

CHEMFIT SPERSEPLUS 2100

Highly Effective Dual Action Liquid Superplasticizer – Prolonged Slump Retention

PRODUCT DESCRIPTION

ChemFit SpersePlus 2100 is a highly effective dual action liquid superplasticizer specifically formulated to produce free-flowing concrete with prolonged slump retention. This advanced admixture combines high-range water reduction with extended workability maintenance, making it ideal for applications requiring long transport times or slow placement conditions without compromising concrete strength or durability.

PRIMARY APPLICATIONS

ChemFit SpersePlus 2100 is recommended for use in conditions such as:

- High-performance concrete (HPC) requiring prolonged workability
- Self-consolidating concrete (SCC) with extended slump life
- Precast and prestressed concrete elements requiring longer handling times
- Ready-mix concrete with long transport distances and potential delays
- Concrete pumped to extreme heights or over long distances
- Hot weather concreting requiring extended placement windows
- Mass concrete pours where cold joints must be prevented
- Sites with difficult or slow placing conditions

KEY FEATURES AND BENEFITS

- **Dual action** – Combines high-range water reduction with prolonged slump retention
- **Extended slump life** – Maintains workability for 90–120 minutes (depending on dosage & temperature)
- **High water reduction (25-35%)** – Achieves high early and ultimate strengths
- **Free-flowing concrete** – Reduces or eliminates vibration requirements
- **Prolonged set retardation** – Provides ample time for transport and placement
- **Chloride-free** – Safe for reinforced and prestressed concrete
- **ASTM C494 Type G compliant** – Meets international standards for high-range water reducing &retarding admixtures
- **Liquid form** – Easy to dispense and batch accurately
- **Improved finish** – Produces dense, cohesive concrete with reduced bleeding and segregation

PHYSICAL AND CHEMICAL PROPERTIES

Property	Specification
Appearance	Liquid
Color	Light amber to straw-colored
Specific Gravity	1.07 – 1.11 at 25°C
pH Value	6.0 – 8.0
Chloride Content	Nil ($\leq 0.1\%$) – Non-corrosive to rebar
Alkali Content	< 1.5%
Freezing Point	0°C
Water Reduction	25 – 35%
Slump Retention	90 – 120 minutes (depends on dosage & temperature)
Set Retardation (Initial)	90 – 240 minutes vs. plain concrete @ 25°C

PACKAGING AND STORAGE

Packaging:

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

Storage:

- Store in original sealed containers at +5°C to +35°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 SpersePlus 2100** is 0.8% to 2.5% by weight of cementitious material.

Low dosage (0.8% – 1.2%): Provides standard high-range water reduction with moderate set retardation and extended slump retention

Medium dosage (1.2% – 1.8%): Delivers high-range water reduction with prolonged slump life for extended transport

High dosage (1.8% – 2.5%): Produces maximum fluidity suitable for self-consolidating concrete with significant set retardation and extended workability retention

Per 50 kg cement bag: Dosage ranges from 0.40 to 1.25 kg (approximately 350 to 1,100 ml) per bag

Yield per 200 L drum: Approximately 320 to 1,000 bags of cement (16 to 50 tons of cement), based on 1.0% dosage

Yield per 1000 L IBC: Approximately 1,600 to 5,000 bags of cement (80 to 250 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 transport times exceeding 2 hours, higher dosages (1.5% – 2.5%) are recommended.

APPLICATION GUIDELINES

ChemFit SpersePlus 2100 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 SpersePlus 2100** 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 transport times exceeding 2 hours or extreme hot weather conditions (above 35°C), higher dosages in the range of 1.5% to 2.5% are recommended to maintain adequate workability.

HEALTH AND SAFETY

ChemFit SpersePlus 2100 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 SpersePro 2000 conforms to the following standards:

- **ASTM C494 / C494M – Type G (High Range Water Reducing & Retarding 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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