

Description of BS BetonSRA

BS BetonSRA is a high-performance powdered shrinkage-reduction additive designed specifically for concrete flooring and slab applications. It reduces drying shrinkage stresses in concrete, thereby minimizing shrinkage cracks, improving long-term durability, and enhancing surface performance of industrial and commercial floors.

BetonSRA™ is supplied as a ready-to-use dry powder, suitable for direct addition into concrete at a batching plant or site.

Areas of Application

1. Industrial & warehouse concrete floors
2. Large panel concrete slabs
3. Parking decks & pavements
4. Screeds & topping concrete
5. Repair and overlay concrete
6. Hot-weather concreting where shrinkage risk is high

Advantages of BetonSRA

1. Reduces drying shrinkage and shrinkage-related cracking
2. Improves slab durability and long-term performance
3. Powder form – easy handling, no liquid admixture issues
4. Consistent performance across hot & dry site conditions
5. Compatible with PCE / SNF superplasticizers
6. Ideal for concrete slabs, industrial floors, warehouse slabs, and pavements

Technology in BS BetonSRA

Concrete shrinkage primarily occurs due to loss of moisture from the cement paste after setting, which creates capillary tension within the pore structure of hardened concrete.

As water evaporates from these microscopic capillaries, internal tensile stresses develop, often exceeding the early-age tensile strength of concrete—leading to micro-cracking and visible shrinkage cracks, especially in large concrete floors and slabs.

BetonSRA™ acts at the micro-structural level of concrete, it dissolves and disperses uniformly within the cement paste and modifies the surface tension of pore water inside the concrete, thereby reducing capillary stresses generated during drying.

In practical terms, this means that concrete slabs experience less internal stress as they dry, resulting in fewer shrinkage cracks, better surface integrity, and improved durability particularly critical in large-panel flooring and industrial slab applications.

BetonSRA™ works independently of concrete strength, making it an effective complementary additive alongside proper mix design, reinforcement detailing, joint planning, and curing practices.

Properties of BS BetonSRA

Property	Value
Appearance	Free Flowing Powder
Colour	Light Grey - off White
Bulk Density	0.6-0.8/cm ³
Alkali Content	Low
Solubility	Soluble in Water
Chloride Content	Nil
pH (in dispersion)	6.5-8.5
Shelf Life	6 Months under ideal condition
Packaging	PP Lined Sacks

*(Values are typical and not specification limits and results may vary on conditions beyond control)

Dosing Recommendations & Expectations

BetonSRA™ does not eliminate structural cracks caused by poor design.

Not a substitute for:

- Proper joint design
- Reinforcement detailing
- Curing practices

Problems from Overdose

While BetonSRA™ is designed for safe and effective use in concrete flooring applications, excessive dosage beyond recommended levels may lead to the following effects:

- Increase in air content in concrete, which may result in reduced compressive and flexural strength if not controlled
- Slight retardation of setting time, particularly in cool weather or high-dosage conditions
- Changes in surface finishability, such as stickiness or delayed trowelling response
- Marginal increase in water demand in some mix designs

These effects are not permanent defects but reflect typical behavior of shrinkage-reducing chemistry when used beyond optimal dosage.

Recommendations on Use

- Always follow the recommended dosage of 3.0 kg per m³ of concrete.
- Conduct trial mixes before large-scale application
- Monitor air content and finishing behavior during initial pours
- Avoid combining high overdose with other admixtures that influence air or set time

Safety and Handling

- Non-toxic, non-flammable
- Use standard PPE (gloves, dust mask)
- Avoid inhalation of dust
- Refer to MSDS for detailed safety information

Disclaimer

The information in this sheet is provided for general guidance and is based on current knowledge and experience. Due to the variety of possible application methods and site conditions, no responsibility is assumed for results obtained under specific circumstances.

Note

BetonSRA™ is not intended to compensate for poor mix design, excessive water content, inadequate curing, or improper joint detailing. Proper concrete design and curing practices remain essential for optimal performance.