# SMARTCARE PC

## GROUT AND ANCHORING SYSTEM

High performance cementitious load bearing pile top leveler.

## PRODUCT DESCRIPTION

SmartCare PC is a high-performance, cementitious, load-bearing pile top leveller supplied as a ready-to-use powder. It requires only the addition of water on-site to produce a shrinkage-free micro-concrete with consistent and predictable performance.

This product is part of the Asian Paints Berger SmartCare range, designed for waterproofing, preservation, and restoring the structural integrity of critical structural elements. SmartCare PC can be applied in sections ranging from 20 mm to 300 mm thickness, with greater thickness achievable through layered application.

## KEY FEATURES

- **Easy Mixing and Excellent Workability:** The product is designed for easy mixing and offers excellent workability during application.
- **Excellent Bond with Host Concrete:** It ensures an excellent bond with the host concrete, creating a unified structural repair.
- **High Compressive Strength:** The material provides excellent high early and ultimate compressive strength for structural reliability.
- **Reinforcement Bar Adhesion:** It features excellent adhesion strength to reinforcement bars, ensuring the integrity of the steel-concrete bond.
- **Excellent Water Resistance:** The product offers excellent water resistance, protecting the structure from moisture-related issues.
- **Tropical Formula:** It is specifically formulated as a tropical formula to withstand extreme climatic conditions.
- **Thick Application Design:** SmartCare PC is designed for thick applications, allowing for substantial repairs in a single layer.
- **Shrinkage Control System:** It incorporates a synergetic shrinkage control system to ensure a reduced cracking tendency.
- **Self-Compacting Nature:** The self-compacting nature of the product eliminates air entrapment without the need for vibration.
- **High Modulus Performance:** A high modulus ensures the early transfer of loads to the hosting concrete.
- **Chloride Resistance:** It provides excellent resistance to chloride, protecting the reinforcement from corrosion.
- **Workability Retention:** The product features excellent workability retention, allowing for an extended handling time.
- **No Vibration Required:** Due to its specialized formulation, no vibration is required during the placement of the material.

## PRODUCT BENEFITS

- Superior Structural Strength
- Extreme Climate Resilience
- Corrosion & Chloride Shield
- Crack-Free Application

## PACKAGING

25kg pack

## TECHNICAL PROPERTIES

| Properties | Value |
|---|---|
| Theoretical coverage @ 10mm thickness | Approx. 1.3 $m^2$ per 25kg (13 liters per 25kg bag) |
| Component | Single |
| Form | Powder |
| Working time | 30 min |
| Compressive strength (ASTM C 109) | >25N/$mm^2$ at 1 day<br>>50N/$mm^2$ at 14 days<br>>65N/$mm^2$ at 28 days |
| Flexural strength (BS 6319 Part 3) | >9N/$mm^2$ at 28 days |
| Tensile strength (BS 6319 -7) | 5.0N/$mm^2$ at 28 days |
| Setting time (ASTM C 191) | Initial set@ 35°C<br>6-7 hours<br>Final set@ 35°C<br>10-11 hours |
| Water absorption | <0.01 ml/$m^2$/sec @ 2 hours |
| Water permeability | < 10mm |
| Fresh wet density | 2200 – 2300 kg/L |

## APPLICATION AREAS

- Pile top re-profiling
- Structural and non-structural void filling

## APPLICATION METHOD

### 1. Surface Preparation:

Break out the complete repair area to a minimum depth of 20mm up to the sawn edge. All loose debris, dust and other contaminants should be removed.

### 2. Formwork:

The formwork should be rigid and tight to the substrate to prevent grout loss. Use of silicone sealant or a similar material is also advised around the edge of the formworks.

### 3. Mixing:

- Care should be taken to ensure that SmartCare PC is thoroughly mixed before application. SmartCare PC should be mixed mechanically with a forced action mixer, or using an adequately sized mixing vessel with a slow-speed drill (400/500 rpm) fitted with an appropriate mixing paddle. In common with good mixing practice, always add powder to water.
- The water additions shall be approx. 3.5 litres per 25kg bag with the machine in operation, add one full bag of SmartCare PC and mix continuously for 3 to 5 minutes until a smooth, even consistency is obtained.

### 4. Application:

Smartcare PC can be cast into a watertight formwork following good casting techniques. SmartCare PC is self-compacting and does not require vibration. Light tapping of the framework is required. Mixed materials should be placed continuously. Place the entire mixed material within 25-30 minutes of mixing. SmartCare PC can be applied in sections up to 300mm deep.

For larger sections, the addition of approved aggregates (6-12mm) may be required in the ratio of 1:1 or 1:0.5 weight of SmartCare PC. This will depend on the specific consistency required for the element location.

### 5. Curing:

Curing of the material after application is conducted by taping a polyethylene sheet around the pile and flooding the surface with clean water; alternatively, SmartCare curing agent can be considered.

### 6. Cleaning:

SmartCare PC should be removed from tools, equipment and mixers with clean water immediately after use. Cured material can only be removed mechanically.

## PRODUCT LIMITATIONS

- Temperature range: 5°C to 40°C. Outside this range, it is recommended to use hot mixing water (below 5°C) or cold water (above 35°C), depending on the circumstances, as well as storing the material under a well-shaded and ventilated shade and protecting the surface from direct sun.

## STORAGE CONDITIONS

SmartCare PC must be kept in a dry store to maintain its quality. The material should remain in its original, unopened bags or packs and be maintained at a temperature of 35°C.

## SHELF LIFE

The product has a shelf life of 12 months, provided it is stored according to the recommended dry conditions and temperature guidelines in its original packaging.

## SAFETY PRECAUTIONS

- Always wear protective gloves, goggles, and clothing during mixing and application to prevent skin or eye irritation.
- Avoid direct contact with skin or eyes; in case of contact, wash the affected area with plenty of clean water.
- If inhaled, move the affected person to fresh air immediately and seek medical advice if discomfort persists.
- Ensure proper ventilation at the site of application to avoid inhalation of fumes.
- Keep away from heat, sparks, and open flames. Do not smoke during handling.

## CERTIFICATIONS

SmartCare PC complies with ASTM C 109, ASTM C 191, BS 6319 Part 3 and BS 6319 -7.

## DISCLAIMER

The information provided in this Technical Data Sheet is based on laboratory tests, industry practices, and practical application experience. However, actual site conditions may vary and are beyond the manufacturer's control. Asian Paints makes no warranties, expressed or implied, and shall not be liable for any loss or damage resulting from improper usage, handling, or non-compliance with the recommended guidelines. Users are advised to test the product for suitability before full-scale application.