BEST CONSTRUCTION
CHEMICALS
Stick with Best

BESTCOAT MICROCREAT

High Performance Non-Shrink Cementitious Microconcrete For Concrete Repair

PRODUCT DISCRIPTION:

Bestcoat Microcreat is factory designed pourable, shrinkage compensated, high performance microcon- crete with selected cement, aggregate and other chemicals. Recommended water and coarse aggregate to be added at site as per requirement.

USES

Bestcoat Microcreat is suitable for producing high performance micro-concrete for deep repairs to all concrete structures such as:

- Highway bridges and culverts
- Whafts and jetties
- Tunnels and mines
- Dams and reservoirs
- Car parks and basements
- Power stations
- Sewerage and water treatment structures
- Anywhere where localised deep repair is required
- Anywhere additional thickness is required (column and beam jacketing, etc.)
- Structural strengthening of structure by section enlargement

CHARACTERISTICS / ADVANTAGES

- No vibration needed
- Easily pumpable
- Easy to mix and apply
- Excellent flow characteristics
- Rapid strength development
- High ultimate strengths
- Impact resistant
- Non-corrosive
- Non-toxic
- Iron and chloride free
- Dense and non-shrink concrete created by dual stage expansion
- Good bonding with existing concrete
- Adjustable consistency by controlling the water with- in the recommended limit

BASIS OF PRODUCT DATA

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

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PRODUCT INFORMATION	
Chemical base	Portland cement, selected fillers and aggregates, special additives
Packaging	30 kg bag
Shelf life	6 months from date of production
Storage conditions	The product must be stored properly in undamaged and unopened, original sealed packaging, in dry conditions at temperatures between +5 °C &+35 °C. Protect from moisture, direct sunlight and frost.
Appearance / Colour	Powder / Grey
TECHNICAL INFORMATION	
Compressive strength	Curing time Compressive strength 1 day ≥ 25 N/mm2 3 days ≥ 35 N/mm2 7 days ≥ 45 N/mm2 28 days ≥ 65 N/mm2 Values measured at water : powder = 0.15, cube size 70.6 mm, curing temperature +30 °C
Flexural strength	**Curing time** **Flexural strength** 7 days ≥ 8 N/mm² 28 days ≥ 9 N/mm² Values measured at water : powder = 0.15, curing temperature +30 °C
Splitting tensile strength	≥ 3.5 N/mm² (water : powder = 0.15, 28 days, +30 °C)
Shrinkage	No shrinkage after initial setting
Expansion	Up to 4 %
APPLICATION INFORMATION	
Mixing ratio	Water : Powder = 0.14 to 0.16 (by weight)
Fresh mortar density	(2.15 ± 0.15) kg/L (water : powder = 0.15)
Consumption	~1900 kg of powder per m³ of concrete (water : powder = 0.15)
Layer thickness	Minimum 25 mm per pour Maximum 100 mm per pour Higher layer thickness can be done with addition of aggregates. Contact BCC Technical Services for additional information
Ambient air temperature	+5 °C min. / +40 °C max.
Substrate temperature	+5 °C min. / +40 °C max.
Pot life	~20 minutes (water : powder = 0.15, +30 °C)

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

EQUIPMENT

Bestcoat Microcreat can be mixed both in paddle type and slow speed (max. 500 rpm) grouting mixer or drum type concrete mixer.

SUBSTRATE QUALITY / PRE-TREATMENT

▪The substrate should be prepared by suitable mechanical preparation techniques such as high pressure water, breakers, grit blasting, scabblers, etc.

▪Concrete surfaces must be sound, clean, free from
frost, oils, grease, all loosely adhering particles and other surface contaminants. All absorbent surfaces must be well saturated with clean water, but be free of any surface water or puddles immediately prior to the application of produced micro-concrete.

▪Metal surfaces (iron and steel) should be clean, free
from scale, rust, oil and grease
Bonding agent and steel protection

MIXING

1. Place about 80–90 % of the premeasured clean water into a clean mixer and gradually add the whole bag of Bestcoat Microcreat into it while continuously mixing.
2. Add the remaining water and additional clean 5–10
mm aggregates (if needed as per design) until the desired consistency is obtained.
3. Mixing time should be minimum 3 minutes.

IMPORTANT

Concrete can also be produced with addition of 10 mm down properly graded silt-free aggregate in pro- portion of 2 : 1 (Bestcoat Microcreat : coarse aggregate) by weight.
Do not mix more material, which cannot be used with- in pot life.
Do not add extra water.
Mix only full bags for best results.

APPLICATION

Strictly follow installation procedures as defined in method statements, application manuals and working instructions which must always be adjusted to the actual site conditions.

IMPORTANT

Formwork

Ensure formwork is secure and watertight to prevent movement and leaking during placing and curing.
Working in thick sections
Do not pour more than 100 mm of layer thickness without addition of aggregates.

Small localised repairs

Small volume mixing may carried out with a suitable low-speed (500 rpm) drill and mixing paddle. After mixing, stir lightly with a spatula for a few seconds to release any entrapped air. The micro concrete is then poured immediately into the prepared formwork.

Large repairs

When carrying out large scale repairs or column / beam jacketing, ensure sufficient pressure head is maintained for uninterrupted concrete flow. Form- work must be firmly placed and kept watertight. When placing micro concrete over large area, it is important to maintain a continuous flow throughout the process. Work sequence and equipment must be properly organised to ensure an uninterrupted flow of micro concrete. Ensure proper air displacement when pouring. In large areas, micro concrete may be mixed and pumped using heavy duty screw feed and piston pumps. Equipment suitability should be tested and checked prior to actual grouting works.

Cold weather working

Consider storing bags in a warm environment and using warm water to assist with achieving strength gain and maintaining physical properties.

Hot weather working

Consider storing bags in a cool environment and using cold water to assist with controlling the exothermic re- action to reduce cracking and maintaining physical properties.

CURING TREATMENT

Formwork must remain in place for at least 3 days. Upon removal of the formwork, cure the exposed sur- faces immediately with Bestantisol curing compound or use other approved curing methods.

CLEANING OF TOOLS

Clean all tools and application equipment with water immediately after use. Hardened or cured material can only be removed mechanically.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

Disclaimer:

The information in this data sheet is given to the best of our knowledge based on laboratory testing and practical experience. However, as the product is often used under conditions beyond our control, we cannot guarantee anything but the quality of the product itself. We reserve the right to change the given data without notice.