

DYNAplas SP-449F

High Performance Super Plasticising and High Range Water Reducing Concrete Admixture

DYNAplas SP-449F is a powerful multifunctional superplasticiser, that depending on the dosage used, performs effectively as a Normal Water reducing Admixture (ASTM C-494 Type A) as a High Range Water Reducer, as well as a powerful superplasticiser. (ASTM C-494 Type F)

USES

- **High Strength and High Early Strength development** – The powerful water reduction properties of **DYNAplas SP-449F**, allows the design of concrete with very low water cement ratios, thus generating higher early and ultimate strengths.
- **High Slump and Workability** – The addition of **DYNAplas SP-449F** in a well-designed concrete mix will increase or significantly increase the slump and workability of the concrete.
- **Improved durability of concrete** – The ability to produce quality concrete with low water/cement ratios and high workability and rheology, significantly improves the durability and WaterProof properties of the concrete.

ADVANTAGES

- Chloride Free – Safe for precast, pre-stressed and steel reinforced concrete

- High levels of Water Reduction allows major increases in early and ultimate strengths.
- Earlier stripping for precast units
- Earlier turnaround for tunnel form or formed systems.
- Lower cement contents to achieve stated concrete strengths.
- High workability & “Flowing” concrete allows quicker and easier placing with better finishing & appearance.
- Increased workability retention over other superplasticisers.
- Can be used in conjunction with **DYNAplas SP-440G** to produce a wide variety of slump, workability retention and retardation to suite almost all Readymix and Precast concrete requirements.

STANDARDS

DYNAplas SP-449F complies with ASTM C494 Type A, and Type F depending on the dosage used.

DOSAGES

The dosages of **DYNAplas SP-449F** should always be tested and verified and approved in a suitably equipped lab facility, using the actual materials and site conditions that will be used in practise. As a guide, the following ranges may be considered recommended starter ranges for trial purposes.

- For Normal Water Reduction (Type A), the normal dosage range is between 0.15 litres and 0.35 litres/100kg of cement
- For Highly Workable concrete, the normal dosage range is between 0.50 litres and 1.25 litres per 100 kg of cement
- For high strength, highly water reduced concrete, the normal dosage range is between 0.5 litres – 2.0 Litres per 100 kg of cement.

Please note that performances will vary depending on the types of cement, and additives used, such as Microsilica, fly ash, etc.

DYNAplas SP-449F can be used at dosages outside of these guidelines, provided that suitable trials have been done to verify the performance at these dosages. Higher dosages may result in retardation and bleeding or segregation of the concrete.

In the event of an overdose of **DYNAplas SP-449F** and subsequent possible retardation, ensure that the concrete is properly cured. Once cured, the ultimate strengths of the concrete should not be affected, and in most cases will be improved.

DYNAplas SP-449F gives best performance when added after at least 2/3rd of the gauging water.

DYNAplas SP-449F can be used in the same mix with other admixture combinations. It is always advisable to add every admixture separately to the mix, and to confirm the performance by the use of suitable site trials.

TYPICAL PROPERTIES

Appearance :- Brown liquid instantly miscible in water

Specific Gravity :- 1.2 at 20 degrees C

Solids Content :- 40%

Chloride Content :- Nil

Additional Air Entrainment :- less than 1%

Packaging

DYNAplas SP-449F is packaged in 18 Litre, 210 Litre and 1000 Litre plastic containers.

Storage & Shelf Life

DYNAplas SP-449F should be kept in cool dry and well ventilated areas. Keep out of direct sunlight unless in use. In such storage conditions, the shelf life of **DYNAplas SP-440F** should be in excess of 12 months.

Health, Safety & Environmental

DYNAplas SP-449F is not toxic or hazardous. Do not however allow to be ingested, or to come into contact with skin and eyes. In such an event flush skin and eyes with copious amounts of clean water & seek medical attention if needed. Do Not induce vomiting and seek medical attention.

Spillages of **DYNAplas SP-449F** should be absorbed with sand vermiculite or other approved absorbent. Wash down the area with copious amounts of water.

DYNApas SP-449F is an SCL/IAI product produced in Trinidad and Tobago under licence by SCL.

SCL also offers the following quality concrete admixtures :-

- Concrete Plasticisers and Superplasticisers
- Concrete retarders
- Concrete accelerators
- Polycarboxylate Superplasticisers
- Rheology modifiers and anti-bleed admixtures
- Anti washout admixtures for underwater applications.
- Corrosion Inhibitors Waterproofing admixtures
- Air entraining agents.
- Admixtures for flowable fill

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