

# CHEMFIT HEATGUARD SP550

High Range Water Reducing & Retarding Admixture – Water Reducer for Hot Climate Concrete

## PRODUCT DESCRIPTION

**ChemFit HeatGuard SP550** is a high-range water-reducing and retarding admixture specifically formulated for hot climate concrete applications. It effectively reduces water demand while delaying setting times, ensuring workable, high-quality concrete even in elevated temperature conditions. This admixture is designed to combat the challenges of hot weather concreting, including rapid slump loss, flash setting, and reduced strength development.

## PRIMARY APPLICATIONS

**ChemFit HeatGuard SP550** is recommended for use in conditions such as:

- Hot climate concreting (temperatures above 30°C)
- Foundations in summer conditions
- Large column pours requiring extended workability
- Slab placements in hot weather
- Mass concrete pours to prevent thermal cracking and cold joints
- Ready-mix concrete with moderate transport distances in hot climates
- Precast concrete elements produced in warm environments
- General construction projects during summer months

## KEY FEATURES AND BENEFITS

- **Water reduction (15-25%)** – Achieves higher strengths with lower water content
- **Heat protection** – Prevents rapid slump loss and flash setting in hot climates
- **Set retardation** – Delays initial and final set for adequate placement time
- **Improved workability** – Enhances flowability without adding extra water
- **Ideal for foundations, columns, and slabs** – Versatile for structural concrete elements
- **Chloride-free** – Safe for reinforced concrete structures
- **ASTM compliant** – Meets Type A, D, and G standards depending on dosage
- **Liquid form** – Easy to dispense and batch accurately
- **Cost-effective** – Provides reliable performance at lower dosage ranges

## PHYSICAL AND CHEMICAL PROPERTIES

Property	Specification
Appearance	Liquid
Color	Dark brown to amber
Specific Gravity	1.18 – 1.22 at 25°C
pH Value	7.0 – 9.0
Chloride Content	Nil ( $\leq 0.1\%$ ) – Non-corrosive to rebar
Alkali Content	< 1.5%
Freezing Point	0°C
Water Reduction	15 – 25%
Set Retardation (Initial)	60 – 180 minutes vs. plain concrete @ 35°C

## PACKAGING AND STORAGE

### Packaging:

- 200 L drums
- 1000 L IBCs (Intermediate Bulk Containers)

### Storage:

- Store in original sealed containers at +5°C to +40°C
- Protect from direct sunlight, frost, and extreme heat
- If frozen, slowly thaw and agitate before use (do not use direct heat)

**Shelf life:** 12 months from date of manufacture

## DOSAGE AND COVERAGE RATES

The recommended dosage of **ChemFit HeatGuard SP550** is 0.6% to 1.8% by weight of cementitious material.

- **Low dosage (0.6% – 0.9%):** Provides standard water reduction (Type A) with mild set retardation for mildly hot conditions
- **Medium dosage (0.9% – 1.3%):** Delivers high-range water reduction with moderate set retardation (Type D) for typical hot weather concreting
- **High dosage (1.3% – 1.8%):** Produces maximum water reduction with extended set retardation (Type G) for extreme hot weather and large pours
- **Per 50 kg cement bag:** Dosage ranges from 0.30 to 0.90 kg (approximately 260 to 780 ml) per bag
- **Yield per 200 L drum:** Approximately 440 to 1,330 bags of cement (22 to 66 tons of cement), based on 1.0% dosage
- **Yield per 1000 L IBC:** Approximately 2,200 to 6,650 bags of cement (110 to 332 tons of cement), based on 1.0% dosage

**NOTE: Concrete trial mixes shall be carried out to confirm optimal dosage for specific project requirements, as coverage varies with total cementitious content including fly ash, slag, and silica fume. For ambient temperatures above 38°C, higher dosages (1.3% – 1.8%) are recommended.**

## APPLICATION GUIDELINES

**ChemFit HeatGuard SP550** 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. This product is compatible with all standard Portland cements, blended cements, and most supplementary cementitious materials such as slag, fly ash, and silica fume. Do not premix **ChemFit HeatGuard SP550** with other admixtures (including air entrainers, retarders, or accelerators) in concentrated form; add them separately to the mix, avoiding contact at the same point. If overdosed, significant set retardation and delayed strength gain may occur, and the concrete should be kept moist during the extended setting period. For best results, add this admixture after other admixtures. For hot climates with ambient temperatures above 35°C, higher dosages in the range of 1.3% to 1.8% are recommended to maintain adequate workability and prevent flash setting. For foundations, columns, and slabs, a medium dosage of 0.9% to 1.3% typically provides optimal performance.

## HEALTH AND SAFETY

**ChemFit HeatGuard SP550** 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 HeatGuard SP550** conforms to the following standards:

- **ASTM C494 / C494M** – Type A (Water Reducing Admixture) at lower dosages (0.6% – 0.9%)
- **ASTM C494 / C494M** – Type D (Water Reducing & Retarding Admixture) at medium dosages (0.9% – 1.3%)
- **ASTM C494 / C494M** – Type G (High Range Water Reducing & Retarding Admixture) at higher dosages (1.3% – 1.8%)

## 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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