

CHEMFIT SHRINKGUARD SRA100

Shrinkage Reducing Admixture – For High Performance Concrete

PRODUCT DESCRIPTION

ChemFit ShrinkGuard SRA100 is a specialized shrinkage reducing admixture (SRA) designed to minimize drying shrinkage and cracking in high performance concrete. This advanced admixture works by reducing capillary tensile stress during the drying process, significantly lowering the potential for plastic shrinkage, drying shrinkage, and cracking. The result is more durable, longer-lasting concrete structures with reduced need for joint sealing and repair.

PRIMARY APPLICATIONS

ChemFit ShrinkGuard SRA100 is recommended for use in conditions such as:

- High performance concrete (HPC) requiring reduced cracking
- Industrial concrete floors and slabs with tight crack control requirements
- Bridge decks and infrastructure elements exposed to drying conditions
- Water retaining structures (tanks, reservoirs, swimming pools)
- Thin section concrete elements prone to curling and cracking
- Repair mortars and overlays requiring dimensional stability
- Concrete with low water-cement ratios susceptible to autogenous shrinkage
- Precast elements requiring tight dimensional tolerances
- Mass concrete foundations prone to thermal and drying cracks
- Floor hardeners and toppings

KEY FEATURES AND BENEFITS

- **Reduces drying shrinkage** – Decreases shrinkage by 30-50% compared to conventional concrete
- **Minimizes cracking** – Reduces plastic and drying shrinkage cracks for improved durability
- **Enhances dimensional stability** – Produces flatter, more stable slabs with reduced curling
- **Improves joint spacing** – Allows for increased joint spacing in floor slabs (up to 50% wider spacing)
- **Reduces water demand** – Provides secondary water reducing effect (5-10%)
- **Compatible with all cements** – Works with OPC, PPC, PSC, and blended cements
- **Chloride-free** – Safe for reinforced concrete structures
- **Non-toxic** – Safe for potable water structures when properly formulated
- **Liquid form** – Easy to dispense and batch accurately
- **Reduced maintenance** – Lowers long-term repair costs associated with cracking

PHYSICAL AND CHEMICAL PROPERTIES

Property	Specification
Appearance	Clear to slightly hazy liquid
Color	Light straw to colorless
Specific Gravity	0.92 – 0.96 at 25°C
pH Value	6.5 – 8.5
Chloride Content	Nil ($\leq 0.1\%$) – Non-corrosive to rebar
Shrinkage Reduction	30 – 50% (compared to control concrete)
Water Reduction	5 – 10% (secondary effect)
VOC Content	Low
Freezing Point	$< 0^{\circ}\text{C}$

PACKAGING AND STORAGE

Packaging:

- 25 L pails
- 200 L drums

Storage:

- Store in original sealed containers at $+5^{\circ}\text{C}$ to $+35^{\circ}\text{C}$
- Protect from direct sunlight, frost, and extreme heat
- If frozen, slowly thaw and agitate before use (do not use direct heat)
- Avoid contamination with water or other chemicals

Shelf life:

- 12 months from date of manufacture

DOSAGE AND COVERAGE RATES

The recommended dosage of **ChemFit ShrinkGuard SRA100** is **0.5% to 2.0% by weight of cementitious material**.

- **Low dosage (0.5% – 1.0%):** Provides moderate shrinkage reduction (30-40%) for general crack control applications
- **Medium dosage (1.0% – 1.5%):** Delivers high shrinkage reduction (40-45%) for demanding floor and slab applications
- **High dosage (1.5% – 2.0%):** Produces maximum shrinkage reduction (45-50%) for critical low-crack applications
- **Per 50 kg cement bag:** Dosage ranges from 0.25 to 1.00 kg (approximately 270 to 1,090 ml) per bag
- **Yield per 25 L pail:** Approximately 50 to 200 bags of cement (2.5 to 10 tons of cement), based on 1.0% dosage
- **Yield per 200 L drum:** Approximately 400 to 1,600 bags of cement (20 to 80 tons of cement), based on 1.0% dosage

NOTE: Concrete trial mixes shall be carried out to confirm optimal dosage for specific project requirements. For industrial floor slabs requiring increased joint spacing, higher dosages (1.5% – 2.0%) are recommended. For water retaining structures, a medium dosage of 1.0% – 1.5% typically provides optimal crack control.

APPLICATION GUIDELINES

ChemFit ShrinkGuard SRA100 should be added directly to the mixing water or to the wet concrete after 70% of the mixing water has been added. The concrete should be mixed for a minimum of 2 to 3 minutes to ensure uniform dispersion of the admixture. Due to the water-reducing effect of this admixture, water content should be adjusted accordingly to maintain the desired workability. This product is compatible with all standard Portland cements, blended cements, and most supplementary cementitious materials such as slag, fly ash, and silica fume. **ChemFit ShrinkGuard SRA100** is compatible with most concrete admixtures including water reducers, superplasticizers, retarders, accelerators, and air entrainers; however, trial mixes are recommended to confirm compatibility. Do not premix with other admixtures in concentrated form. If overdosed, slight set retardation or air entrainment may occur; keep concrete properly cured. For best results in floor slabs, ensure proper curing practices including application of curing compound, wet burlap, or plastic sheeting immediately after finishing. For high dosage applications (above 1.5%), extended mixing time (3-4 minutes) is recommended to ensure complete dispersion.

HEALTH AND SAFETY

ChemFit ShrinkGuard SRA100 is not classified as hazardous under normal use. However, it may cause mild eye irritation, so if eye contact occurs, rinse thoroughly with water for 15 minutes. For skin contact, wash with soap and water. If swallowed, do not induce vomiting; instead rinse the mouth and drink water, then seek medical advice. Use nitrile gloves and goggles during handling. Refer to the Safety Data Sheet for detailed information.

CLEANG OF TOOLS

Clean all batching equipment, measuring containers, and spillages with water immediately after use. Dried or cured material may require mechanical removal.

APPROVALS AND STANDARDS

ChemFit ShrinkGuard SRA100 conforms to the following standards:

- **ASTM C494 / C494M** – Type S (Specific Performance Admixture)

LEGAL NOTES

All technical data provided in this Product Data Sheet is based on laboratory testing under controlled conditions. Actual field performance may vary due to differences in substrates, application methods, site conditions, and environmental factors. ChemFit makes no warranty of merchantability or fitness for a particular purpose. Users shall conduct their own trials to validate product suitability for the intended application. ChemFit reserves the right to modify product specifications without prior notice. For the most current documentation, request the latest Product Data Sheet and Safety Data Sheet from ChemFit.

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