly cured, free from hygrometric shrinkage, solid (i.e. free from any weak or easily removable parts), clean, roughened and, when possible, also sanded and hack-hammered until the bare stone is uncovered.
Check that the concrete contains no traces of parting compound. Moisten to saturation point the substrates to be restored or reinforced.
Use of high pressure washer is always recommended. Remove carbonated areas and clean reinforcement rods to eliminate all traces of rust.
Oxidised reinforcement rods must always be freed from any residual traces of old concrete over the entire surface, so as to ensure complete protective restoration of the metal.
Passivation treatment of cleaned, old reinforcement rods must be carried out while the metal is still clean, using KERABUILD® FERRI technical passivating mortar, to be applied with a double pass.
In patching work on concrete flooring, create a peripheral dividing line around the area to be treated by mechanical cutting, perpendicular to the surface and to a minimum depth of 20 mm.
Insertion of reinforcement meshes or rods must be carried out so as to ensure a minimum metal-covering thickness of 10 mm.

ABSTRACT

Prepare the substrates to be reinforced by removing any loose or flaky parts and roughen until the bare substrate surface has been exposed. Make visible and clean any oxidised reinforcement rods. Position the new composite-action reinforcement rods with the support, moisten the substrates, create the required caissoning and carry out the casting operation with a non-shrink, hyperfluid, structural rheoplastic mortar with the appropriate level of resistance to chlorides, sulphates and carbonation such as KERABUILD® COLABILE manufactured by Kerakoll.

INSTRUCTIONS FOR USE

Preparation

Prepare KERABUILD® COLABILE by mixing 30 kg of powder with approximately 4.7 litres of clean water. The mixture is obtained by pouring the water into a clean container and then gradually adding the powder. The mixing process can be performed in a cement mixer or in a bucket (working manually or with a mechanical, low-rev agitator) or using a continuous mixer until a homogeneous, lump-free mortar is obtained.
It is also possible to use a plaster sprayer to mix and simultaneously pump the product, using a stator-rotor suitable for the granulometric grading of the mixture.
When carrying out patching or high-thickness grouting, the product can be mixed at the building site using washed gravel with a granulometric interval between a minimum of 4 mm and a maximum value of 16 mm and adding a max quantity of 30% in volume.
Store the product in places protected against the heat in summer months and against the cold during the winter.
Use running water not subject to the influence of outside temperatures.

Application

KERABUILD® COLABILE must be applied by pouring or by pumping in a single operation for minimum thicknesses of 10 mm and maximum thicknesses of 80 mm. For greater thicknesses mix the product with 4-16 mm gravel, adding a maximum quantity of 30% in volume.
All cavities must be filled, the reinforcement rods must be carefully surrounded with the patching material and the mortar must be made compact, with application carried out in a continuous operation.
The casting must not be vibrated as the mortar features hyperfluid rheological properties which are optimum for distribution and compacting inside the caissons and a degree of viscosity especially designed to impede segregation.
The structure to be covered or restored can be caissoned with metal or wooden planking prepared with a suitable technical parting compound such as KF 200 or KL 100. Parting operations must be carried out after the mortar has hardened. Parting times will vary depending on the external environmental temperature.
KERABUILD® COLABILE must be applied after having moistened the substrate to saturation point and having treated old reinforcement rods with passivating mortar.
Allow the product to cure and keep it moistened during the first 24 hours following the parting operation. Patching carried out on plane surfaces must take place in the absence of ventilation or covering the patched area with anti-evaporation sheets.
Structures reinforced with KERABUILD® COLABILE may be decorated and protected with KERABUILD® COLORE, the technical, elastic and waterproof paint.

Cleaning

Residual traces of KERABUILD® COLABILE can be removed from tools with water before the product has hardened.

SPECIAL NOTES

When performing horizontal or vertical patching operations with KERABUILD® COLABILE, insertion of a suitable reinforcement in electro-welded mesh or rod form (to be anchored to the substrate by means of mechanical pins) is always required. Position the reinforcement materials with the anchoring required in the layout drawings, providing a minimum metal-covering thickness of 10 mm, then install the caissons and create the covering in structural mortar.

In the case of substrates which are particularly smooth, non-absorbent or at risk of high dust levels, the professional adhesion promoter KERAGRIP, diluted with 50% water and applied by spraying 1 hour before casting, will be required.

TECHNICAL CHARACTERISTICS

Appearance	Ready-mixed	
Apparent volumetric mass	≈ 1.54 kg/dm³	UEAtc
Mineralogical nature of inert material	Silicate-crystalline carbonate	
Granulometric interval	≈ 0 – 2.5 mm	UNI 10111
CARE	Method M1 – Action E507	
Storage	≈ 12 months in the original packaging in dry environment	
Packaging	Bags 30 kg	

TECHNICAL DATA compliant with Kerakoll Quality Standard

Mixing water	≈ 4.7 l / 1 bag 30 kg	
Spreading of mixture	≈ 180%	UNI 7044
Specific weight of the mixture	≈ 2.27 kg/dm³	UNI 7121
pH of mixture	≥ 12	
Pot life	≥ 30 min.	
Temperature range for application	from +5 °C to +35 °C	
Minimum thickness	≥ 1 cm	
Max thickness obtainable	≤ 8 cm	
Coverage	≈ 1.9 kg/dm³ (≈ 19 kg/m² per cm of thickness)	

At a temperature of +23 °C, 50% R.H. and no ventilation.

FINAL CHARACTERISTICS

Static modulus of elasticity after 28 days	≈ 32000 MPa	UNI 6556
Adhesion to concrete after 28 days	≥ 2 MPa	UNI-EN 1542
Compressive strength after 24 h	R_{ck} 18 MPa	UNI-EN 196/1
Compressive strength after 3 days	R_{ck} 30 MPa	UNI-EN 196/1
Compressive strength after 28 days	R_{ck} 50 MPa	UNI-EN 196/1
Shear strength after 28 days	≥ 9.5 MPa	UNI 6132
Resistance to carbonation k	≤ 0.6 mm / year$^{-0.5}$	Boll.cem 8/88- ICTS/TFB
Resistance to sulphates (expansion)	≤ 0.04%	
Resistance to frost/thaw cycles with		
de-freezing salts:		
- weight loss after 25 cycles	≤ 1 mg/mm²	RILEM CDC 2/77
- depth of splintering after 25 cycles	≤ 2 mm	RILEM CDC 2/77

Values taken at +23 °C, 50% R.H. and no ventilation. Data may vary depending on specific conditions at the building site.

WARNING

- **Product for professional use**
- use at temperatures between +5 °C and +35 °C
- make sure the substrate is not frozen
- protect surfaces from direct sunlight and wind
- do not add different binders or additives to the mixture
- do not apply on gypsum, metal or wood
- do not add water to the product during the hardening phase
- do not apply on dirty or loose surfaces
- allow the product to cure, keeping it moistened during the first 24 hours of hardening
- if necessary, ask for the safety data sheet
- for further information please consult the **Kerakoll Worldwide Global Service +39-0536.811.516**

STADIO MEAZZA - SAN SIRO

Milano - ITALY

KERABUILD® EPORIPRESA

Technological, two-component, structural fluid epoxy system with high resistance, suitable for the creation of monolithic construction joints in concrete

KERABUILD® COLABILE

Technological, pourable structural mortar with high chemical resistance (Class AARS) for reinforcement and restoration of load-bearing structures in concrete

KERABUILD® FINITURA

Technical mortar with BME (Low Elastic Modulus) Technology used to create protective levelling coats on existing and restored concrete. Superior level of resistance to chemical attack

KERABUILD® COLORE

Technological, waterproof, elastic water-base paint for protective decoration of concrete

THE KERAKOLL GLOBAL SERVICE

Wherever you are, and whatever your project needs are, you can always rely on the Kerakoll Service: highly-efficient, global customer support matching the high quality of our products.
Technical Service +39-0536.811.516 - Technical assistance in real time
Training Service - Professional training to support our quality
Guarantee Service - A long-lasting warranty
Kerakoll.com - The channel of choice for your projects

KERAKOLL QUALITY STANDARD

In all units of the Kerakoll Group, before being considered suitable for production, products undergo stringent testing in accordance with the very high requirements set by the Kerakoll Quality Standard: a process supported by the Centre for Applied Technology which assists the work of researchers with its sophisticated resources and laboratories. At the Kerakoll laboratories the various elements of formulations are carefully analysed to identify and eliminate any factors of weakness by means of simulation of real working conditions in building sites After the testing cycles, the new products are submitted to the extreme fatigue of the Safety-Test process.

SAFETY, HEALTH AND THE ENVIRONMENT

For an industrial system such as Kerakoll it is vitally important to ensure that human health and the environment are protected. The Kerakoll company policy is to ensure that every possible safeguard be taken to make sure that these factors are always considered, and regulations and specific methods have been developed over the years for this purpose at all levels of the organisation. The CARE Project is the result of the Group's concern for human health and the environment, and ensures that the Group's products are perfectly safe for use and that the building materials supplied to builders ensure a very high level of safety before, during and after their use.

The information given here is based on our technical and practical knowledge. As it is not possible for us to directly check the conditions in your building yards and the execution of the work, this information represents general indications that do not bind our Company in any way. Therefore, it is advisable to perform a preliminary test to verify the suitability of the product for your purposes.

Code E518/2004-I

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